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## ENVIRONMENTAL JUSTICE AND SUSTAINABLE DEVELOPMENT

With a case study in Brazil's Amazon using Q Methodology

Als Inauguraldissertation vorgelegt

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*Every moment has led to this moment.  
We are the ones we've been waiting for.  
Together we can create a better world.*

Robert Alan Silverstein

## **List of Content**

Preface .....	6
Acknowledgement .....	11
1. Introduction .....	13
1.1 Scientific Relevance .....	18
1.2 Method of and theoretical considerations to structuring .....	20
1.3 Chain links to a theory of environmental law implementation .....	23
1.4 The work's structure .....	26
1.5 Methods and methodological considerations .....	28
1.6 Q Methodology.....	32
2. The nature-environment-sustainability complex in environmental sociology .....	36
2.1 From imaginary problem of 'pollution' of a 'clean' earth to the concept of 'Social Nature' .....	38
2.2 From naturalism and sociologism to a 'dialectic of nature-society'.....	40
2.3 From 'global projection' to the 'spaceship earth' problem.....	43
2.4 Nature conceptions. From 'ora et labora' to modern science.....	44
2.5 The classics' contribution to the concepts of 'social nature' and a 'dialectic of nature-society' .....	56
2.5.1 Karl Marx .....	57
2.5.2 Conclusion, critiques, consequences .....	67
2.5.3 Emilé Durkheim.....	74
2.5.4 Max Weber.....	78
2.5.5 Conclusions to Weber and Durkheim .....	81
2.4.6 Final Considerations.....	82
2.6 Pre and Post World War II contribution.....	87
2.6.1 Review.....	89
2.6.2 Conclusion.....	112
3. From Environmental Sociology to Sustainable Development and Environmental Justice .....	114
3.1 Sustainable Development .....	117
3.1.1 History of the environmental debate .....	117
3.1.2 Theoretical considerations.....	120
3.1.3 Sustainability and Development. A review of the debate's genesis .....	121
3.1.4 Four Worldviews on global environmental change.....	131
3.1.5 Construction of Sustainable Development .....	148
3.2 Environmental Justice .....	166

3.2.1	History of Environmental Justice .....	170
3.2.2	Environmental Justice in Brazil .....	174
3.2.3	Conclusion.....	176
3.3	Concluding Remarks .....	177
4.	Field Study .....	183
4.1	Pre-assumptions.....	183
4.2	The Amazon environmental question or who owns the land?.....	185
4.2.1	Social-environmentalism and social spaces .....	186
4.2.2	Triple Oppression: Three regimes create the environmental regime in Amazônia Legal	192
4.2.3	Summary .....	231
4.3	The environmental regime in Brazil.....	234
4.3.1	Environmental legislation .....	236
4.3.2	Environmental Police .....	240
4.3.3	Ecological Movements.....	240
4.3.4	Classification of (environmentally) protected areas.....	241
4.4	Conservation Units (UCs) .....	248
4.4.1	Legislation.....	248
4.4.2	Executive authority .....	250
4.4.3	Forms of Conservation Units (UCs).....	252
4.4.4	Empirical Facts of UCs: national, federal, municipality .....	256
4.5	Concluding description of the problem set.....	265
5.	Case Study on Island Algodual-Maiandeuá .....	269
5.1	Location and Environment .....	269
5.2	Municipality Maracanã.....	271
5.3	Islands Algodual-Maiandeuá.....	273
5.3.1	Population structure and professional occupation.....	274
5.3.2	Island Algodual .....	277
5.3.3	Island Maiandeuá .....	277
5.3.4	Accessing the field .....	278
5.3.5	History and culture .....	279
5.3.6	Indigenous tribes and the native population on Algodual-Maiandeuá.....	282
5.3.7	The 'new' population .....	283
5.3.8	Creation of the APA Algodual-Maiandeuá.....	284
5.3.9	Analysis of the local problem set .....	287
5.3.10	Conclusion.....	300

5.4 Q Methodology Analysis.....	303
5.4.1 Procedure.....	303
5.4.2 Testing with Principle Component Analysis (PCA) .....	306
5.4.4 Matrix of the Q sort correlations .....	309
5.4.5 Sustainable Development Discourse Analysis .....	312
5.4.6 Environmental Justice .....	318
5.5 Conclusion: Sustainable Development and Environmental Justice.....	322
6. Epilogue .....	330
Appendix .....	338
Bibliography .....	339
Abbreviations .....	420

## **List of Maps**

Map 1: Indigenous Nations in America.....	194
Map 2: Contract of Tordesilha.....	215
Map 3: Indigenous Territories in Brazil .....	246
Map 4: Area of fiel research on macro perspective .....	269
Map 5: Area of fiel research on meso perspective .....	270
Map 6: Area of fiel research on micro perspective .....	271
Map 7: Area of fiel research on detailed perspective I .....	273
Map 8: Area of fiel research on detailed perspective II .....	274
Map 9: Access to the field .....	278

## **List of Graphics**

Graphic 1: Analytical Frame for Environmental Justice – decision steps and fields .....	31
Graphic 2: Causal relationship between partial conceptions .....	169

## List of Tables

Table 1: Arrow-Diagrammed Development of the Theory .....	23
Table 2: Chiastic Exchange Structure of UV and EV .....	66
Table 3: Allocative vs. Autorative Resources .....	103
Table 4: Four ideal typed discourses on Sustainable Development .....	134
Table 5: Racial Distribution of Water Supply/Distribution network and cesspool/discharge .....	204
Table 6: Composition of population by race 1991/2000 .....	204
Table 7: Population Growth in Brazil 1872 - 2010 .....	205
Table 8: Population Growth in % in Brazil's rural and urban areas 1940 - 2000 .....	206
Table 9: Composition of Population by Race 1991/2000.....	208
Table 10: Persons declaring themselves as 'Brazilian' related to their income in R\$ .....	209
Table 11: Residential Population by region 2011 .....	219
Table 12: Residential Rural Population 2011 .....	221
Table 13: Residential Urban Population 2011 .....	222
Table 14: Number of Protected Areas in Brazil .....	251
Table 15: Democracy Index of Brazil 2008/2010 .....	257
Table 16: National and Federal Conservation Units.....	258
Table 17: Wins and Losses of National UCs 2005/2011 .....	259
Table 18: PCUs of Particular Initiative by the ICMBio .....	260
Table 19: UCs in Pará under Direction of the National Government .....	260
Table 20: UCs in Pará under Direction of the Federal State .....	263
Table 21: UCs in Pará under Direction of Municipalities .....	264
Table 22: Population Growth in the Municipality of Maracanã .....	272
Table 23: Municipalities Classification .....	272
Table 24: Population Structure in the villages .....	275
Table 25: Concourse Matrix: Sustainable Development / Environmental Justice .....	304
Table 26: Sustainable Development Q Sort .....	305
Table 27: Environmental Justice Q Sort.....	305
Table 28: Q Pyramid .....	306
Table 29: PCA Analysis .....	306
Table 30: Q Sort Correlation Matrix: Sustainable Development .....	309
Table 31: Q Sort Correlation Matrix: Environmental Justice .....	309

*Environmental Justice and Sustainable Development*

Table 32: Factor Loadings of Q Sorts for the Sustainable Development Discourses .....	312
Table 33: Distinguishing Statements for each Factor (SD) .....	314
Table 34: Correlations between Factor Scores (SD) .....	317
Table 35: Factor Loadings of Q Sorts for the Environmental Justice Discourses .....	318
Table 36: Distinguishing Statements for each Factor (EJ) .....	319
Table 37: Correlations between Factor Scores (EJ) .....	322

## Preface

The presented published version is the extended version of the doctoral thesis. In consideration of the discussion in the thesis defence the previously excluded historical chapter 2.4 on 'Nature conceptions' was reintegrated and both introduction and epilogue has been revised. In the academic debate, several critiques on the doctoral thesis have been stated. This preface is also included to properly answer to the announced critiques of the disputation's academic panel. The appendix was extended by the two academic references of Prof. Sérgio Costa (supervisor) and Prof. Thomas Hurtienne (second supervisor). Consequentially, argued viewpoints refer to the evaluations of the supervisor (Appendix 13) and second supervisor (Appendix 14). Indicated references (p. xx) refer to the page in the doctoral thesis. Beside the necessary explanations with regards to the newly included chapter, the text of the doctoral thesis remained unchanged.

Main discussion points have been opened by second supervisor Thomas Hurtienne. He argues that theory discussion in chapter 2 on human, nature and society has been too briefly described, which gave away the crucial elements of a reformulation of environmental sociology. Hereto is to answer that – as stated - „[t]he following examination is not meant to outline the history of environmental sociology but rather to focus on possible theoretical contribution to the mentioned ‚external system‘ in consideration of two substantial arguments: Social Nature (2.1) & Dialectic of nature society“ (p. 31). The possible contributions base on Grundmann's analysis and the consideration of revealed concepts like anthropocentrism, progress optimism, technique belief, dialectic of nature-society and social nature.

Hurtienne continues in the critique to state that Giddens and Beck has been insufficiently discussed in the text. These have been – as rightly argued by Hurtienne – dominant in the 1980s and 1990s, but neither Beck's risk society conception nor Giddens' structure theory can really contribute to find an answer to the initially outlined lack of a dialectic of nature society. In particular these two authors have been mentioned in advance with reference to Grundmann (1997) who already classified environmental sociological contribution to the open question. Hurtienne's critique cannot reveal the value of Giddens with regards to the above named conditions. Based in this condition, Hurtienne's argument of short fallen critique on Beck cannot be followed. Beck is not, as he states, only discussed twice without proper critique, but – in consideration of the subject's point – broadly esteemed (p. 79-80).

The next point of Hurtienne is the chose Heinrich Popitz. Hurtienne argues that Popitz has no international relevance. The argument as such points to the selection of authors. The lack of international relevance comes here together with the underestimation of environmental justice as a research paradigm. Popitz's critique on Gehlen's second nature cannot be ignored in the context of the developed social nature conception.

Then, Hurtienne criticizes the examination of Dunlap and Catton's human ecology redefinition and asks for deeper discussion on this point. With reference to the above quoted statement, the doctoral thesis didn't aim



to tell the full story on environmental sociology development, but wants to stress the turning point where the contemporary gap emerged. In case of Dunlap and Catton, Groß's (2001) conclusion is followed, but not repeated. With reference to the method chapter, the critique on Dunlap and Catton in the theory chapter is just another addition to the already favoured and linked argument of Girtler towards Ezra Park's human ecology approach. Basically, the examination was limited for the named reasons. Hurtienne's argumentation could be interpreted as if chapter 2 had not dealt with important issues for no reasons. In face of these arguments, this interpretation cannot stand.

Regarding chapter 3 – the definition and institutionalization of sustainable development and environmental justice, Hurtienne claims that the perspective on the origin of the sustainable development concept would have been qualified before and after referring Huber's phase model. The critique is not applicable here for two reasons: First, the Huber's phase model applies for the process of institutionalization of sustainable development and not for the origin of the concept as such. This means that the historical context of Clausewitz's terminology (1713) and the concept of the German Interparlamentarische Kontrollkommission (1952) just gives hints in terms of the history of ideas, but not on the phases of institutionalization. The second error is the focus on Huber. Huber's phase model is also supported by the well-known Brazilian environmental sociologist Acsehrad among others as was argued on the very spot.

Furthermore, Hurtienne points out that the doctoral thesis didn't clearly make the difference between the concept of sustainability and sustainable development, arguing that the doctoral thesis would see groundbreaking importance subsequent to Nobre's (2002) statement. Actually, Hurtienne's argument cannot really convince for some reasons: Nobre argues at the named point that the concept of sustainable development has – as the doctoral thesis agrees – two parts, sustainability and development. The semantic position of sustainability as an adjective, Nobre continues, indicates the status of this part in the concept of sustainable development. Even more, Nobre clearly agrees that the sustainable development concept is indistinctly defined and makes clear that the concept isn't primarily dealing with sustainability.

Then, Hurtienne criticizes the approach to deal with the indistinct concept. He suggests that the doctoral thesis's four ideal type discourses would not clearly explain the one-sidedness and simplicity of the characterization in opposite to the reference (Clapp/Dauvergne 2005). In my opinion, the term of ideal type discourse, as taken from Foucault, should have made clear that this is a very simple, one sided viewpoint. With reference to the method introduction in the beginning and the character of the chosen method (Q Methodology), the simplification to four categories was later on used to describe the existing discourse differences on sustainable development and environmental justice.

Hurtienne aims in the following at the second concept. He criticizes that the doctoral thesis had valued the local and more radical concept of environmental justice higher than sustainable development. He assumes that these two concepts would not be on the same level, as the doctoral thesis argues, but on different levels. Hurtienne reveals here misunderstanding of conceptualization. Obviously two diametrically opposing concepts

aren't located on the same structural level, but in respect of the consistency of environmental problems in general (cf. social nature conception) they must be treated as equivalent in priority and significance. Hurtienne's viewpoint becomes more evident when looking at his second critique: The doctoral thesis argues that the consideration of needs of future generations would be abstract. These haven't been considered in the environmental justice debate for the named reason: They are abstract, not concrete, since technical progress, resource scarcity and needs, other needs, and challenges aren't predictable in the future. Consequentially, all these thoughts must be seen as notional. Behind these speculations are real and concrete power relationships, which deal (in accordance to Bourdieu) with abstract symbols to enforce their demands. Hurtienne's returning efforts to show a weakness in the argumentation of the doctoral thesis, at the end, unmask at the end only his own viewpoint as non-dialectically. If environmental justice is on a complete different level, not connected to other debates and if the consideration of future needs is really so important, then the given status of sustainable development as leading concept cannot be properly criticized. This doesn't mean that Hurtienne's critique is wrong. On the contrary, his critique comes from another ideal type discourse, which – in consequence – values institutional dealing and future needs as more important or at least of equal importance than environmental justice research does. The given contemporary problem set debunks the problem of these thoughts already in the beginning. On the other side, the doctoral thesis cannot exclude his viewpoint by evidence either, but I assume that today's dealing with the environmental problem set would need more than just the inclusion of environmental justice as another sub-concept of sustainable development in order to understand, analyse and finally resolve the man-made problems with nature.

Chapter 4 and 5 introduce and describe the field of research, Brazil and the Amazon region. Hurtienne asserts that the explanation of the regimes would have been verbosely and redundantly under systematical viewpoints. As will be shown in the following, Hurtienne's viewpoint on Brazil is the one of an insider, who already adopted mainstream Brazilian opinions in dealing with the indigenous population. Chapter 4 is detailed since world's civil society is the addressee, not the intellectual elite in the Northern Amazon. With reference to Girtler (2001) is clearly explained, that the thesis is also written with the purpose to give opportunity for non-academics to learn about the region which has been researched in 2003, 2005, and 2010/11. Furthermore, the connection of regimes is assumed to be one of the major practical outcomes of the doctoral thesis. Even though Hurtienne argues that the argumentation would be redundant, this statement remains an unproven accusation. He concludes from there that there hasn't been a discussion, how regimes are constructed. Hereby Hurtienne ignores the given reference to Costa (2011a), which outlined the characteristics of a regime, and the general reference to Foucault's discourse and regime concept.

At the end, when Hurtienne comes to his field of expertise, the Amazon area in the federal state of Pará in the Legal Amazon, his argumentation shows the stated Brazilian mainstream argumentation when denoting the local population on the island of research. There he goes as far as to say that the *nativos* cannot be named as indigenous people, which have principally been living there for centuries already. Hurtienne here assumes

that the given hints would be insufficient indications and consequentially the people on island Algodual/Maiandeuá wouldn't be proper addressees for environmental justice. Both are wrong. Given evidence of their origin could already be proven by the diploma research to which is referred in the doctoral thesis. Even more, Hurtienne refuses the self-definition right of the local population. Parts of the local population define themselves as indigenous people. In consideration of Girtler's ninth commandment, I see this as an ethically difficult position of Hurtienne. Why should scientists, in particular white and German, know better to define them than the people themselves? The second problem of Hurtienne's argumentation comes due to his indifference with regards to classification in itself and for itself: Since the people on Algodual look for private benefitting instead of saving the environment – he argues – they aren't adapted for environmental justice. In his opinion, only people with the right mind set fit into the concept of environmental justice. He hereby takes side of the institutional viewpoints of the environmental secretary SEMA.

In his opinion is already the interview with her and some subjective observations absolutely sufficient. He forgets by this argument that the chosen method Q Methodology had revealed the reason of this contradiction within the interests of people as one hidden conflict line. The Hurtienne argues that the doctoral thesis wanted to demonstrate sustainability of Q Methodology. The contrary is true, since Q Methodology has been introduced to oppose over-rapport driven qualitative analysis as they are common in the Brazilian Amazon. Exactly these arguments have been argued in an article of Hurtienne and the author of the doctoral thesis (Kaufmann/Hurtienne 2011). His following examinations on Q Methodology are therefore difficult to link to the doctoral thesis. In particular, since he sees a problem in the application of Q Methodology when distinguishing between legal goals and social reality on Algodual. The connection to analysing discourse differences in a given field remains a hidden secret of Hurtienne's critique. His final critiques on the Q Methodology application end up with the claim of a content based discourse analysis of the interview with the SEMA. Beside the method problem of over-identification (or over-rapport) the question remain unanswered how to compare the two concepts of environmental justice and sustainable development properly by analysing just one interview plus adding subjective observations. How would the concept of social nature be considered in a method which just deals with two perspectives on a problem, one from institutional perspective, one from a stranger's research perspective and none from the perspective of the people at local?

The most pressing question is rightly revealed at the end: Are these two discourses located on the same level (as I assume) or not? This – by the way – answers already Hurtienne's general question. Many mainstreams define sustainable development, which is logically not possible. Different discourses, even inherently contradictive, constitute the frame of sustainable development, where each stakeholder can pick the aspect which suits his or her interest best. Environmental justice, on the contrary, doesn't allow such diversity and is very clear in its direction. Would environmental justice be consumed by sustainable development and not

seen on equal footing, the description of environmental problem sets would – again or still – be lacking from a holistic paraphrase.

At the end, I want to repeat Hurtienne's statement in his reference: Like him, I have focussed in the examination on the critical aspects of his reference and left the positive, rightful critiques aside. Prof. Hurtienne is an academic colleague and friend and I don't want my answer be recognized as disrespectful blaming, but – hopefully – as a good answer to good critiques in order to enforce future debates. This is linked to the hope to strengthen critical discourses in the scientific community instead of accommodation papers. My indeed critical analysis and offered solution approach of the environmental problem seeks and requires critical review, which I am thankful receive on my website [www.environmentaljustice.de](http://www.environmentaljustice.de), where a pdf file of this work is also available.

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## **1. Introduction**

*What have we done to the world  
Look what we've done  
What about all the peace  
That you pledge your only son...  
What about flowering fields  
Is there a time  
What about all the dreams  
That you said was yours and mine...*

Earth Song, Michael Jackson

The environmental problem concerns the political and academic sphere since forty years. During this period the concept of sustainable development has achieved impressive influence in legislation and on the political tableau. Even though discussions have continued and institutions have developed a huge amount of inter-governmental regulation and information exchange, the expectations of successful results have been disappointing. National regimes, inter- and supranational organizations have, supported by non governmental organisations (NGOs), adopted the concept.

Most prominently starting with the report of the Club of Rome in 1972, the need to change was expressed in Dennis Meadows' 'Limits to growth' (Meadows et al. 1972). Nearly thirty-seven years after, Dennis Meadows was awarded Japan Prize in 2009, which he used for a critical announcement regarding the actual economic crises (the first crisis, called the bank crisis, from contemporary point of view) and the upcoming crisis due to non-sustainable growth. "Für mich (...) ist die Geschichte seit 1972 rückwärts gelaufen. Die Welt ist weniger nachhaltig, als sie es damals war. Es ist unbefriedigend, eine theoretisch nachhaltige Gesellschaft aufzuzeigen, wenn du siehst, dass die reale Gesellschaft weiterhin einer falschen Politik folgt" [In my opinion, history has run backwards since 1972. The world is less sustainable now. It is unsatisfying to come up with a hypothetically sustainable society if you realize that the real society is still following the wrong path] (Heise 2009). The presented thesis assumes that the reason for the failure can be found in the contradictive understanding of the sustainable development concept.

When looking at innumerable institutions, agencies, academic institutes, even researchers and researches in this field, sustainable development seemed to be a successful concept, to mediate different interests in the field. On the other hand, and in light of Meadows considerations, recent events show, that required governmental consensus agreements have not been achieved (i.e. post-Kyoto protocol debates). Vain negotiations for binding agreements to reduce CO<sup>2</sup> emissions – for instance – in a decline of environmental enthusiasm to globally achieve the state of sustainable development when faced with threats to existing ecological biodiversity or climate change ended. Different stakeholders on global projection proposed either flawed readiness to compromise or egoism for being responsible to block advancement. Eckersley pointed out that even successful implementation of the Kyoto Protocol would do little to address the problem of global warming. (Eckersley 2005: 7) A reduction of CO<sup>2</sup> of 60-80% as demanded by the Intergovernmental

Panel on Climate Change (IPCC) could not be implemented with the existing priority list of the 'reluctant states' such as the United States of America (USA), Australia or by border countries like China, India, Indonesia and Brazil. As still the economically most powerful, the USA has pursued a general resistance against anything that challenges 'US interests' (Ibid.: 8), and so follow all others led by China.<sup>1</sup> Questions emerge: Why should – for instance – Brazil's government be interested in protecting the Amazon when social problems due to under-industrialisation, post-colonial heritage, and pressure to technologically catch-up are much more pressing than environmental concerns? Why should – on the contrary – Germany's or the USA's government be interested to pay for the protection of the Amazon rainforest? Most of the environmental debates with base on sustainable development act on an abstract and moral level. In avoidance of discussions about distribution antagonisms, in which unequal distribution of development benefits and costs would have been necessary to discuss, sustainable development is defined to be acceptable for all contradictory interests to be discussed in an institutional frame of consensus. This doesn't apply only to the global, but also to on the local projection. Sustainable development became a usable concept for all stakeholder interests to deal with global and local social inequality issues. Consensus claims aside, behind the the proposed equality between the stakeholders power relationships take the center stage, where each side picks the arguments that fit best in their agenda in order to enforce their interests. “[N]ão obstante as diferentes visões,” as Marcos Nobre points out, “a noção de DS [Desenvolvimento Sustentável] é o carro-chefe de uma *estratégia de institucionalização* da problemática ambiental.” [despite different visions, the notion of Sustainable Development is stamped by an *institutionalisation strategy* of the environmental problem.] (Nobre 2002: 8, original emphasis)

The sustainable development concept debate also prompts questions about the relation between sustainability and development. Furthermore, seeking clarification becomes the crucial goal: What kind of development is meant when talking about sustainable development? (Ibid.: 36) Considering the genesis of the concept is to ask, who defined the concept in the past, and what are the (different) understandings of it now? In particular, which opinion is not represented in the concept, who is excluded from the debate and who has the authority to determine the definition? Many say, sustainable development has not a clear definition, this piece assumes the opposite: The posed unclear definition exists by purpose to cover antagonisms within the environmental problem set. Understanding the meaning of the concept will give opportunity to *verstehen* (in the meaning of Max Weber) what the debate covers: The social mediation of the environmental question.

At this point, a second concept joins the debate in recent years: environmental justice. First and foremost not discussed in (global, institutional) forums, but on the local projection by (non-institutionalised) grassroots movements, Environmental Justice Movements (EJM) defined the concept in their struggle against unequal distribution of environmental burdens. Opposite to the long-term existing concept of Sustainable Development (since 1952, most prominently since 'Stockholm conference' in 1972), Environmental Justice

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<sup>1</sup> Even the USAs 'new moral' proposed by Bill Hare would not be a predetermined success. (Eckersley 2005: 10)



as a concept emerged in the 1980s as part of the US grassroots movement of Indians and people of Afro-American origin. Concerned with what they call 'environmental racism', civil disobedience, protests of civil society, and militant action have been part of their struggle since the beginning. During the last two years, when this work was conducted, Environmental Justice as a concept joined the political and academic debate more and more prominently (cf. Acselrad 2009, Kloepfer 2006, Elvers 2007, Köckler 2006, 2008, 2011, Schlossberg 2007, Schultz 2009, Souza 2008). Related concepts such as 'climate justice' joined the debate with objective to classify the new environmental paradigm in the realm of sustainability. This debate is still ongoing and there is a struggle to define and institutionalise the 'new' concept. Those that currently predominate in defining the Sustainable Development concept are struggling to incorporate it into the existing (power) frame, whilst the others defend its origins and concern for 'people of colour'.

This work stresses the importance of the two concepts on an equal footing. Environmental justice and sustainable development are both key concepts to human development, environmental concerns, and social justice. The former fills a gap, left by the contemporary sustainable development concept definition. Since sustainable development is discussed as an answer to the problem set within the given institutional frame, provided solutions fit into the given frame of what is assumed as being 'possible'. Environmental justice, on the other hand, however is a fundamental critique to social reality and existing injustice at present, and therefore particularly controversial. As Kloepfer points out regarding environmental justice as a concept: "Ungeklärt und u.a. unter Soziologen, Ökonomen und teilweise auch Juristen umstritten ist allerdings die Frage, inwiefern und welche Handlungsbeschränkungen sich daraus für die heutigen Generationen ergeben." [Unclear and controversial among sociologists, economists and in parts among jurists remains, inasmuch and which action constraints result from this for contemporary generations.] (Kloepfer 2006: 27) Therefore, I assume that environmental justice is crucial for the analysis of the environmental problem in two ways: First, those, which have been excluded from the sustainable development debate (due to result of the institutionalisation process) continued in their struggle for social participation, cultural consideration, and equal rights. Since social struggles with relation to the environmental problem set didn't arise in the 1980s at the first time, but continued without certain concept in the background until these struggles could be re-framed in a concept, in which their struggles are conceptualised and their viewpoint could be defined and represented. This concept nowadays is environmental justice.

Basically, one can say, even though both concepts are based on general justice ideas, such as intergenerational justice (Brundtland 1987), environmental justice focused more on social justice aspects within a given society than on abstract questions of distributive and/or procedural justice towards future generations (Rawls 1993). Environmental Justice Movements (EJM) finally raise to question the agreed terms of societal distribution of costs as well as benefits of development, on local as well as global projections. This potential makes Environmental Justice as a concept a much more challenging approach than sustainable development is today and, due to its genesis, can ever be. By looking at the current

stakeholders involved in the environmental debate about definition and institutionalisation of the environmental justice concept, all stakeholders of the sustainable development debate can be found, and more. Furthermore, controversies from the bottom line, from local areas, from those that 'have no voice' or rather, aren't heard, are joining the struggle too. This is why environmental justice became one of the most relevant concepts for environmental social science in general, in particular in the USA. The Afro-American and Hispanic minority group struggles for establishing Environmental Justice Research (EJR) since end of the 1970s. In Europe, in the same period, human geography has undertaken long-term efforts to map poverty and deprivation, particularly in the United Kingdom (Maschewski 2006: 11). In Germany, the concept was ignored until turn of the millenium, even though the social distribution of environmental burdens has been considered (Heinrichs et al 2004). Without any doubt, as Elvers states, EJR as a 'new paradigm' for environmental sociology (2007: 28) in particular has been underestimated in its powerfulness to analyse and *verstehen* the characteristics and processes of the environmental question, in particular dialectically<sup>2</sup>. Nevertheless, Elvers' claim for more concentration was ignored in German sociology, for reasons which will particularly be discussed in the chapter with reference to Environmental Justice.

For contextualization purposes, particular interest will be paid to the conception of sustainable development (SD) and environmental justice (EJ) as a theoretical and institutional frame in order to evaluate relevant groups of stakeholders in the debate about how to define the terms and how the conceptualization process developed. I mean 'groups' in the sense of people that share equitable opinions and objectives for any reason regarding the debate respectively. At this point, we see two different conditions of the two concepts. The institutional introduced concept of SD, what is further on called 'top-down', and the grassroots born concept of EJ, what is further on labelled as 'bottom-up'.

A historical and theoretical examination of the two concepts in order to show and compare their structure and constitution is goal of the first part of this work.

The development of specific concepts of sustainable development lead directly to specific decisions of broadly agreed international declarations such as Stockholm (1972), the Brundtland Report (1987), and the Earth Summit Agenda 21 in Rio de Janeiro (1992). Questions to be answered are: Who gave sustainable development the meaning it has today? Which side won? Who got and probably still gets the short end of the stick? What is the 'environmental regime'<sup>3</sup> we can speak of or must we speak of many?

Looking at the idea in terms of 'bottom-up', questions emerge such as at which point does the struggle regarding definition and institutionalisation of the environmental justice concept contribute to filling (theoretically) the gap, left by contemporary sustainable development controversies? Can we already speak of a final concept of Environmental Justice? If yes, can we more specifically speak about one concept, which

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<sup>2</sup> The 'dialectic claim' in environmental sociology in terms of a new 'dialectic of nature-society' as proposed as solution by Grundmann (1997) will be discussed later on in a separate chapter.

<sup>3</sup> The 'regime' concept will be discussed later on in slightly more detail. Basically this work deals with an understanding of 'regimes' in terms of Foucault.

tells more than just the question of the 'social distribution of environmental burdens'? If not, what are the conflict lines? Which discourses<sup>4</sup> can be found in the environmental justice concept?

Comparison of the two concepts on a theoretical level is somewhat complicated. Whilst sustainable development is discussed in a more or less internationally (and institutionally) defined framework, environmental justice reveals in its theoretical examinations a strong national reference, which can be seen when looking at how differently the concept is understood (or dealt with) in different countries. Klopfer states in regards to Germany for instance, that

„[b]ezüglich des als räumliche Umweltgerechtigkeit bezeichneten Aspekts der Verteilungswirkung von Umweltlasten geht es in Deutschland, im Unterschied zu der Debatte in den USA, wo teilweise die Vorwürfe eines gezielten Positionierens umwelt- und gesundheitsschädigender Anlagen in von ethnischen Minderheiten oder einkommensschwachen Personen bewohnten Gemeinden erhoben werden, nicht um den Vorwurf der bewusster und willentlicher Diskriminierung sozial benachteiligter Schichten, insbesondere bestimmter Ethnien. Trotzdem sind auch hier überproportionale Belastungen ohnehin gesellschaftlich benachteiligter Gruppen festzustellen.“

[regarding the aspects of division effect of environmental burdens, named as spatial environmental justice, the claim of intentional discrimination of socially disadvantaged classes, or ethnicities in particular, doesn't apply to the German debate, in opposite to the US American one. Nonetheless, even in Germany one can see disproportional burdens of population segments that are already societally disadvantaged.] (Klopfer 2006: 21) Consequently, this geographically and socially unequal distribution of environmental burdens in Germany is first of all ascribed to economical *Wirkungszusammenhänge* [effect coherences] (Ibid) but neglects racial concerns that are and have been central for all US American Environmental Justice Research (EJR). Based upon this situation, the research starts with a simple question to the complex problem: Is there coherence, and if yes, what is the coherence between the concepts of EJ and SD? What is the SD regime or what are the SD regimes nowadays as they developed from the historical-theoretical-institutional context? Are there different discourses in the world about EJ? What are these discourses in Germany, the USA, and Brazil? Can we talk about an environmental regime already?

According to Eckersley, to find new opportunities, turning to "sub-national" levels is needed (Eckersley 2005: 9). This research assumes that environmental justice due to its bottom-up character can give helpful answers to the environmental problem set as it is faced today. Opposite to the SD concept, distinctions between political arguments and theoretical examination, between political opinion and behaviour on the hand, and scientific debates on the other, are not just more artificial, but impossible to make within the EJ concept. The interesting point in Environmental Justice Research is that this kind of logic difference, such as superstructure and basement, is indistinguishably bound together in the struggle of understanding the environmental question in a social and local actor network context.

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<sup>4</sup> Also discussed later, the 'discourse' concept, similarly understood in reference to Foucault.

Therefore, in consideration of the need for sub-nationality, i.e. the local perspective, as pointed out by Eckersley, EJ as a concept will reveal new insights not just on the global projection of theoretical examination and discussion, as described in the following three main chapters, but also in consideration of discourses on the concepts of SD and EJ on local projection. This is done by a case study on an environmentally protected island in the Brazilian Amazon, inhabited by native Brazilians (Indians) and newcomers. The discovery of discourse differences on the island of Algodual-Maiandeuá in federal state of Pará fills the second part of this work.

### 1.1 Scientific Relevance

Environmental sociology is nothing more than a niche in contemporary German sociology, theoretically and methodologically. Within this niche, EJ is just a mostly neglected corner, even if “literature has rapidly expanded in recent years through the growth of the environmental justice movement, concerned with the impact of environmental degradation on distinct sociological groupings, conceived in terms of race, class, gender, and international hierarchy.” (Foster 1999: 369) The theoretical purpose of this work is to critically review sociological contributions to the environmental field as a “*novo paradigma ecológico*” [new ecological paradigm] (Buttel 1992: 91) and to Environmental Justice as a proposed 'new research paradigm' in sociology (Evers 2007: 21). A question was, how have the notions been defined in sociology, that are inherently expressed in the concepts of Sustainable Development and Environmental Justice? Inasmuch as contributing contemporary sociological theory to notions of 'nature', 'sustainability' and 'environment' on the one hand, on the other hand of 'justice' and – most of all – 'development'? Regarding the former notions, sociology must face the fact that it is unique in the social sciences. In particular, in the degree of resistance to environmental issues, due to the history of sociology, “characterized by its ambivalent relation to biology and other disciplines with respect to the natural environment” (Buttel 1992: 69).

In consideration of sociological origins, namely in the debate between sociologism and biologism, prominent contributions to the three nature related terms in the sociological field will be outlined. The end of World War II must be seen as a caesura in environmental sociology, in which a new mainstream was established, forcing back principal theoretical considerations of a nature-society relationship in favour of anthropocentrism (due to a clear sociological standpoint) and technique or progress infatuation. Insufficient theoretical frames of some notable sociologists<sup>5</sup> will critically be discussed to show post World War II assumptions, therefore constraints and limits, to explain and analyse the above named questions.

It should be noted that, due to the purpose of this examination, this part raises no claim of completeness of all contributions to the field, nor can give sufficient judgement on the whole work of the referred authors.

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<sup>5</sup> Selection of sociologists, considered as notable, based on the selection of most recent environmental sociological works dealing with nature in sociology (Groß 2001; Kraemer 2008) with particular focus on Marx as articulated in the claim for a new 'dialectic of society and nature' in sociology (Grundmann 1997).

Rather, this part is included to direct our view to the three classics of sociology (Karl Marx, Emile Durkheim, and Max Weber). Even though their approaches show different attempts of classifying 'nature' or 'environment', three basic critiques remain, which are until now part of our dealing the environmental question: Anthropocentrism, technique belief, and progress optimism. The hindering barrier for incorporating the terms in a sociological constitution of the environment-nature-sustainability conception is caused by the division between society and nature, sociology and biology back to the classics. In opposing biological simplification, in his work Marx argued to a large extent against Thomas Robert Malthus, in which he criticised in particular his theory of the inevitable social adaptation in the struggle against the biological population growth based on arithmetic calculation (cf. Meek 1971). "Polemics aside" as Benton states referring to Engels' and Marx' arguments against Malthus "their critique was double-pronged: first, a series of arguments against the universality and necessity of the law, and, second, a reconceptualization and explanation of the phenomenon—a relative surplus population—which Malthus had addressed, as an effect not of the human predicament, but of the dynamics of capitalist accumulation." (Benton 1989: 59) Emile Durkheim's *dictum* of social phenomena which cannot be explained in reference to individual biological factors (such as race or instinct), as pointed out against Herbert Spencer, is renowned as well as Max Weber's distinct position to any evolutionary approaches in social sciences (Buttel 1992: 72).

Necessary critical positioning of contemporary sociological contributions to the environmental issue as well as to the barriers (sociologism versus naturalism-biologism) and assumptions (anthropocentrism, technique and progress optimism) established additionally by the classics of sociology lead to an argument about the origins of inherent matters for the environmental discourse back to its roots in Aristotle and St. Augustine, in which the crucial caesura will be bared: The Enlightenment.

This will be recaptured for historical linkage in the case study chapter, where *Conquista* and *Reconquista* can be shown as powerful influences to the environmental regime in Brazil's Amazon. Theoretically it will be outlined then, that nature, technique and progress have not always been seen as they are understood today. Nature in particular as an outside subject to mankind was redefined in the time when North and South America were discovered and colonized, and the *Reconquista* in Portugal and Spain took place. As can be seen, ancient understandings of nature in science have not made such a distinction, in which 'nature' had the sole role of a resource supplier.

Reasons will be given to consider nature in terms of 'social nature', as part of perceived reality. Opposite to current theories, the new view on nature as something mentally perceived is proposed. Basically, this assumption avoids moral arguments in dealing with the environmental challenge in terms of animalization of humans, pathetic fallacy, and humanization of animals and considers the surrounding material as a differently perceived reality in a specific cultural, gender, and class-related context, where the 'environmental threat' is not easily generalized. The concept of 'social nature' furthermore links to the final demand for environmental sociology: The failure of a theorem beside 'sociologism' and 'naturalism-biologism' and the

demand for developing a 'dialectic of nature-society' by overcoming limiting sociological anthropocentrism in orientation (Foster 1999: 368) to which in particular the 'early' Marx gives proper approaches as discussed in Harvey (2009), O'Connor (1998), Dickens (1997), Foster (1997), Burkett (1997) among others.

## 1.2 Method of and theoretical considerations to structuring

Methodologically, two methods have to be distinguished: How to approach the question and how to collect and interpret the data. The former will be discussed in this sequence, the latter will be described in chapter 1.5.

The challenge here was to develop and test a theory in accordance to what Grounded Theory calls provision of a fuller theory that fits and works in a substantive or formal area. This “*general method of comparative analysis*”<sup>6</sup> (Glaser et al. 1967: 1, original emphasis) required a priori assumptions in combination with a touch of common sense (Ibid: 29), in consideration of the five “interrelated jobs of theory in sociology” (Ibid: 3).<sup>7</sup> These assumptions will be outlined and applied in this chapter. They have been made based on Descartes' four rules, as deduced from algebra, geometry and logic, (1948: 15-16), King's five rules for constructing causal theory (1994: 99-114) in recognition of Brady and Collier's critical thoughts to that aspect (2004: 36-37), and Van Evera's “arrow-diagram specific explanations” (1997: 17) is then used to specify development from and to (reciprocal process) formal and substantive theory (Glaser/Strauss 1967: 42). In this context it must be stated, that terms such as hypotheses and theory testing have been used within the grounded theory frame, not within Van Evera's assumed classical hypothesis testing as done by (mainstream) political science. In this context, the flexible use of hypotheses is favoured instead of a static logico-deductive frame. In recognition to Descartes' first rule [similarly adopted by King also as first rule (1994: 100)] of excluding “all ground of doubt“ (1948: 15), the problem set, as outlined, was set with literally ignoring “the literature of theory and fact on the area under study, in order to assure that the emergence of categories [of grounded theory] will not be contaminated by concepts more sited to different areas.” (Glaser/Strauss 1967: 37) The above named application of the chart to distinguish between types of theory (substantive and formal) and elements of theory (category, properties of category, and hypotheses) (Ibid: 42), in the particular case of theory building for the given questions, have been linked to Van Evera's distinction of generalized and non-generalized specific explanation (1997: 17, see above). Both formal and

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<sup>6</sup> The general notion was not developed by Glaser and Strauss as they openly admit, but „was developed by our sociological forefathers – Weber, Durkheim, Mannheim – and by social anthropologists.“ (Ibid: 22)

<sup>7</sup> In consideration of the given problem set for this piece, grounded theory is used as a toolset rather than a strict guideline without flexibility. As the authors mention “constant comparative method is designed to aid the analyst, who possesses these abilities, in generating a theory that is integrated, consistent, plausible, close to the data – and at the same time is in a form clear enough to be readily, if only partially, operationalized for testing in quantitative research.” (Glaser/Strauss 1967: 103) As this is the aim, the reader shall see the reference to grounded theory as an appropriate add-on in order to lead from the abstract research interest to specific categories and methodological classifications, not as a study in accordance to Glaser and Strauss' suggestions.

substantive<sup>8</sup> theory development and testing require different theories to frame as well as differentiate methods for testing. Consequently, the theory that is tested here is not the logico-deductive one, but a grounded theory that “is written with the assumption that it is still developing“ (Ibid: 32), with no claim of final completeness, but by creating a starting point with which the sociologist can then logically deduce further hypotheses.

In accordance with the guidelines of grounded theory, some methods have been “borrowed” for the emergence of categories (Ibid: 36), and first of all dealt with Foucault's understanding of discourse as “an entity of sequences of signs in that they are enoncements (enoncés)” (Foucault 1969: 141) . In this understanding, much too simplified to be accepted as properly reviewed but sufficient for the context of categorization, discourse means, how people speak and think about something (and in consequence act in accordance to their particular logic of their understanding). In his 'The order of Things' Foucault states that different ways of ordering the world have been dominant in different ages, so that each of these different orders “can be understood as nexus of exclusion” as Clifford stresses: “That is,” he continues “the epistemic formations peculiar to a particular historical period allow certain things to be thought, believed, and said within that formation, and certain other things to be excluded, so as to constitute a relatively autonomous domain: a domain of discourses.” (2001: 28) These domains finally create several regimes, which apply to several areas. In extension of Foucault's term of 'discourse', 'regimes' are denoted (based on this) very generally as characterized by Costa's 'inequality regime' definition<sup>9</sup>.

In application of the Neo-institutionalist theory of John Meyer (1997), but not its conclusions<sup>10</sup>, called the 'world polity', to the given frame, his 'script' must be seen as one 'regime' or 'domain of discourses', that applies a certain order on a global projection in terms of policies and regulations. When taking Mignolo's coloniality concept (2000) into account, which until now assumes imaging of colonial heritage in societies of postcolonial nations, linked to Grosfoguel's accusation of eurocentrism (2009), principle thought of the main problem arises from different perception of equally named issues. Here, the initial considerations of discourses and regimes become the central aspect for defining categories of research. As basic grounded theory, from this point, the formal theoretical claim is that (very general and applicable) an unperceived problem is not a problem! Can we say this? Even if we could state this claim, could we prove or – in

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<sup>8</sup> In their generalized and non-generalized specific explanation (in more detail see below)

<sup>9</sup> Here he distinguishes five (5) arguments: (1) Logic of stratification/redistribution defined as static, dynamic or combined, (2) political, scientific, and popular discourses according to which individuals or groups interpret and construct their own position and that of others in society, (3) legal and institutional frameworks, (4) policies, and (5) models of conviviality in everyday life (segregating or integrating convivial forms) (cf. Costa 2011a: 17)

<sup>10</sup> His assumption of an outspreading similarly structured institutionalization (and its positive [sic!] interpretation) must be refused considering not only the political highlighting of Western system patterns as deterministic result of institutional development, but also in regards to the problem “that this large degree of structural similarity between states cannot be pausably explained with the aid of functionalist or power theoretical arguments.” Assumption of equal preference by actors of inevitably very different interests rather unlikely come to the same conclusion to build similar structures. Therefore, the critique of a one-sided top-down explanation by bottom-up consideration remains unopposed by this neoinstitutional direction. (Joas/Knöble 2009:547-548)

accordance to King (1994: 100) – can we falsify this theory? Can we find evidence in favour or against this claim, as otherwise it be an “oxymoron” as Lieberman points out (1992: 4).

Here it becomes obvious that formal theory testing is not ideal, therefore substantive theory testing in terms more explanatory theory building is required. In consideration of the distinctive categories of discourses and regimes concerning the field in question, the problem set of this work comes into play: The environmental issue. Therefore theoretical thoughts of a world or a nature that cannot be polluted, since it always was, are added in reference to Enzensberger (1974: 5) and Kraemer (2008: 22), later described in more detail. This theory gives reasons to grasp the environmental problem within the realm of perceived problems and that what certain stakeholders or people discuss as the main environmental issue. At this point the division of the difficult problem (environmental question) into as many (more simple) parts as possible in accordance to Descartes second rule (1948: 15) and then to conduct the thoughts in such order that one might ascend by little, and, as it were, step by step, to the knowledge of the more complex (...).“ (1948: 15-16) According to this procedure, the concepts of Sustainable Development and Environmental Justice had then divided into three pieces: discourses on nature in reference to sustainability and environment conceptions versus [environmental] justice and [sustainable] development as encompassing conceptions of distributive and procedural justice. Hereby Elver's new paradigm opposes consensus procedures of policy making regularities within the international, institutional frame of sustainable development with his circle of problem approximation, as I am willing to call it with all due respect, in which the persistence of environmental conflict is seen as an instrument of solution, not as the problem itself (2007).

To the environmental justice frame furthermore applies considerations of critical whiteness considerations (Amesberger 2008) as suggested by Glosfoguel, but in the sense that the ideal typed discourse domains are mainly influenced by white, male, and heterosexual (among others) context. This structure of the second rule is kept for further processing, following from the most simple, which were the nature and environment discourses, to the more complex (Environmental Justice and Sustainable Development) and from there to the most complex part: The single case study in which the theory is tested in a completely new environment (Amazon, Brazil). At the local projection, group selection has been made in consideration of theoretical purpose and relevance as priority, not of structural circumstances (Glaser/Strauss 1967: 58) Descartes fourth rule<sup>11</sup> came into play by using reformulating the initial questions and hypotheses into an elaborated form of grounded theory. Concluding is to say, that combination of the named theories reveals a falsifiable theory, in which the environmental regime on an abstract, global projection, and environmental discourses on the local projection in terms of a single case study can be compared and interpreted.

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<sup>11</sup> „Et le dernier, de faire partout des dénombrements si entiers, et des revues si générales, que je fusse assuré de ne rien omettre.“ [And the last, in every case to make enumerations so complete, and reviews so general, that I might be assured that nothing was omitted.] (Descartes 1636: 14)



1.3 Chain links to a theory of environmental law implementation

The chain links of the outlined theory draw a line from the definition of central concepts, inherently considered in environmental policies, to the creation and implementation of environmental laws, expressing a certain contemporary existing 'environmental regime', which is opposed by insufficient result in regards to the intended goals. Considering the mentioned theory development, the following table measures the arrow-diagrammed model of Van Evera (1997, see above) with the elements of theory and types of theory from grounded theory. Furthermore, the theory development also demonstrates the process of theory operationalization in three steps. The three steps are from very abstract 'General Theory' (I) to 'Generalized Specific Explanation' (II) to 'Nongeneralized Specific Explanation' (III).<sup>12</sup> This will be also the basis of future theory testing.

Table 1: Arrow-diagrammed Development of the theory

Grounded Theory	Specific Explanation Modelling		
Formal Theory	I	Too different discourses about policy constituting concepts →	dysfunctional policy → failure to achieve result as intended by policy
Substantive Theory	II	Too different discourses about Environmental Justice and Sustainable Development on global projection →	International Environmental Policies (international environmental) → No binding agreement achieved, environmental problems remain on the international agenda
Substantive Theory	III	Too different discourses about Environmental Justice and Sustainable Development in environmental council on island Algodual-Maiandeuá →	Brazilian Environmental Policies → Environmental problems on island Algodual-Maiandeuá remains

In other words, the formal theory assumes that overly differently perceived understanding of a concept, which is constitutive for a policy, leads to failure by achieving agreed results<sup>13</sup>. In consideration of the discourse-regime conception, this assumption consequently creates a connection in which a particular regime leads to dysfunctional policies, if a global or abstract regime differs too much from the local discourse of the people that have to live under direction of this particular policy.

Substantive theory (II) approach assumes that there are two central concepts, Sustainable Development and Environmental Justice, which are constructing environmental policies on the global projection. Therefore, the understanding of these concepts influences both goals of the specific environmental policy (i.e. the Kyoto Protocol) and consequently, what it regulates (i.e. CO<sup>2</sup> emissions) as well as what it is not regulating.

<sup>12</sup> The three terms are taken from Van Evera (1997: 15-17).

<sup>13</sup> Here is to add, that this formal theory fits together with the later on developed and discussed concept of 'social nature' emerges as conclusion from 'spaceship earth' and assumed 'clean world', which is why at this point will be linked back to this outline.

At the third step, substantive theory (III) applies the assumptions of II to the local projection for single case study testing purposes. Therefore, globally made predictions must be found in the local field in order to remain valid.

In reference to elements and type of theory according in Grounded Theory terms (Glaser/Strauss 1967: 42), the category of research is the *difference in understanding of law constituting concepts between relevant stakeholders* (formal) and consequently the *difference in understanding of the concepts of Sustainable Development and Environmental Justice for environmental policy and environmental law constitution*. In accordance with grounded theory, examination of formal theory starts on the substantive level, in which – at the end – conclusions may be drawn regarding meaningfulness of the results towards a formal theory.

Therefore, defining the category, the properties of the category (in order to derive predictions and hypotheses) in consideration of the above table, understood as a causal connection between concepts, on the substantive level finally the concepts of Sustainable Development and Environmental Justice. Existing policies, here the environmental ones, is the next step. On formal theory groundings, the 'category' simply is featured by subjective perception of law constituting concepts, which creates 'properties of the category' different interests of stakeholders which extend the concept's understanding to a degree in which antagonisms become evident. Consequently, the formal theoretical hypothesis is that the more different a concept is understood, the less a regime or a policy is capable to manage the problem as intended.

In case of the substantive, theoretical level, the category is specified by differences in understanding of environmental notions as constituting concepts for environmental regimes (in the meaning as discussed above). Properties of the category are consequently elaborated by perception of nature<sup>14</sup>, sustainability or environment as a surrounding, external system<sup>15</sup> on the one hand, and connotation of society defining terms, such as modernization, culture, progress, in short development, and demands of equality, fraternity and freedom, which can be named as justice and concerns. The last stage of hypotheses requires consideration of international environmental regime's strong influence to national environmental policy, which creates the framework for local environmental law, where environmental problems can be tracked and traced with less

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<sup>14</sup> In particular in environmental social sciences, discipline distinctions seems even more artificial since the environmental question rather deals in viewpoints than in uncrossable lines, but due to selection criteria for relevance of considered authors, this piece – even free in taking theories without constraints (besides the categorization one) – stays focused on environmental sociological frame in terms of meaningfulness.

<sup>15</sup> The usage of the 'system' notion is derived from Luhman's terminology not by accident, but intentionally. Here shall just be added, that the 'external system' (not a concept used by Luhman) concept seeks to describe the totality of all other systems which describe and designate (cf. Luhmann 1990: 68 et seq.) the social system in which terms such as development and justice is placed in relationship to the 'nature-sustainability-environment-system'. The multifariousness of this complex of systems is not intended to describe nature, sustainability and environment as something independent from the social perception, since this would just – as will be specified later on – reflect one possible viewpoint on the 'external system'. The world, however, as Luhman states so rightly „is nothing that could be described from one viewpoint.“ (1992: 120)

predictions and broader meaningfulness about reality (see footnote 12).<sup>16</sup> Following differences in (subjective) perception of (abstract) concepts, lead to acceptance or refusal of policies in general, environmental policies and regulations in particular. Insofar [policy/law constituting] concept definition (and institutionalization) is decisive for enforcing particular interests. Rules, and policies or laws cannot be seen any different from rules as described by Bourdieu, are by no means as rigid and have nothing like the determining effect on behaviour, but rather are often broken if they do not tally with actor's interests<sup>17</sup>. So, the decision in favour of obeying or agreeing to certain policies and laws requires a subjective interest in it, even if rituals and customs may tell otherwise. Therefore, the differences between concept understandings, or rather the outline of existing discourse differences, might be the central hint to a better *Verstehen* of the problem set. As Schlosberg states: "There is no such thing as environmentalism. Any attempt to define the term in a succinct manner necessarily excludes an array of other valid definitions. 'Environmentalism' is simply a convenience – a vague label for an amazingly diverse array of ideas." (2002: 3) Consequently, environmental concepts share various, very different definitions, sometimes close to each other, sometimes contradicting. This circumstance becomes apparent in the case of the chosen concepts (Environmental Justice and Sustainable Development). Concerned at the first look with the same issue (the environmental challenge), they must be distinguished due to their historical development and origin. Each of the two concepts stands for a particular view on the problem set; both reflect one side of the problem. As will be outlined in the referring subchapters about the practical constitution and theoretical construction of the concepts in more detail, the two concepts are both comparative and competitive. Due to examinations later on, the hypothesis to be tested or researched, poses that:

*competition of discourses about definition and institutionalization of Sustainable Development is somehow finalized, whilst same discourses' competition of Environmental Justice concept is still going on.*

Even though, the struggle concerning Sustainable Development is somehow finished, the differences remain as mentioned in reference to Bourdieu due to self-interest. Rules have been set, institutions and procedures exist, but, first of all and before all established rules, stakeholders still follow their particular agenda and introduce it into the concept as much as possible. The above named hypothesis furthermore suggests, that particular opinions are automatically excluded from the area of Sustainable Development discourses, whilst

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<sup>16</sup> For the contrary applies the rightful critique of John Meyer regarding theory predictions using the example of 'his' unknown island: "But none of the prevailing theories would effectively predict many of the profound social and organizational changes that would occur on our hypothetical island, not least because they do not adequately consider the cultural processes involved." (Meyer 1997: 146)

<sup>17</sup> This is assumed in consideration of Bourdieu who profoundly describes it as follows: "Every exchange contains a more or less dissimulated challenge, and the logic of challenge and riposte is but the limit towards which *every act of communication* tends. (...) To reduce to the function of communication – albeit by the transfer of borrowed concepts – phenomena such as the dialectic of challenge and riposte (...) is to ignore the structural ambivalence which predisposes them to fulfil a political function of domination in and through performance of the communication function." (1977: 14)

the Environmental Justice concept revitalized all stakeholder groups in their attempt of definition predominance. Consequently, the discourses on Sustainable Development may be antagonistic as well, but discourses on Environmental Justice bare a strong emphasis on the social justice aspect of the environmental problem, which is less considered in discourses on Sustainable Development.

In consequence, another property of the category on the substantive level comes into play: Its impact on successful implementation of regulation. Here, the outlined parameters reveal the traceable connection between the two concepts of interest and social reality. A more different the understandings of these concepts within the group of assumed relevant stakeholders<sup>18</sup>, the more likely fails the goal of successful law implementation. This aspect must be found in the discourses about both concepts. In terms of a hypothesis for testing in the single case study, the prediction assumes that:

*agreement and execution of environmental law fails, because the understanding of the inherent concepts, such as Environmental Justice and Sustainable Development, is too different.*

#### 1.4 The work's structure

The work is structured in two major parts. The first part deals with a theoretical comparison of two theoretical lines, which are entangled and differentiated at once: Environmental Justice and Sustainable Development. There within, three entangled conceptions will systematically be researched and analysed.

At first (chapter 2), the system of environment-sustainability-nature as it is (and was) established in social sciences, therefore also focussing historico-scientifically on discourses, which have reflected different perceptions of the non-human surroundings. This issue doesn't only serve to contextualize the chosen concepts scientifically, but also to reflect the circumstance, that perception of this social system has severely shifted in time, which accordingly had and has strong influence to scientific and political consideration of nature. Where does contemporary nature, sustainability and environment, perception come from? Elaborated gaps in environmental social sciences nowadays, in the classics and in the past before social sciences have been distinguished as a separated paradigm in science will reveal different approaches. Two concepts are taken and developed as reference point for the examination in separated sub-chapters: ‚Social nature‘ (2.1) and a ‚dialectic of nature-society‘ (2.2). This perhaps can explain the environmental problems a better way than the contemporary predominant one, less considered than necessary in contemporary debates on the environment.

Considering the results of the first, the second main argumentation (chapter 3) compares<sup>19</sup> the definition and institutionalization of Environmental Justice or Sustainable Development in respective sub-chapters.<sup>20</sup> The

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<sup>18</sup> The difficulties of group selection, its limits and – consequentially – inherent bias has been addressed in the last chapter (1.2), but will be discussed in more detail in chapter 1.5.

<sup>19</sup> This necessary method bias in this comparison will be discussed in more detail as follows.

area of interest in the two sub-chapters is to outline and classify within the respective theory frame the predominant regime and inherent discourses (definition) as well as the institutional distinctiveness's in reference to it. The character of the concept's understanding, in particular of the more established and broader used concept of Sustainable Development (chapter 3.1) which is now challenged by the Environmental Justice concept (chapter 3.2) , either reveals certain foci on the environmental problem set, following its own discourses, entangled with certain particular interests<sup>21</sup> in this debate. The first sub-chapter will outline today's theoretical (definition) and structural (institutional) frame of institutionalization and definition of the Sustainable Development concept on the global projection. There will be demonstrated, that the predefinition of the Sustainable Development concept hasn't occurred in recent years, but was already decided at the first international conferences on the environment (in Stockholm 1972). The predefinition excluded any conception that considers development without economical 'growth'. In the second sub-chapter, Sustainable Development examination will be opposed by the examination of the Environmental Justice concept with special considerations of its historical origin (USA) as well as different denominations and anticipations in two selected countries (Brazil and Germany). This approach is necessary since – in opposite to Sustainable Development – one can hardly speak of a single, predominant definition of the Environmental Justice concept, but rather several perspectives as detached from different national roots. Furthermore, all Environmental Justice literature refers to the US American origins of the movement to frame the topic, even though circumstances and the focus of Environmental Justice research in the certain field are by no means comparable with the US background of the concept (like in Germany). The third selected country is by nature of this study Brazil.

Concluding, one can say that opposing economical models, based on a different understanding of development, can't be implemented, but will be considered where applicable in the Sustainable Development part (chapter 3.1.4). This aspect cannot be considered in the same manner in chapter 3.2, since theoretical focus there concentrates more on distribution, procedural and perceived justice aspects, and ways to model it. The social question, as pushed by Environmental Justice research activists and affected communities<sup>22</sup> is perceived in this concept as repressed in favour of so called 'practical constraints' which came from the named predomination in the environmental environmental regime. The structure therefore will just touch main conceptions, as – with reference to the origins of this concept – case study work is rather focus of Environmental Justice Research than theoretisationby now.

In the last two chapters, considerations in theory have been confronted with reality in Brazil's Amazon (chapter 4). Results of six (6) months field research reveal the 'environmental regime' in the Amazon and its

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<sup>20</sup> It must be said in advance, that the origin and structure of the Environmental Justice concept by now does not allow such a general outline of its institutionalization as it is possible in regards to Sustainable Development concept. This aspect is considered in the principle claim of this work for adding (not including) the Environmental Justice concept to the sustainability debate as a separate concept beside the Sustainable Development concept.

<sup>21</sup> *Partikularinteressen*

<sup>22</sup> The community as an actor is in particular an important part of Environmental Justice constitution as a theoretical frame, as will be examined in the referring chapter.

three companions, the 'territorial regime', the 'cultural regime' and the 'development regime' (chapter 4.2). As well, and most importantly for creation and testing of the substantive theory creation, predefined hypotheses have been reformulated and tested on an environmentally protected island there (chapter 5). This island, called Algodual-Maiandeuá or just Algodual, has been under environmental protection law for twenty years and nonetheless faces problems of mass tourism and other issues. Here, discourses on Environmental Justice and Sustainable Development have been evaluated and compared with the goal to: (1) describe and assess the local situation and demonstrate the usefulness of the new concept (Environmental Justice) introduction, and (2) present a first hint for minimizing and maximizing differences between the two concepts outside 'groups comparison' as recommended by Glaser and Strauss for generating theory (1967: 58). The method, analysis and technique tools which have been used in the field can be basically reduced to three as described in the next chapter: Girtler (2001), Stephenson (1935; 1953) and Elvers (2007). General proceeding as outlined in the following chapter will be particularly discussed in its application to the environmentally protected area (chapter 5.4).

In the Epilogue (chapter 6) will mainly be referred to the theoretical outcome of this work with reference and in consideration to the detailed results of the field research (5.5 and 5.3.10) and the case study (4.5 and 4.2.3), Environmental Justice versus Sustainable Development concluding remarks (3.3), and thoughts about the conclusions to the theoretical gap as found in the writing of the classics (2.4.6) and more recent contributions of social scientific theory to the complex (2.5.2)

### 1.5 Methods and methodological considerations

After further text based discourse analysis in Brazil at Universidade Federal do Pará [Federal University of Pará] in Brazil's Legal Amazon, three interconnected methods have been applied in the field. Interconnection results from an auxiliary significance of two methods (Girtler & Stephenson) to the centred analysis tool (Elvers). The analysis tool and the Girtler contribution I want to call 'complementary methods' for 'executing Q Methodology'<sup>23</sup>. The latter is considered to add as much as possible of is ethnographic, 'free unstructured participant observation' rules of ethics and procedure of Roland Girtler (2001), such as becoming an expert for the field of research before going to the field, to the research tool when evaluating the statements for the Q methodology analysis. Second is to consider Elvers' claim of Environmental Justice as 'new processual research paradigm' in terms of 'conflict as instrument for environmental problem solution' for interpretation

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<sup>23</sup> Here I just want to add some remarks regarding the term 'Q methodology'. According to Asah the 'Q' was selected since it follows the 'R' in the alphabet and symbolizes it's necessary to define perspectives before conducting a survey to measure the frequency of occurrence of perspectives in a population. Others state, that 'Q' is used to refer to what Stephenson called *quansal* units (QUANTification of SALiency). According to Brown, Stephenson applied ideas from quantum physics to the subjectivity research field. Therefore, since quansal units have parallels in measuring the potential of electrons, consequentially, when "Q participants sort statements into categories, quansal units demarcate the categories. Statements that are sorted near the middle of the distribution have low saliency, while those located at the extremes are comparably more salient". (Webler et al. 2009: 7)

of the statistical results. Independent variables in this context are the environmental regime in the Legal Amazon in general and the specific environmental law as expression of this regime on islands Algodoal-Maiandeuá in particular. The legal structure and underlying intention of the law as posed by responsible persons in the government will be contested with the behaviour of the other selected participants.

Selection follows grounded theory recommendations on “How To Select Groups” (Glaser/Strauss 1967: 58). Chosen as P-set were the members the responsible local environmental institution of the government, the so called *conselho gestor* [management council] and furthermore native indigenous inhabitants in consideration of Fuks (2001), Spector (1987) und Hannigan (1995). Since I see ethical thoughts as an often underestimated scientific concern in methodological considerations, Girtler's advised 'ten commands of the field research' (cf Appendix 1) play an important role in method application for two reasons: First of all, command 9 which proposes the role of the researcher not as judge, but witness. Second (command 7) is to consider the acting person as someone of competence, not as a 'dweep' (Girtler 2001: 46). The goal of research is not to collect the required information for analysing the data set, but to *verstehen*, why an actor acts or believes and how she or he acts or believes. Here, distinction between the manifold recent methods and Girtler's approach cannot be outlined in full length, but in order to contextualize and consider current debates, to the eminent concept of ethnomethodology (Harold Garfinkel) and Tyriakian's 'existential phenomenology' shall be responded by quoting Andreski:

“Genau damit haben sich die Soziologen der alten Chicagoer Schule, wie Park, Burgess und Thomas, in den letzten Jahrzehnten dieses Jahrhunderts befaßt, als sie studierten, was man damals 'informelle soziale Beziehungen' nannte”, “die Chicagoer vermuteten nicht einmal, daß das, was sie machten, ethnomethodologische Existenzphänomenologie war”

[This was, what sociologists of the old Chicago School, like Park, Burgess and Thomas, did in the last decades of this century, when they studied, what was called back then 'informal social relationship'. The Chicago boys didn't guess at this time, that this what they did was ethnomethodological existential phenomenology] (1977: 155 et seq) This discussion will not outline the existing debate about ethnomethodology and phenomenology (cf. Girtler 1999: 64) when grasping subjective behaviour, but the reference should show the linkage to the origins of environmental sociology – if one can say so – during the days of the emergency of Chicago School, which will be discussed in the next chapter on a theoretical level. So, when looking for the understanding of how stakeholders in the field understand the concepts in question, customs, individual experiences, beliefs, and behavior play the most central role for this purpose. In this context and in consideration of Girtler's critique, the concept of a however constituted 'interview' is replaced by Girtler's 'ero-epic'<sup>24</sup> conversation' approach. In opposite to terms or methods such as 'narrative interview'

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<sup>24</sup> Girtler's coinage results from two ancient Greek words: 'Erotema' and 'Epos'. The substantive 'Erotema' means 'question', the related verb 'eromai' describes – more clearly than the substantive here - 'to interrogate, to enquire'. 'Epos' on the other hand implies 'narrative, news, and lore' but also 'Götterspruch' [god's instruction] and the related verb 'eipon' means 'to report something'. (2001: 150-151) As Girtler points out: „Ein 'ero-episches Gespräch' ist

or 'in-depth interview'<sup>25</sup>, the 'ero-epic conversation' seeks to establish an exchange of information without being forced to give answers. (Girtler 2001: 148) Schütze for example refers to protection of the private sphere by focusing on facts of public interest (1977: 19). In order to come as close as possible to life reality of very different stakeholders in the field, public and private sphere, or public interest versus private sphere must be distinguished to protect the latter of the participants as recommended in his 3rd command of field research, which reminds the researcher to not write unfavourably about those who have shared their knowledge with you. Again, the role of the researcher is to witness a situation, certainly much more unknown to him than to those living in the field, even though the researcher became an 'expert'. In any case, one must consider the fact, that the researcher was and always will be an 'external expert'<sup>26</sup>, whilst the real experts are those living under the researched conditions.

Another aspect of ethics in general, but in particular for 'external researcher', is “the need to present prior informed consent from indigenous and local communities which has not been well tolerated by many researchers.” (Azevedo 2005: 4) This is, what Azevedo calls “a need for new ethics in research”. (...) Research projects done in areas occupied by indigenous peoples and traditional communities should include, in their schedules, stages for the development of contact with the communities in order to build up mutual confidence, which would facilitate the process of acquisition of prior informed consent.” (Azevedo 2005: 5) As part of ethics I assume that by all scientific research establishing long term contacts, like friendship, to those that allow you to join and share their lifestyle. This shall not only be done for the sake of fairness, but as well for mutual benefit<sup>27</sup>. The contact to the people is not over, just because the research task is fulfilled (cf. Kaufmann 2003: 35).

This is also supported by the used analytic frame of Elvers, called *Prozessuales Forschungsparadigma* [processual research paradigm]<sup>28</sup> and displayed in the following Graphic<sup>29</sup>:

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demnach ein sehr eingehendes Gespräch, bei dem beide sich öffnen, der Forscher und sein Gesprächspartner, um in die wahren Tiefen einer Kultur (Randkultur) vorzudringen.“ (Ibid: 153)

<sup>25</sup> There is to be added in this context that even the term of an 'interview' demonstrates a very different method approach. Originated in journalist language as established in the US since 1860, as Kluge conducts, this term relates to interrogation of politicians, artists and other important persons. (1960: 32) This is the basic difference to the 'open conversation' as a method proposed by Girtler.

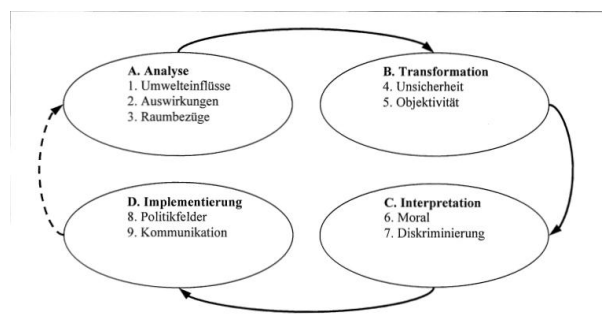
<sup>26</sup> The designation as an 'external expert' applies in my opinion to all researchers in the field, even though they may be born there. For example, a researcher who is born on an indigenous island and left to study and graduate at university in the metropolitan may come back to the known field to research. Nonetheless then he is an 'external expert' since his life reality is not anymore the life reality of the people on the island, but an urban one. Furthermore, the more this researcher has in background knowledge is compensated by higher risk to 'over-identify'.

<sup>27</sup> A very concrete example of benefit of considering this ethic is this piece. The named ethics have been applied in my first field research in 2003 and the contacts established then have been the requirement to realize the field research on islands Algodual-Maiandeuua 2010.

<sup>28</sup> His frame has has some connection to the Rapid Assessment and Prioritization of Protected Area Management (RAPPAM). In 1995 the World Commission on Protected Areas (WCPA) of the International Union for Conservation of Nature (IUCN) established a working group to develop a methodological frame to track the



Graphic 1: Analytical frame for Environmental Justice – decision steps and fields



Source: Elvers 2007: 28

According to Elvers' understanding, Environmental Justice (EJ) is to be seen as a negotiation process distinguishable in decision steps (A-D) and decision fields (1.-9.). Observation of EJ isn't based on a discrete situation, but on continuing real processes of negotiated accommodations.

The 'Processual' aspect of the 'Research Paradigm' consists under the assumption that the discussions can be understood in four main steps, two are abstract, Analysis (A) and Transformation (B), whilst the remaining two are belonging to the concrete realm, that is Interpretation (C) and Implementation (D). The first<sup>30</sup> phase of Analysis (A) is determined by defining the negative environmental impacts (field 1.), which sphere of life (field 2.) or referenced space (field 3.) are involved. In the transformation phase (B), risks to or chances of consequences are calculated (field 4.) and trustworthiness of institutions, knowledge, and information are reviewed (field 5.) which will lead to that what Elvers calls the 'core of EJ discourses': the interpretation (C) of concrete consequences in consideration of moral deliberation (field 6.) as well as [racial, social, gender etc.] discrimination (field 7.). Undertaken measures are located in the implementation phase (D), in which policies (field 8.) and communication (field 9.) create the frame of a compromising solution. As Elvers reduces, these measures require a decision suitable to all stakeholders. Only if such an agreement could be found, "kann von einer umweltgerechten Entscheidung gesprochen werden. Falls nicht, beginnt der Entscheidungsprozess unter dem Vorzeichen einer möglicherweise nun modifizierten umweltbezogenen Entscheidung von vorn" [can be spoken about an environmentally just decision. If not, the decision making process restarts under condition of a possibly modified, environment related a-priori decision], which is labelled by the dashed line between step D and A. (Elvers 2007: 27-28)

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effectiveness of conservation unit's management. RAPPAM "fundamenta-se no ciclo de gestão e avaliação, que tem como base a visão, metas e objetivos, tanto da unidade de conservação (UC) como da finalidade da própria avaliação." [is based on the circle of management and assessment, which has tasks and objectives for proper evaluation of conservation units.] (IBAMA / WWF Brasil 2007: 17) Elvers' independently from Brazilian commission debate evolved 'paradigm' sees Environmental Justice research fitting best in a circle.

<sup>29</sup> Graphics are generally displayed in the original language, but translated in the following continuous text.

<sup>30</sup> The 'circled' structure gives furthermore evidence of another advantage: The processual analysis-interpretation structure breaks limiting linear views on complex and multifaceted problems, such as the problem of environmental and social justice in consideration of demanded development and sustainability. Therefore, analysis of a field does not have to begin at step 'A' but can start before and after. This is important with regards to the given case study, in which the implemented initial law is about twenty years in the past, but ample literature traces the process to the present point.

Non-accommodation of opposing stakeholder interests aren't seen as problem, but as a functional requirement to approximate a solution acceptable to all involved stakeholders. The author's considerations must be added at this point, that he assumes a relativization of EJ's moral impetus in favour of a continuing adaptation of social reality in order to present different constellations of interests to be considered by different stakeholders in order to provide different reflections on social justice. In terms of the different reflections on social justice, one can view as different ways to see defined concepts involved in the general and particular environmental problem set. This is the point, where Elvers' 'Research Paradigm' is connected to the next subchapter. In order to apply his 'paradigm' as „Konflikt als Mittel“ (conflict as instrument) (2007: 39) for actors to analyse a problem, the main viewpoints must be analysed. Therefore, methodologically, his analysing 'Paradigm' fills an important gap in the way, how to see and to analyse the environmental problem set in general, in particular how to *verstehen* 'naturally' given problems in the context of existing discourses: Finally as a conflict of differently perceived views on a conflict which can be manifested, analysed, and interpreted by looking at the differences between ideal typed discourses. Within this circled frame, the analysis is executed with perspective to re-analyse the situation time after time. To make re-analysis of the situation both as meaningful as possible and comparable with the present research, Q Methodology was used to produce data which are capable to both analysing the local problem set qualitatively and being quantitatively comparable<sup>31</sup>.

### 1.6 Q Methodology

Central to the decision to use Q methodology<sup>32</sup> in this research was (among other reasons) the demand pointed by Lima regarding the characterization of one central concept (traditional population) for an Amazon political ecology: “Embora tenhamos que reconhecer algumas incongruências nessas novas denominações (...), é nossa responsabilidade conhecer o significado político do uso das palavras” [Nevertheless we have to recognize some gaps in these new denominations. It is our responsibility to know the political significance of the notion's usage] (Lima 2009: 29). This demand is – in my opinion – true for the whole ecological field, in particular for the concepts of Sustainable Development and Environmental Justice.

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<sup>31</sup> Comparability was required to compare the two disputes about Sustainable Development and Environmental Justice. Re-analysability on the other hand matters in regards to the mentioned minimization and maximization of differences in comparison groups for theoretical saturation (Glaser/Strauss 1967: 61 et seq.).

<sup>32</sup> At this point, just very shortly shall be neglected any connection of Q methodology as a method to study subjectivity to well-known macro level behaviour studies such as the World Value Survey of Roland Inglehart. Applied to the environmental field, Martinez gave a precise notice of what calls „a terrible misnomer“. As he continues on the same page „Against Inglehart, I argue that western environmentalism grew in the 1970s not because the western economies had reached a 'post-material' stage but, precisely the contrary, because of material concerns about increasing chemical pollution and nuclear risk.“ (2002: 4) Besides many other, methodological critiques which cannot be discussed here (for further reading cf. Kaufmann/Hurtienne 2011), Inglehart's pre-assumption is one of the greatest problems approaching and determining his method.

Another advantage, given by Q Methodology, is to exclude the researcher by statistical measurement of the distinctive ideal discourses in the field to limit the 'over-report' risk. This advantage is also the risk of the method, which lies in believing too strongly in the Q methodology statistics: “*Statistical conclusions*” as Lieberson states “*about a data set are different from conclusions about the importance of the data for evaluating a given theory.*” (1992: 13, original emphasis) The numbers cannot tell anything, but help to interpret the conglomeration of all collected data. Statistical results give reasons to conclude one or the other and – first of all – provide replicable data (see above) and the possibility to redo the research to then compare the results much easier than by just using ethnographic methods.

Q methodology has been developed by the physicist<sup>33</sup> and psychologist<sup>34</sup> William Stephenson (1902 – 1989 AC). It was first published in his article 'Technique of factor analysis' (1935), later outlined in more detail in the book 'The study of behaviour: Q technique and its methodology' (1953). Basically, the aim is to analyse subjectivity in a statistically interpretable form (Barry/Proops 1999: 339). Opposite to common R factor analyses<sup>35</sup>, “self is not a categorical construct in Q, rather it is thoroughly contextual, discursive and social. It is formative, emergent, and contingent, an empirical abstraction prone to elaboration and understanding rather than reduction.” (Goldman 1999: 592) This “method for the scientific study of human behaviour” (McKeown/Thomas 1988: 12) doesn't link persons over statements as common factor analysis<sup>36</sup> does, but conversely links statements over the participants of the study. As Previte states, “Q methodology (...) neither tests its participants nor imposes meaning a priori” (et al. 2007: 137), but generated ideal discourses are “attributed a posteriori through interpretation” (Brown 1980, p. 54).

The result does not give statistical evidence of how many people believe the one or the other opinion, but shows the most controversial aspects in the multicomplex variability of discourses in the field. The reasonable reduction of complexity between opinion, though, tells how different the given sample of participants think or believe about a certain topic, case or – as in this case – concept. The reduction of strength in statistical statements (for example comparability or mathematical congruency of data) is filled by possibility to include a qualitatively evaluated data set into statistical analysis. This aspect must not be underestimated. The general method problem in environmental studies is in the fact that “Faktisch sind so genannte 'objektive Notwendigkeiten' aber immer auch hochgradig subjektiv” [in fact, so called 'objective necessity' is always highly subjective] (Elvers 2007: 33). As Previte points out “Nevertheless, (...) it provides an opportunity to shift” the “focus from a particular individual narrative to an analysis of the range

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<sup>33</sup> Ph.D. 1926, University of Durham

<sup>34</sup> Ph.D. 1929, University of London

<sup>35</sup> „The most popular statistical test“ as Webler points out „produces an 'r' statistic (Pearson product moment coefficient). This 'little r' was capitalized to 'R' and marshalled to serve as a representative of that generalized approach to the study of traits.“ (2009: 6-7)

<sup>36</sup> For established factor analysis, participants of studies are subjects and questions or statements are variables. The researcher then looks for patterns in responses across the variables for each person if valuations one and another variable of a certain participant are related. (cf. Webler et al. 2009: 7)

of viewpoints that is shared or favoured by a particular group of participants” (Previte et al. 2007: 136), consequently giving a more 'macroscopic' complement to qualitative approaches (Watts/Stenner 2005: 71).

Therefore, its applicability is quite variable. Since the 1990s, social science has been aware of this method as a tool for researching the environmental question too. This is most famously presented by the study of Barry and Proops in the article 'Seeking Sustainability discourses with Q methodology' (1999), as an extraction of the whole study about Ecological Economics in the United Kingdom (1997).

Rendering a qualitative research method with quantitative factorisation Q is labelled a 'qualiquantological' method (Stenner/Rogers 2004). Thus, much of quantitative and qualitative general critiques also apply to this method.

Compared with focus groups, scenario analysis and ethnographic methods, Donner analyses the pros and cons of the analyst driven Q methodology, seeing to force choices by revealing mental models as the prime strength but considers the predetermination of the questions as limitation. On the 'positive' side he further adds high reliability of information and rapid validation because actors are on site, the rapid analysis procedure (full analysis within 24 hours), and costs as modest as in ethnographic methods if actors are already assembled on site (Krueger et al. 2001: 2). This is the case in the present study considering the ethic thoughts of benefits provided by the first research in this field 2003.

According to Previte et al. (2007) Execution of Q technique consists of five steps (Barry and Proops (1999) speak of six steps, but the procedure is the same). The following outline must be considered just as a brief overview of the technique used for the research. In more detail, the execution of the single steps is explained in the related chapter.

At first, the areas of discourse have to be identified as well as the relevant population. The discourse describes the general subject, the topic, or the matter of research, such as 'sustainability', 'justice' or aesthetic feeling or opinion of something. Here two terms for two comparable Q studies are chosen: Environmental Justice and Sustainable Development.

The second step is then to come from a very abstract 'discourse' to a concrete 'concourse'. For concretization purposes, clear questions must be answered: What is the range of issues relevant to the identified domain? To accomplish this task one draws information from scientific literature, recent newspapers and – first of all – qualitative interviews. At this step the relevant persons will be asked to explain freely their understanding of the subject. The usage of a so called 'umbrella question'<sup>37</sup> is typical for the step (Donner 2001: 26). The statements will be used to fill the gaps of the already evaluated sample, developed from other sources. Obviously, using persons from the field which later will be part of the requested population is of advantage to discover concealed discourses in the field. In the present case totally ninety-eight statements have been found for both discourses from different sources.

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<sup>37</sup> These are questions such as „What do you think about XYZ?“

The third stage is the development of the 'Q sample' or 'Q statement set' from the above named 'concourse'. "Usually" Previtte states "the concourse will be 'around three times the size of the aimed-for Q set'" (et al. 2007: 137) such as in the study of Barry and Proops (1999: 344). Environmental research often uses Dryzek's classification of environmental discourses (1997: 14) to reduce the statements to a manageable size. As Donner stresses "There is no clear rule of thumb for the number of elements that should be included, but sorts with as few as 20 or as many as 60 items are possible." (2001: 27) In case of this study, Dryzek's classification has been modified by the developed ideal types of discourses about Sustainable Development by Clapp and Dauvergne (2005), which will be elaborated at the end of the Sustainable Development chapter. In this process the statements for the study have been reduced to the number of 36, that is 19 for each of the two discourses.

In the fourth step, the basis for the 'Q sort' is surveyed in the process of statistical data collection. During this process, the sample of participants is asked to express their viewpoint by rank-ordering Q-sample in accordance to their preferences. "As few as 12 participants can generate statistically meaningful results, in terms of the range of implicit discourses uncovered" as Barry and Proops emphasize (1999: 344). A 'guide strip' (Donner 2001: 28) or 'Q pyramid' as I would call it gives constraints of how to sort the given statements. The range from plus to minus must be equal to both ends and has to include all numbers in between. The pyramid structure is in the mid-values (-1;0;+1).

After that, statistical analysis takes place at the fifth stage, in order to capture the quintessence of different individual's sorts. Usually, this is achieved by factor means of analyzed patterns across individuals measuring the most different, distinguishing statements. Thus, individuals which have sorted the statements in a similar way will consequently most likely share a similar discourse position. As stated, Q methods create ideal types which can be grouped according to position and then assigned to the individual. Q researches can draw a distinct picture for each factor array. At this stage one can cluster and distinguish subjective understandings of the concepts. The software used was PQMethod<sup>38</sup>.

At the end, sometimes distinguished as a sixth step, interpretation of data by means of narratives and in consideration of all information collected in and about the field construct the results. Here, besides collected knowledge from the literature, interviews, and observation, the named 'Processual Research Paradigm' of Elvers (2007) (see above) will help to *verstehen* (in Weber's meaning) the conflict as a never ending approximation by categorising the process of implementing environmental by his (Elvers') 9 circled steps in 4 categories from analysis to transformation, to interpretation, to implementation, to restarting.

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<sup>38</sup> Further details on resources are in Appendix 2.

## 2. The nature-environment-sustainability complex in environmental sociology

„Was ihr den Geist der Zeiten heißt,  
Das ist im Grund der Herren eigener Geist,  
In dem die Zeiten sich bespiegeln.“  
Johann Wolfgang von Goethe

As mentioned in the previous chapter, the 'external system'<sup>39</sup> deals with what is described in environmental social science literature as nature, environment and/or sustainability, which can be called the 'nature-environment-sustainability complex'<sup>40</sup>. This complex contains the terms of what both researched concepts<sup>41</sup> use in reference to nature: environment and sustainability. Here, the differences of nature understanding conceptions will give answer to the following questions: How is the external system perceived and understood, when developing theory concepts, dealing with this issue (such as Environmental Justice and Sustainable Development)? What can, therefore, contemporary social scientific theory contribute to the debate about the environmental problem set? Finally, what is state-of-the-art in theoretical examination of 'nature-environment-sustainability complex' perception? When looking for a theory of the named 'external system' by inclusion of a full range of introduced complexity, sociology discloses a rather one-sided concentration on problems of social movements, environmental consciousness and behaviour, the research of sustainability notions and nature comprehensions<sup>42</sup> instead of on social differentiation of environmental burdens, as criticised by Elvers<sup>43</sup> (2007: 21). In consideration of this critique, a theory review must deal in its conclusion with this fact.

At first, the often ignored nature concept's genesis in European history will be looked at. As will be seen, today's universal view on the named complex is still framed by the historical event of Enlightenment and – as will be referred to in the case study's part – the *Conquista* and *Reconquista* in Spain and Portugal about fivehundred years ago. These crucial events have not been without impact to nature-environment-sustainability complex understanding in science, but fundamentally changed the viewpoint until

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<sup>39</sup> cf. footnote 16 in chapter 1.3

<sup>40</sup> This term is in a broader meaning connected to the concept of the ecological complex or human-environment-nexus in accordance to Park (1936a: 15), but tries to grasp all models of relationship between these entities.

<sup>41</sup> Environmental Justice and Sustainable Development

<sup>42</sup> In particular in neglect of the local population or communities (cf. Huber 2001: 271)

<sup>43</sup> In detail he says: „Obwohl es auch schon erste soziologische Überlegung zur sozialen Differenzierung von Umweltbelastungen gibt, hat die Umweltsoziologie das Thema bisher ausgeklammert, zumindest, wenn man den aktuellen Gegenstandsbestimmungen folgt. Demnach konzentriert sie sich vornehmlich auf den Problemkreis Umweltbewusstsein und Verhalten, auf die Erforschung von Umweltbewegungen sowie auf Nachhaltigkeitsbegriffe und Naturverständnis, nicht aber auf die soziale Verteilung von Umweltbelastungen. So ist es bislang der Sozialepidemiologie vorbehalten gewesen, eine Diskussion zum Thema Umweltgerechtigkeit geführt zu haben.“ [Even though there have been already first sociological considerations for social differentiation of environmental burdens, environmental sociology has neglected this topic until now, at least, if present subject for study is considered. Therefore it concentrates rather on problems of environmental consciousness and behaviour, researching environmental movements, sustainability concepts and nature comprehension, but not on social distribution of environmental burdens. Consequentially, social epistemology has mainly led debates on environmental justice.] (Elvers 2007: 21)

contemporary times. Based on Groh (et al. 1991) will be examined, in which broader scientific constraints environmental conceptions have been constituted by the classics of social science and further.

In the following, with base on the most recently published examination about the history of environmental sociology (Groß 2001) and its recapitulation about the social constitution of nature (Kraemer 2008), the contribution of most relevant authors will briefly be discussed<sup>44</sup> as they have been pre-selected by Groß and Kraemer. Starting with an anew consideration of the classics of sociology, Groß's (2001) hints to their possible positive contribution for a 'sociology of things' is combined with Grundmann's (1997) claim for a new 'dialectic of nature-society' (later on in more detail), which is why Karl Marx, Max Weber and Emile Durkheim (in this order) will be discussed. As a conclusion of the Pros and Cons, theoretical imperfection of the classic's theoretical nature-environment-sustainability complex conception ends up revealing the reasons for theoretically groundless assumptions in all theories of the classics: Anthropocentrism and technique optimism. Both assumptions can be explained with reference to the outlined historical review. The revealed classics' insufficiencies must also be seen as the broader socio-historical frame for the debate in the single case study chapter about Brazil, where the impact of this viewpoint on nature is mirrored by the constitution of the environmental regime. As will be seen, colonialism, postcolonialism and "coloniality" (Mignolo 2000) have created regimes on territory, culture and development, which framed and frame the environmental regime of the Amazon until now.

The following examination is not meant to outline the history of environmental sociology, but rather to focus on possible theoretical contribution to the mentioned 'external system' in consideration of two substantial arguments: The consideration of a 'social nature' concept (2.1) and the need for a new 'dialectic of nature-society' (2.2) instead of a 'global projection' that leads to the 'spaceship earth' problem (2.3).

To generally understand the scientific limits in dealing with the surrounding outside clear social constraints, chapter 2.4 will review the genesis of contemporary nature conception and its connection to modern science. The universal dominance of the European dealing with the complex gives reasons to deeper looking at the origins of this understanding. The raise of capitalism and industrialization went hand in hand with the reconception of nature perception. The important role of both Christian religions (Catholizism and Protestantism) for imperial enlargement to other countries also defined the scientific dealing with nature. As will be shown, colonial history and the role of European empires cannot be analyzed detached from the development of the new nature-environment-sustainability complex as foundation of modern science.

Within this settlement, hints of Groß (2001) and Grundmann (1997) to possible contributions of 'early' Marx conception will be executed in consideration of the two above named arguments (2.5). As first sub-chapter, the outline starts with Karl Marx, in particular referring to his 'early' writings, (2.5.1) and its conclusion (2.5.2). This is followed by a discussion on Emile Durkheim (2.5.3), Max Weber (2.5.4), a conclusion to

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<sup>44</sup> By no means sufficiently to give any judgement about the whole work of these authors, but sufficiently to say whether and inasmuch they can contribute to a nature conception able to cover the range from sustainability to environment.

both (2.5.5) and final considerations (2.5.6). The last chapter (2.6) will demonstrate the missing and central aspects for a new scope in sociological and environmental sociological anticipation of both a 'new reading' of the classics (in particular Marx) and recognition of / usefulness for the two mentioned arguments in post World War II theories by means of a review (2.6.1). A conclusion will try to give some hints for further research, which might be useful to continue the opened theoretical path (2.6.2).

## 2.1 From imaginary problem of 'pollution' of a 'clean' earth to the concept of 'Social Nature'

Pivotal to most societal debates is the problem of 'pollution' of the 'clean' earth. "This has" as Enzensberger criticized already 37 years ago "never existed and is moreover ecologically neither conceivable nor desirable. What is actually meant are disequilibriums and dysfunctions of all kinds in the metabolism between nature and human society occurring as the unintentional side effects of the industrial process." (Enzensberger 1974: 5) Warnings for a threat to earth and dangers for flora and fauna on earth based on a nature conception, which misunderstands, "dass nicht 'die Natur' an sich gefährdet ist, sondern allenfalls die menschliche Zivilisation im modernen Verständnis bzw. natürliche Gegebenheiten, die von Menschen geschätzt und deswegen als schützenswert angesehen werden" [that not 'the nature' as such is in danger, but at most human civilisation in the modern understanding or natural circumstances which are estimated by men and therefore seen as worth protecting] (Kraemer 2008: 22). The 'threat to nature' is finally just another term for saying 'threat to mankind', since none of these catastrophes will ever be able to eliminate all living on earth<sup>45</sup>. As Renn emphasizes, nature has survived much worse events than 'stupidity' of humans. "Die Menschheit wird wesentlich früher aussterben, als es ihr gelingen mag, die Natur zu zerstören" [Mankind will cease much earlier as it will achieve the destruction of nature] (Renn 1996a: 82). As Martinez-Alier adds when quoting John Muir, "the earth can do all right without friends, but men, if they are to survive, must learn to be friends of the earth" (2002: 4). Connected to these thoughts of a 'sick world', some thoughts about the spaceship earth ideology can be useful. This theme, which will be discussed in more detail later on, cannot clearly be called a 'theoretical remark' as the title of this sub-chapter suggests, but is predominant in environmental discourses. It assumes that all humans are sitting in the same boat and is related to ideas such as geography focused distribution of environmental burdens (such as the often named North-South divide)<sup>46</sup>. Here, already stated formal or general theory of dysfunctional policies (cf. chapter 1.3) is adapted. Consequently: Perception within cultural and social circumstances or location (such as countryside or urban environment), among others, determine, what is recognized as an environmental problem<sup>47</sup>. A useful understanding of the environment concept is given by Environmental Justice research: Based on assumed environmental costs

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<sup>45</sup> This conclusion is drawn from both Marx and Grundmann, when stating, that ecological problems in their conception must be perceived as consequence of human intervention. (cf. Grundmann 1997: 539)

<sup>46</sup> But not all have adopted this term regularly (cf. Groh 1991: 12)

<sup>47</sup> Next adoption of this frame will appear in the theoretical considerations on Environmental Justice as new concept in the environmental debate in terms of what is called 'perceived justice'.



distribution by class, race or gender, or others, they define environment as “where we live, work, and play” (Gosine/Teelucksingh 2008: viii). As a matter of fact, “die natürlichen Ökosysteme der Erde erholen sich immer langsamer von Schadstoffbelastungen” [natural eco-systems of earth bounce back from pollutant burdens more and more slowly] (Meadows et al. 2009: 152), but degradation wouldn't be worth discussing or even mentioning if it happens on the moon or in areas where humans don't live and where there are no economical interests (i.e. resources). This thought will be referred to later on by using the label of 'social nature' to describe the assumption, that environmental problems exist just and only in subjective perception to those affected. The conception does not mean that unperceived problems don't exist but are – by nature – abstract, not concrete, and therefore absolutely subjective. Parallelism with the radical solipsistic version of constructivism, that assumes existence of atoms, molecules, viruses, bacteria or magnetic field just due to social construction of scientists, be disagreed in consideration of both grounding critique of Sokal and Bricmont (1999) and the dialectical simplification in the 'Marxist' false doctrine of Trofim D. Lyssenko (cf. Fäßler 2003). Instead, the influential constructivist approach, established in environmental sociology since the 1990s (cf. Johnson/Covello 1987; Buttel/Hawkins/Power 1990; Buttel/Taylor 1993; Hannigan 1995; Bachmann/Japp 1997; Diekmann/Preisendörfer 2001: 50 et seq.; Brand/Kropp 2004: 117 et seq.) gave crucial hints for taking the 'social nature' conception into account. This is since its development was methodologically decisively characterised by debates of knowledge and science sociology regarding reality or constructiveness of knowledge (cf. Lakatos/Musgrave 1970; Knorr 1981; Knorr-Cetina 1984) and led to a social construction of nature, bound to a specific cultural frame and observation perspective. This conception is useful in two ways: First, in terms of a contingent construction of nature which methodologically cannot be observed by externally looking at facts and data, and second in rejection of the epistemic premise of realism, which assumes that based on such methodologically experimental and empirical analysis at least potentially real characteristics of observed objects can reveal regularities and proper description. (Kraemer 2008: 42) Consequently, 'social nature' links to the term of 'nature images' as used by van den Daele (1992), but moreover to thought of Bechmann and Japp, who see such normative nature construction always as an identity offer, that “[den] Ungewißheitshorizont der gesellschaftlichen Risikokommunikation schließen und dies unter anderem deshalb, weil der Kontingenz wissenschaftlicher Kommunikation im Kontext ökologischen Nichtwissens immer weniger Vertrauen entgegengebracht wird” [close the uncertainty of societal risk communication because the contingency of scientific communication in the context of ecological nescience is more and more mistrusted] (Bechmann/Japp 1997: 565). Different constructions of nature within this concept refer to socio-cultural groups (Douglas/Wildavsky 1982; Thompson/Ellis/Wildavsky 1990), myths of nature (Schwarz/Thompson 1990), cultural traditions (Eder 1988; Greider/Garkovich 1994) or subsystematic coding (Luhmann 1986). This concept also is linked to Schmidt's examination of Marx's nature conception (in critique on Feuerbach, and partly on Hegel), in which

„Natur insgesamt ist für ihn [Marx] ein geschichtsfremdes, homogenes Substrat, dessen Auflösung in eine Dialektik von Subjekt und Objekt den Kern der Marxschen Kritik bildet. Natur ist für Marx Moment menschlicher Praxis wie zugleich Totalität dessen, was ist. (...) Daß die Welt eine durchs Subjekt vermittelte ist, (...) [ist] richtig. Marx meint jedoch, diesen Gedanken erst dadurch in seiner vollen Tragweite nach Hause bringen zu können, daß er nachweist, was es mit dem eigentümlichen Pathos des 'Erzeugens' von Kant bis Hegel auf sich hat: der Erzeuger einer gegenständlichen Welt ist der gesellschaftlich-historische Lernprozeß des Menschen.“

[nature in total is for him [Marx] a non-historical, homogeneous substrate, whose solution in a dialectic of subject and object builds the core of Marxian critique. Nature is according to Marx both momentum of human praxis and totality of what is. Rightly, the world is mediated by the subject. This thought can just be realized by proving the crux of the generation matter from Kant to Hegel: *the generator of a material world is the societal-historical learning curve of men.*] (Schmidt 1962: 19-20, own emphasis)

## 2.2 From naturalism and sociologism to a 'dialectic of nature-society'

The generation of matter is seen in the following examination as contribution to both the practical phenomenon and further enrichment of sociological theory as stated in the beginning. For the second purpose now, furthermore, a brief retrospective view to the effects of sociology's history on the classification of 'nature' as a theoretical concept in sociological theory will be outlined.

Classical sociology was constructed particularly with distinction to the fields of biology, psychology and economy. This distinction and the differentiation to the 'biological nature of things' has given reasons for the under-represented rating of environmental debates in sociological tradition. This under-representation consists of two principles: First, Durkheim's guideline to explain the social with the social<sup>48</sup>. Second, the assumption that society can 'emancipate' from the limits of nature in reference to long epistemological tradition back to Francis Bacon and René Descartes<sup>49</sup>. According to Grundmann, this sociological self-concept rejects 'naturalism' approaches as they have been common in the time before sociology, as the discipline was constituted. But sociology had to pay a price for steering towards 'sociologism': By concentration on social facts and proposition of *sui generis* explanation (cf. Benoit-Smullyan 1969), sociology excluded (or had to exclude?) all 'nature' relationships from its paradigm. (Grundmann 1997: 538) According to Brand's and Rammert's estimation, sociological theory underestimates the environmental problem in modern societies and says few about the „zentralen Problemen der modernen Gesellschaft, wie den globalen Umweltgefährdungen, den Strategien des ‚sustainable development‘, den Ungewissheiten

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<sup>48</sup> Groß calls this formula correctly 'Durkheim's strained dictum' referring to the point that this short form is just used in the list of content (Groß 2001: 40). In "Die Regeln der soziologischen Methode" Durkheim writes more precisely „Die bestimmende Ursache eines soziologischen Tatbestandes muß in den sozialen Phänomenen, die ihm zeitlich vorausgehen, und nicht in den Zuständen des individuellen Bewußtseins gesucht werden“ [The determining cause of sociological facts must be found in the social phenomena, which happened before, and must not be found in the conditions of individual consciousness] (1976: 193).

<sup>49</sup> For further reading see Groh (1991), whose arguments also will be considered in chapter 2.5.6.

naturwissenschaftlichen Wissens und den Ambivalenzen technologischer Naturgestaltung“ [crucial problems of modern society, as the environmental threat, strategies of Sustainable Development, uncertainty of nature scientific knowledge and the ambivalence of technological nature design] (Brand/Rammert 1997: 530).

Hence, some argue that a paradigm shift is required in order to attach sociological theory to the environmental question. One approach is to unify society and nature theoretically by observing environment-society-interaction and establishing an 'ecological sociology'. This deduction seems to be not consequently plausible, since the proponents of this paradigm change don't provide any reasons, inasmuch the 'sociologism' tradition can be fructified for the environmental question without falling back to naturalistic approaches or trying to adopt nature science approaches (theories and methods) for the social question<sup>50</sup>. Furthermore it remains unanswered why a 'holistic' human-environment-perception in terms of a 'sociology of things' (Marx) cannot be contributed. Grundmann (1997: 539) turns to the same point when proposing a third option between 'sociologism' and 'naturalism': Searching for a 'dialectic of nature-society' in critical involvement with Marx. As he examines, the three concepts must be seen in a historical concept in which the distinction to naturalistic considerations, such as those of Spencer<sup>51</sup>, Tönnies and Ploetz, established the frame, in which contemporary sociology consists. Naturalistic statements usually refer to non-social influences as decisive for human acting. Biologistic argumentations of naturalism referred to a climate determinism that was responsible for variation of status and income, suicides, and even native intelligence. The close connection of theory and political suggestion is both obvious and problematic. Prominent statements of these thoughts have often been quoted, such as the chauvinism of Tönnies, who sees women's sphere of societal life and work at home, not at the market or the street (1991: 135) or Spencer's recommendation to the government to not protect the weak parts of society since those whose “are not sufficiently complete to live, they die and it is best that they should die” (Dickens 1992: 25). Spencer furthermore argues climate deterministically, that as consequence of solid and climate differences, alternate employment relationships have been established. Responding to Herbert Spencer, Durkheim asks: „Was haben der Dichter, der in seinem Traum, und der Gelehrte, der ganz in seine Untersuchungen versunken ist, der Arbeiter, der sein Leben damit verbringt, Nadelköpfe zu machen, der Bauer, der hinter dem Pflug geht, der Kaufmann hinter dem Ladentisch gemeinsam? Wie groß auch die Varietät der äußeren Bedingungen sein mag, sie weist nirgends Unterschiede auf, die mit derartig starken Gegensätzen vergleichbar wären, und kann diese auch kaum erklären.“ [What has the poet, the academic, the worker, the peasant and the merchant in common? How big however may be the variety of external conditions, nowhere are differences, that are comparable with such strong contradictions, and can hardly explain such differences.] (1988: 323)

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<sup>50</sup> Abandoning the methodological flexibility, compared to natural science, of social science to achieve a formal connection to the environmental field but by price of explanation loss, since nature scientific methods by nature (more propositions) can tell less about social reality than elaborated (qualitative) methods in social sciences can do.

<sup>51</sup> According to Souza „eugenists and social Darwinists who based their opinions mostly in Francis Galton and Herbert Spencer were working hard (...) in order to create an intellectual framework which could give support for (...) segregationist policies“ (2008: 185)

At the beginning of the 20<sup>th</sup> century, when this theoretical differentiation about and within sociology was decided and institutionalised, the clash between (ancient) naturalism and the upcoming sociology took place. On the First German Sociological Day in Frankfurt (1910) between Max Weber and Alfred Ploetz, Ploetz gave a talk about health of a race, explaining the relation of race and society. He stated that it is the duty of race biology to analyse the good consistency race recruitment to “die allfällige Höhe des Schadens festzustellen, speziell der Rassenhygiene jedoch, für den Schutz der Schwachen, für diesen Mangel der Ausmerzung Untüchtiger (...) ein Gegengewicht zu schaffen” [evaluate the possible extent of damage, in particular of eugenics, for protection of the weak, to create a counterbalance for this scarcity of the inefficient's eradication] (Ploetz 1911: 122). Beside Weber's 'correct political' intervention, his response to this speech was crucial for two reasons: First, he challenged this arguments in general by pointing out that evidence for Ploetz's assumed connection of heredity quality and of societal life (i.e. good condition and social status) haven't been provided<sup>52</sup>. Secondly, he added, it is not profitable “Gebiete und Provinzen des Wissens a priori, ehe dies Wissen da ist, abzustecken und zu sagen; das gehört zu unserer Wissenschaft und das nicht. Man hat dadurch nur die allerunfruchtbarsten Streitigkeiten vermehrt” [to limit areas and provinces of knowledge a priori, before this knowledge emerges and then to conclude that one thing belongs to our science and the other not since by that just the most fruitless debates have been increased] (1911: 156).

The theoretical problem set for classical sociology based on application of 'sociologism' deals with concepts “as if nature did not matter” (Murphy 1995: 688). As Groß states, “Natur ist *in*, nur nicht *in* der Soziologie.” [nature is hot but not in sociology.] (Groß 2001: 12) How can it be then, that an undeniable pressing concern such as the environmental question is widely ignored by sociology? According to Luhmann (1986: 12), three (3) facts are responsible for this: (A) Explaining of the social by non-social variables is taboo, (B) sociology believes in progress and nature domination, and (C) sociology fights reactionary ideologies. According to Grundmann (1997), main (mainstream) contributions to nature-society conceptions come from culture sociology (i.e. Douglas/Wildavsky 1993), from risk sociology (Beck 1986; Halfmann/Japp 1990; Luhmann 1986; Perrow 1987), at least one notable from geography (Giddens 1984), human ecology (Jaeger 1996), anthropology (Kraemer 2008), and social anthropology (Latour 1995). Besides the latter, none of the approaches has directly tried to cross border thinking of classical sociologism. Kraemer's proposed approach is an access to a sociological understanding of environmental practices „um die soziale bzw. gesellschaftliche Einbettung von Handlungen und Verhaltensweisen analysieren zu können, die einzelne Elemente und Bestandteile der Umwelt sozial inwertsetzen“ [to be able to analyse social and societal embedding of actions and conduct, which allows social valorisation of single elements and components of the natural environment] (Kraemer 2008: 83). By means of acting theory, also located in the broader field of

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<sup>52</sup> Grundmann remarks to this account correctly that Weber himself does the same for his sociologistic understanding of sociology, when he defined the purpose of a single science to accomplish what it and just this science can and shall accomplish. (1997: 537)

'sociologism', neither different understanding nor the differentiation of environmental costs and benefits can be taken into focus easily. Of bigger interest is the „vielversprechender Anfang einer umfassenden Soziologie der Natur“ [encouraging begin of an encompassing sociology of nature], which Groß (2001: 38) found in Marx early writings. Latour's approach to revitalise the dialectic model doesn't refer to Marx concepts of 'work' and 'labour', but attempts to resolve the problem by an action concept<sup>53</sup>. Certainly, consequence of a proposed 'dialectic of nature-society' as contradiction to a strong influence of nature onto society ('naturalism') as well as a strong distinction between the two concepts be an exchange (Marx) or interplay (Simmel) of nature and society<sup>54</sup>, and a solution for the deterministic relationship of nature-society relationship.

### 2.3 From 'global projection' to the 'spaceship earth' problem

Problems arise here from Grundmann's 'global perspective' on the theoretical problem. Consequently, he can abandon social determinism by seeing a 'hybrid entity' such as Latour and can avoid political implications by Marx's methodologically problematic historicism of a dialectic solution by abolition of the 'Labour and Capital Contradiction' (in more detail in the next chapter). But Grundmann is trapped by assuming a long time period instead of a (relatively short) historical period of time as assumed by Marx. Even more, from 'global projection', like the 'spaceship earth ideology', environment understood as where we play, work and live (see above) or a measure of the social differentiation of environmental burdens (the mentioned Environmental Justice Movements charge) cannot be properly included.<sup>55</sup> This is because “ecological arguments begin to become shaky only when the ecologist involves his own species into the frame. Escape into global projection is then the simplest way out.” (Enzensberger 1974: 17) Enzensberger's statement bares the intention behind: System inherent problems of contemporary capitalist society construction don't have to be discussed, since questions of distributive justice that reveal contradictory interests of stakeholders in society are easily hidden on global projection. The social status “makes it possible to escape to some extent from the consequences of industrialization” even though – certainly – just on a short-term time scale (Enzensberge 1974: 10). This fact is less considered than necessary by Grundmann. In addition, both Acselrad and Grundmann do not consider the mentioned thoughts about the 'social nature' as constructed by mankind. In consensus with Grundmann, the ongoing debate will here be continued in consideration of his two opportunities as he suggests: First, attempting to approach the environmental problem set of sociology

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<sup>53</sup> This will be outlined in this section

<sup>54</sup> A simple inversion of this naturalistic model is not meant here since it would result in what is known as social constructivism (Grundmann 1997: 543).

<sup>55</sup> Acselrad states in this context that it is “comum identificarmos genericamente a 'humanidade', o 'homem' ou 'toda a sociedade' como vitimas da crescente degradacao ambiental planetária, nao importando a maneira ou onde as pessoas vivem. (...) Assume-se que todos somos vítimas em potencial porque vivemos no mesmo macro-ecossistema global – o planeta Terra.” [common to identify humanity, men or all society as victims of growing environmental degradation of the planet without importance how and where the people live. (...) Assuming that we all are potentially victims since we are living in the same global macro-ecosystem – planet Earth.] (2009: 11)

on the level of its basic terms. Second, analysing the sociological (not sociologicistic) potential of the problem set on the basis of problem related questions (1997: 545). Central is the development of a new mentality of science (Lepenies 1989: 155) by deconstruction of three myths: (A) Self-controlling of science, (B) cumulative increase of knowledge and (C) occidental rationalism. This deconstruction shall be realised without turning into relativistic-moral reaction, but providing a sociological analysis of discourses, “wodurch eine klare Vorstellung der involvierten Interessen und Ideen zentraler Akteure solcher Kontroversen geschaffen wird.” [by which a clear imagination of involved interests and ideas of central actors of such controversies is created.] (Grundmann 1997: 546) In accordance with this Bernardes argues: “Faz-se, portanto, necessária a desnaturalizacao do conceito de ambiente, admitindo que o mesmo é resultado da interacao da lógica da sociedade com a lógica da natureza, devendo-se romper com a separacao falsa entre desenvolvimento técnico científico e ecologia: para se construir uma gestao territorial mais justa, os padroes de desenvolvimento devem ser revistos.” [Therefore, to de-naturalize the concept of environment, admitting that it is the same result of interaction between logic of society and logic of nature, one must start with breaking the wrong separation between scientific technical development and ecology: To construct a more just territorial management the norms of development must be reviewed.] (Bernardes et al. 2003: 38) Basing on these considerations, relevant theoretical contributions to such a 'new mentality' in consideration of a required 'dialectic of society-nature' concept, which can grasp 'social nature', will be discussed basing on the contributions of sociology's classics (Marx, Durkheim, Weber).

#### 2.4 Nature conceptions. From 'ora et labora' to modern science

In the ancient time Aristotle (384 – 322 BC) assumed an eternal world as a dynamic environment existing out of itself. Aristotle's *natura naturans* uses the concept of an acting or poietic nature (cf. Mittelstraß 1981: 38 et seq and Mittelstraß 1987: 40). According to him the environment is a “System von Produktionsvorgängen” (Ibid. 1987: 38) [system of production processes]. Basing on the analogy of the manufacturing acting (*Poiesis*)<sup>56</sup> towards the creation of non man made things<sup>57</sup>, the natural thing (the environment) has its origins of movement and stagnancy in itself. Would a house be a product of nature – he writes in the *Physic* – it would be constructed like it would be constructed by human labor. “Auch in der Natur würden sie<sup>58</sup> sich also in der Ordnung von Mittel und Zweck bilden” (von Grumacher: Aristotle Werke 1983: 52) [Also in nature they would be built in the order of means and ends]. At the origin of the universe, which is ordered as an ordered teleological system, „stands the ‘unmoved mover’, the *arché*, on which everything else depends.“ (Hammer 2008: 64) And further, the other way around they would be created in

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<sup>56</sup> Kunst Ding

<sup>57</sup> Natur Ding

<sup>58</sup> Natur gebilde

the same manner. Therefore his theoretical approach of understanding nature processes was directed to the model of tactical (planvoll) human acting.

Plato's (428/427 – 348/347 BC) *natura naturata* on the other hand extended Aristotle's analogy in the *Timaios* saying that all what is created within the order of means and ends, is built by a Demiurges, a master craftsman. The Demiurges built the world according to an architect's plan. Existing nature came from the realm of ideas of the Demiurges. Therefore, Plato's theory denies the world of natural things as an object of true cognition as they are just images of these ideas (Groh et al 1991: 26). This can be perceived as the beginning of philosophical idealism which dominated at least until Ludwig Andreas von Feuerbach's (1804 – 1872) 'Wesen des Christentums'<sup>59</sup> of 1841. Groh notes to Plato's argumentation that his anthropomorphic analogy isn't coherent in its logic argumentation (cf. Ibid: 20-21). Acting subject is the cosmologic divine master craftsman that created both nature and artifacts. This part was – more than 2,000 years later – the central part of the 'Design Argument'<sup>60</sup> (see below). Directly influenced by some elements of Plato was Zenon of Kition (333 – 264 BC). He founded the *Stoa* that based on a cosmic, holistic view on the world, in which all natural phenomena are connected by a universal principle. The single person thus identified its position in that order.<sup>61</sup> In continuation of Zenon, Marcus Tullius Cicero (106 – 43 BC) wrote in *De natura deorum* (45 BC) a design of the stoic lore to which Petrarcas refered to hundreds of years later enthusiastically (see below). Parallely to the stoic philosophy, Epicure's (341 – 270 BC) lores (Epicurism) have been developed and influenced nameable persons such as Titus Lucretius [Lukrez] Carus (97 – 55 BC) at the same time. Lukrez stated in his atomic thesis that the origin of the existing order happened randomly. In the early years of rising Christianity his theories were condemned for atheism but have been picked up in the time of Hobbes (1588 – 1679), Spinoza (1632 – 1677) and Gassendi (1592 – 1655) and shaped in the concept of 'atomism' (see below).

In sum, human life was determinated by the Greek ideal of a good and accurate life with the nature in a divine cosmos. The cosmos was perceived as an organic whole including human, the gods and nature. The raise of Christian understanding of nature was strongly influenced, overlaid and filled by ancient Greek nature philosophy (Groh et al 1991: 17). The Christian frame also defined nature like the Demiurges as the most beloved object of the higher entity, here God. In opposite to ancient views, nature wasn't something divine by itself. In consequence, human life was determinated by the Bible to live against the nature. God has created the material during the Genesis by his almightiness whilst proving his superiority to other gods. (Ibid: 14) As reference, the churchman's statement of *creatio ex nihilo*<sup>62</sup> in order to distinguish from *creation*

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<sup>59</sup> The Essence of Christianity

<sup>60</sup> The argument basically grounds on the belief that the world's creation was the product of a planned architecture, which can be understood by men's (Christian) God given ratio.

<sup>61</sup> Truly this is far to short to introduce this philosophical school properly, but it fits the purpose of that work by now. For further reading cf. Forschner 1995, Neymeyr 2008, Bonazzi 2007)

<sup>62</sup> The phrase *creatio ex nihilo* (creation out of nothing) contrasts with *creatio ex materia* (creation out of some pre-existent, eternal matter) and with *creatio ex deo* (creation out of the being of God) [note – the author].

*ex material* of the past gave the link to the Genesis debate in second century after Christ.<sup>63</sup> This reference bares the main difference between ancient Greek view on nature as created out of divine Almightyness and the Christian view. In consequence, until the Enlightenment nature was perceived as a threat to mankind, a mystic being created by God.

In re-interpreting the stoic concept of God, the teleological God proof (Gottesbeweis) became part of the Christian Genesis theology. Aurelius Augustinus Hipponensis<sup>64</sup> (354 – 430) general principle was the wisdom and perfection of God's Creation plan (*ordo naturae*), in which humans are the 'vehicle' - later the 'nature ladder' – (*contemplator mundi*) to God's gnosis (*summum bonum*). Augustinus' motif of the 'book of nature' combined Plato's idea of the Demiurges with the Bible quotation of Römer 1, 20: *invisibilia enim ipsius a creatura mundi per ea quae facta sunt intellecta conspiciuntur sempiterna quoque eius virtus et divinitas ut sint inexcusabiles* [For the invisible things of him from the creation of the world are clearly seen, being understood by the things are made, *even* his eternal power and Godhead] (Bible 1965: 938). He states in *De Genesi ad litteram* that God reveals himself in the 'book of nature' in the same way as in the Holy Scripture (Blum 2010: 156). By taking elements of the ancient Greek nature philosophy he recognizes the rationality of 'natural theology' in separating knowledge and religion and refusing the unity of rationality and religiosity. Hereby, he radicalizes the concept of faith by warning in the *Confessiones* for 'pathologic curiosity' which seduces to research secrets 'that to know is no good'. (Groh et al 1991: 27) Augustinus further refers to the specific position hold by men in the God plan. He writes in the *Sermones* (87 I, I) that God cares for men like a ploughman cares for his acre. God's care extracts all bad thoughts from human's soul by his continuing word. Since his seat is growing inside of humen, the men's obligation is to open their heart and await the fruit of sanctimony. At the end, the fruit doesn't make God richer but humen more blessed. This is the hint to cognition's spark of God in human's soul which will be of importance in the later debate about the assumption of human's 'original sin' (see below). Hereby, men's role was clearly defined by a bidding position in the universe. This vision lasted for nearly 1000 (onethousand) years until humanism cofounder and Italian poet Francesco Petracas [Petrarch] (1304 – 1374) came back to the above named Marcus Tullius Cicero (106 – 43 BC). Petrarch stated in his book *De sua ignorantia* that Cicero is not writing like a pagan philosopher, but like an apostle (Petrarcas 1581: 1046). Picking up the stoic thought of an anthropocentric nature teleology, Cicero wrote in *De natura deorum* that, "alle Dinge dieser Welt, aus denen die Menschen ihren Nutzen ziehen (...) allein um der Menschen willen geschaffen und eingerichtet sind" [all things of this world, which are of use for mankind, have been created just on behalf of humen] (Petrarcas 1581: 154). According to Groh, the Platonic-Christian world view in the meaning of beauty and usefulness was evidently a supremely optimistic one. Furthermore this world view has overlaid the Aristotelian nature philosophy over the centuries (Ibid: 24). This is the grounding for the upcoming technical

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<sup>63</sup> For further reading about the origins of this lore cf. May 1978: 151 - 182

<sup>64</sup> Also known as Augustine, St. Augustine, St. Austin or just – as further used - Augustinus



or progress optimism, which is dominant from then until now and inherently bound to an anthropocentric viewpoint on nature. Further disclosure of anthropocentrism took place into by the ‘Copernican revolution’ and the ‘Protestant Reformation’.

When Nicolaus Copernicus (1473 – 1543) invented his heliocentric cosmology<sup>65</sup> between 1514 and 1539, he not just established the grounding for modern astronomy, but also erased the specific, Bible determined position of Earth in the universe. To bypass the contradiction between the Holy Script on the one hand and his mathematical descriptions on the other hand, he tried to find a solution in the Creation belief by writing in *De revolutionibus orbium caelestium* the following:

“Denn wer würde nicht beim Erforschen dessen, was er in der besten Ordnung geschaffen und von der göttlichen Vorsehung gelenkt sieht (...) von Bewunderung erfüllt für den Schöpfer des Alls (...) durch dieses Mittel gleichsam wie auf einem Gefährt zu der Anschauung des höchsten Gutes (ad summi boni contemplationem) geführt?”

[Who would not been filled with admiration for the Creator of the universe when exploring what has been created in the best order and directed by Divine Providence? Who would not admire the Creation when being led by this vehicle to the contemplation of the highest good (ad summi boni contemplationem)?] (Klaus 1959: 21). This approach is recognized as nature theology and refers back to the announced principles of Augustinus of the *summum bonum* (the highest good), *ordo naturae* (order of nature) and *contemplator mundi* leading to assumptions of a *machina mundi* (world machine). *Machina mundi* was created by the greatest and most exactly processing master, which shows undeniably connections to Plato's *Demiourgos*. The conciliation of the Bible defined Christian principles and scientific cognition is later called the ‘Copernican revolution’ (cf. Groh et al 1991: 58). The Copernican revolution is known as the beginning of overlapping theology and science in two ways: Practically, this new thinking manifested in the ‘dualism’ of human and nature. What was called in biblical words ‘human’ was later replaced in science by ‘society’ or ‘civil society’ according to the field. ‘Nature’ on the other hand became what was described above as the nature-environment-sustainability complex. From historical perspective, his system helped to establish the ‘Design Argument’ (see below).

The Protestant Reformation also happened during Copernicus' life time when Martin Luther (1483 – 1546) nailed ‘The Ninety-Five Theses’ on the Wittenberg church (1517) and changed all radically: The Christian Creation theology turned to an open anthropocentric utilitarianism and established the dualism between human and nature in both theory and praxis<sup>66</sup>. In the following modern nature science developed and turned finally the role of nature to an object. In the time after the Reformation a mechanic world view became hegemonic and led to the triumph of mechanics. The Reformation event endured until the Treaty of Westphalia (1648) at the end of the Thirty Years' War (1618 – 1648). Luther's theses did't only challenge

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<sup>65</sup> which displaced the Earth from the center of the universe and replaced it by the sun

<sup>66</sup> The practical impacts will be analysed detailed in chapter 4.2.2 by looking at the arguments during the *Conquista* of South America and the *Reconquista* in Spain and Portugal.

Catholic Church's authority when opposing accepted universal institutions by the photian schism in the Early Modern Age, but also reinforced the argument of the original sin (see above). In opposite to the 'theology of salvation', Martin Luther pointed out that

“Kein Vernunft kann auch die natürlichen Werk der Schöpfung Gottes begreifen und verstehen”

[No common sense can understand the natural work of God's Creation] (Tischreden: 426)<sup>67</sup>. So, even the self-declared progressive Protestantism refused to take position in favour of the design argument stakeholders. On the contrary, the 'decay argument' got more and more followers during the 16<sup>th</sup> century (Groh et al 1991: 29). Both religions agreed to the Biblican statement that mankind has the duty to “subdue the earth” (Moses 1,28)<sup>68</sup>, the contradiction focuses on the standing of men in God's plan and the impact of the original sin on nature. The theological question consequently remained whether the expulsion from Paradise requires men to suffer until doomsday (decay argument), where all souls are finally judged by God, or whether the divine spirit of mankind, due to the creation of Adam and Eva by God, enables them to understand God's architecture and – by studying the 'book of nature' – to understand God. The impact of the Reformation to the theoretical frame on nature went far beyond Luther's operating. The counter position to the 'decay argument' was argued by Huldrych Zwingli (1484 – 1531) and John Calvin (1509 – 1564) when outlining the principles of the 'design argument'. They name four principles with simple basement on the statement that nature “ist von der Erbsünde nicht affiziert” [isn't affected by the original sin] (Groh et al 1991: 30): (a) The harmony and usefulness of the divine world plan, (b) the inexhaustibility of natural, (c) the utility for men and (d) the theological legitimation. (Ibid.: 50) The synthesis of the four results in focus on nature science, religious optimism and teleological utilitarianism. Paracelsus [Phillippus Aureolus Theophrastus Bombastus von Hohenheim] (1493 – 1541) referred back to the ancient Greek idea of the four elements. In his occultist belief the cosmos was created by spiritual substances. As Bloch states „bei ihm als Einzigem ist auch der Anschluß an ein vorausgesetztes Natursubjekt nicht unterentwickelt“ (Bloch 1993: 799). In the center is the human will and ability of imagination. Like a handcraft man is the homo sapiens enabled to create 'astral material' (Ibid) with the force of imagination. In his two books, *Paramirum* and *Paragranum*, he writes:

„Alles Imaginieren des Menschen kommt daher aus dem Herzen: das Herz ist die Sonne im Mikrokosmos. Und aus der kleinen Sonne Mikrokosmi geht Imaginieren in die Sonne der großen Welt, in das Herz Makrokosmi“

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<sup>67</sup> For further reading cf. Mittelstraß 1970: 148 et seq. Against the argumentations to weaken Luther's difference to modern science look at note 37 (Ibid).

<sup>68</sup> Varying interpretations of this phrase are widely recognized and appeared in the shape of the (unsuccessful) Eco-theology (cf. Asselin 1954, Baily 1915, Bonifazi 1967, Daecke 1979, Elder 1970, Fackre 1973, Krolzik 1979, Liedke 1979, Moltmann 1985, Moule 1967, Sittler 1975, Weder 1989)

[All imagining of human comes consequentially from one's heart: the heart is the sun within the microcosmos. From there imagining goes into the sun of the great world, in the heart of the macrocosmos]. Therefore, the *imaginatio microcosmi*<sup>69</sup> is perceived as a seat which becomes materialistic (Huser I: 334, 375; Huser II: 307, 513 in: Bloch 1993: 799). When humans make for discovery of their mind, Paracelsus concludes, there is nothing for them out of reach on earth. Religious ceremonies and materials like incense are in contrast to this holy discovery just 'ape games' and seduction.

“Imaginatio wird konfirmiert und vollendet durch den Glauben, daß es wahrhaft geschehe: den jeder Zweifel bricht das Werk. Glaube soll Imagination bestätigen, denn Glaube beschleußt den Willen”

[*Imaginatio* is confirmed and completed by faith. Each doubt breaks the construction. Faith is made to confirm imagination, since faith frames the will] as Paracelsus is quoted by Schopenhauer (1836: 119). Consequentially, the discovering of men's mind is the way of mankind to awake the powerful human material, that, featured with will and imagination as nature factors *sui generis* and in harmony with *Archeus*<sup>70</sup> and *Vulcanus*<sup>71</sup>. Will and imagination are originated in the microcosm, which reach out to the material macrocosm. The macrocosm, he describes as the sun of the big world, which enables mankind to achieve the required self-cognition. Like the Apollonian claim of Γνωθι σεαυτόν<sup>72</sup>, Paracelsus assumes that mankind has a sleeping potency, of which they don't know. This potency achieved concretion by examples but has never theoretically been concluded. Here, human's will and imagination, even not awoken, is understood as the capacity reservoir to alter the world. With reference to the named Augustinus' progress optimistic interpretation of human's role in the world and the resurgence of Paracelsus writings towards an ideologically profound anthropocentrism, the argumentative frame was set for the following historical events. Both anthropocentrism and progress optimism turned in the following ages on the question of whether or whether not the world is can be understood by mankind in consideration of their general sin. This question was the core distinctive point between the design or the decay argument.

The beginning of 'modern science' or 'new science' (see below) in the 16<sup>th</sup> century (Groh et al 1991: 40) placed the design argument within the following 200 years on the top of the agenda. Accompanied by the physico-theologic movement, representatives of modern science used the design argumentation to foster their research. Most influential for the constitution of this movement has been the publication *Irdisches Vergnügen in Gott, bestehend in Physicalisch- und Moralischen Gedichten* (1721 – 1748) of Barthold Brockes (1680 – 1747). Supported by physico-theologic insights of Copernicus (1473 – 1543), Galileo Galilei (1564 – 1642) and Giordano Bruno (1548 – 1600), the followers grew to a movement. The members of the movement

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<sup>69</sup> Imagination of the microcosm

<sup>70</sup> This term describes the connection reason of the inside (Anschlussgrund des Inneren). *Archeus* is analyzed as the subject of nature in mankind.

<sup>71</sup> Paracelsus uses this term to the common cosmic nature forces. *Vulcanus* is in consequence the necessary outside nature and the complementary counterpart within the theory paradigm of dualism.

<sup>72</sup> (lat. Nosce te ipsum) Know thyself

chose a strategy to avoid charges of blasphemy by commenting all their findings theologically<sup>73</sup>. As a theoretical frame, the movement relied according to Groh (Ibid: 57) on three principles:

- a. The nature exists for the use of mankind.
- b. The resources are exhaustless due to the regulative rationality of God.
- c. God's regulative rationality controls the designed world to the best.

Associated with the scientific-theological contention of the physico-theologic movement, four movements emerged in the 16<sup>th</sup> and 17<sup>th</sup> century and established the so-called millenarism. Hereby, scientific and economic motivation was enforced and ended the struggle between design argument and decay argument<sup>74</sup> in the 17<sup>th</sup> century. The millenarism (or millenarianism) bases on the belief of a kingdom of God on Earth and was immediately condemned by the Lutherans in 1530. One can see this as the first schism in the Protestant church, just thirteen years after Luther's theses.

The first of the four movements based on John Calvin's (1509 – 1564) *Institutio Christianae religionis*<sup>75</sup> (1536) and his commentary on Bible and named Calvinism. It is best known played due to Weber's Protestant Ethics, to which will be refered in chapter 2.5.4. This movement believed that the final destination of all human<sup>76</sup> souls, is already decided by the Almighty. Consequentially, the duty of all Christians is to proof that they have been eleczed for heaven. Performance benchmark was a economical success in their mortal life. In addition, Calvin expressed clearly the importance to recognize God by studying nature with focus on the utility of nature forces.

The second movement appeared in 1559. Denoted the Puritanans, the Puritanism was founded in England after the accession of Queen Elizabeth I. The movement assumed that mankind can reach a new condition of perfection when applying its scientific findings to praxis. Doing so would comply with God's plan of salvation. Prominent spokesman of the radical fraction within the Puritans was Newtonist Gerrard Winstanley (1609 – 1676), who stated: "To know the secrets of nature, is to know the works of God; And to know the works of God within the Creation, is to know God himself, for God dwells in every visible work or body" (Winstanley 1652: 50). This claim based on the assumption that "die durch den Sündenfall verlorengegangene Herrschaft über die Natur (...) sich in naher Zukunft zurückgewinnen [läßt]" [the domination over nature, lost die to the original sin, can be regained in the next future] (Groh et al 1991: 43).

The third movement have been the Anglicans, which also emerged in the time of Elizabeth's authority. The concept of *ecclesia anglicana* (English Church) can already be dated back to the 13<sup>th</sup> century but the Anglican movement was recognized when declaring independency from the Roman Catholic Church. The

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<sup>73</sup> Within the next two centuries commentaries have first been placed within the research report, later then, one finds them in the preamble. (Groh 1991: 53)

<sup>74</sup> The debate argue between the two arguments was started by George Hackewill's (1578 – 1649) book 'Apology or Declaration of the Power and Providence' (1627) (cf. Groh et al 1991: 48 et seq).

<sup>75</sup> Institutes of the Christian Religion

<sup>76</sup> whether to go to heaven or to hell after end of the motral life

development of the movement was rather a process from Henry VIII's Act of Supremacy of 1534 to the reestablishment of the Church of England with the restoration of the Stuart monarchy in the person of King Charles II in 1660. In fact, many new Anglican formularies of the mid sixteenth century corresponded closely to those of Reformed Protestantism at this time.

The last and fourth movement is known as Pietism. It was linked to the century long struggle of Anglicans in the United Kingdom and the Calvinistic *publieke kerk* in the Netherlands (Maurer 1999: 24). Philipp Jakob Spener (1635 – 1705), later known as the father of Pietism, influenced with his reform work of the church, titled *Pia desideria*<sup>77</sup>, the conventicle of 1670 in Frankfurt/Main. The conventicle and *Pia desideria*<sup>78</sup> became central to define the Pietist viewpoint. The Pietist movement added to the classical Lutheran Protestantism the Reformed emphasis on individual piety and living a vigorous Christian life. Similar to the above named Puritan movement, the Pietists emphasized the personal behavior of men. In opposite to the Puritanists, Pietism sees several differences, mainly in the role of religion in government. With reference to *Pia desideria*, six aspects to restore the life of the Church characterized the core of Pietist theory: First and foremost,

“the earnest and thorough study of the Bible in private meetings, *ecclesiolae in ecclesia*<sup>79</sup>; (2) the Christian priesthood being universal, the laity should share in the spiritual government of the Church; (3) a knowledge of Christianity must be attended by the practice of it as its indispensable sign and supplement; (4) instead of merely didactic, and often bitter, attacks on the heterodox and unbelievers, a sympathetic and kindly treatment of them; (5) a reorganization of the theological training of the universities, giving more prominence to the devotional life; (6) a different style of preaching, namely, in the place of pleasing rhetoric, the implanting of Christianity in the inner or new man, the soul of which is faith, and its effects the fruits of life.”

(Ashmore 1961: 910)

This altogether created a strengthened the tendency in the mid 16<sup>th</sup> century to research scientific evidence to bettering living standards as aspiration to God. (Groh et al 1991: 39)

Another historical event strengthened the position of the reformist era: In 1588 the British navy defeated the invincible Spanish Armada. This fact was interpreted as a direct intervention of God on the side of the (English) Protestants. (Ibid: 37)

This also was the life time of the preparer, precursor and propagator of new science (Ibid: 40): Francis Bacon (1561 – 1626). He came back in the same time to Calvin's position against the ‘decay argument’. Bacon not only stressed the mentioned argument of Calvin and Zwingli but also the fact that “*das mathematisch formulierte Naturgesetz (...) objektive Geltung für Vorgänge in der äußeren Natur [habe]*” [the mathematically formulated nature law objectively holds true for the outer nature] (Ibid: 27). His work

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<sup>77</sup> Earnest Desire for a Reform of the True Evangelical Church, published 1675

<sup>78</sup> Translation: sincere desire for God-pleasing improvement in the true evangelical church

<sup>79</sup> little churches within the church

*Instauratio Magna* (1620) contained two parts: First, the *Novum Organum*<sup>80</sup> (completed) and the *Nova Atlantis*<sup>81</sup> (uncompleted), he claimed the major renew of science. His main objective was the transference of scientific findings into practical domination of the environment. This was incident to the hope of redundant political authority's reduction. Furthermore, he worked on a societal organization of 'new science'. In the center of his efforts lays a co-working of nature science and engineering.

In consequence, the design argument, central column of the development of anthropocentrism and technique optimism, based on the named creation of the material out of nothing (*creatio ex nihilo*) and theomorphism. With reference to Augustinus' *Contemplator Mundi* (see above) and Johannes Kepler's (1571 – 1630) *Astronomia Nova* (1609), *Harmonices Mundi*<sup>82</sup> (1619), Epitome of Copernican Astronomy and *Mysterium Cosmographicum*<sup>83</sup> (1596). Weizsäcker brought the whole 'design argumentation' accurately: God's ingenious world architecture, *creatio ex nihilo*, on the one side and on the other side the biblical evidence for human's divine origin: "[et] creavit Deus hominem ad imaginem suam ad imaginem Dei creavit illum masculinum et feminam creavit eos"<sup>84</sup> (Genesis 1,27). The Holy Script was interpreted that God's word became flesh of his image. Furthermore, he gave humans the light of rationality that Earth would be acceptable for him. Therefore, the world cannot be too little to be understandable by mankind's rationality (Weizsäcker 1971: 111).

The design argumentation then led to an upgrading of the mathematical world as an object of possible experiences and of human cognition. Kepler argued further that men's likeness to God provides the ability to realize the design of the geometric architect's plan. Finally, he states that "Ratschlüsse Gottes unerforschlich [sind], nicht aber seine körperlichen Werke" [God's counsels are unfathomable but not his material works] (Kepler 1599: 309). He saw himself as the priest of the highest God at 'book of nature' (see above). In the *Harmonices*<sup>85</sup> and the *Mysterium* he offered a Platoic-Christian frame including Pythagorean elements (see above) in the foreground. The metaphysic consecration was according to Groh (et al 1991: 29) the pre-condition of the objectifying and growing destruction of nature. On that way 'new science' was placed within the divine world plan (Groh et al 1991: 37) and led to a Calvinist-puritan leadership over the catholic-Italian French direction at the end of the 16<sup>th</sup> century (Ibid: 36). The dominance was due to more motivation for modern, nature science rationale (Ibid).

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<sup>80</sup> There he argues against Aristotle (Groh et al 1991: 41)

<sup>81</sup> There he argues against Plato (Groh et al 1991: 41)

<sup>82</sup> The Harmony of the World

<sup>83</sup> The Cosmographic Mystery

<sup>84</sup> „So God created man in his *own* image, in the image of God created him; male and female created he them.“ (Bible [1965?]: 1)

<sup>85</sup> In 1695 John Locke (1632 – 1704) developed the „body of Ethics, proved to be the law of Nature, from the principles of reason“ so a reasonable world order should be in harmony with the order men. (Locke 1695: 141, 144) For this purpose he invented an analogy of the cognition of God in the experiences of harmony and usefulness of nature to principles of moral in the experiences of usefulness of the moral order.

Concluding, three aspects completed the conditions for the rise of 'new science' and the constitution of nature: The Christian claim of *conditio sine qua non*<sup>86</sup> for the development of nature science, the world's origin *creatio ex nihilo*, and enthusiasm for harmony. The first aspect gave the main reason for the two others. The theological legitimacy and propulsive force of traditional God proofs have been advanced. By overcoming religious constraints of Catholicism new Protestant Christianity called duty to outline God's architect's world plan by researching physical coherencies. The second aspect was the consequence: Nature was objectified and de-divined due to the lore of *creatio ex nihilo*. The natural world was not divine as such and therefore not comparable with the divine soul of mankind, which provided reasonable Christian arguments for the belief in human's capacity to understand the material architecture of the world. The joy over the cosmologic harmony is the third, consecutive aspect. The pleasure of natural scientific findings, which proof both harmony and sophistication of the world, was enhanced by the satisfaction of men's superior position within this structure. Mankind as the beneficiary in the plan of God was combined with the security belief to fulfill God's will by discovering the world's secrets. This gave the metaphysic bases "für jenen Optimismus und Fortschritts glauben, der sich (...) mit New Science verband" [for the optimism and belief in progress, which bond with new science] (Groh et al 1991: 35).

Galileo Galilei's (1564 – 1642) works in the tradition of Johannes Kepler (1571 – 1630) also supported so-called Copernicanism. Stating that God confesses himself in nature processes as much as in the Bible, Galilei refused the decay argument. According to Groh, his conception of mechanics still based upon traditional nature teleology. This can be seen in the mathematical language he used in his book *Discorso Delle Comete*<sup>87</sup> (1619) (Groh et al 1991: 26).

From the other side of the scale, Godfrey Goodman (1582/3 – 1659) published the book *The Fall of Man or the Corruption of Nature proved by the Light of our Naturall Reason* in 1616 as a response to the growing design argumentations in Europe. Here, the follower of Luther's decay argument argued that continuous decline of mankind will happen due the original sin. Three years after, in 1619, Lutheran Florian Crusius expressed his critiques on Kepler's *Harmonices* to the author in a letter. His argument in favour of the decay argument was that one cannot trust human's rationality due to the original sin. During the „theosophische“ [theosophic] 17th century (Bloch 1993: 735) the conflict during the Reformation proceeded into the dispute between the design argument and the 'atomism'. In the light of new scientific cognition, the atomism argument re-raised the old atomic thesis of the randomly becoming of the world's order of Titus Lucretius Carus [Lukrez] (97-55 BC) as mentioned above. The dispute was carried out by a group of philosophers at Cambridge University, called Cambridge Platonists (1633 – 1688). Their primary representative Henry More (1614 – 1687) published the influential encyclopedic work about the outer environment, titled *An Antidot Against Atheism*<sup>88</sup> (1652). This originally epicurean approach was also used by Thomas Hobbes (1588 –

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<sup>86</sup> A condition with which it could not be

<sup>87</sup> *An Astronomical Disputation on the Three Comets of the Year 1618*

<sup>88</sup> This became an archetype for the later upcoming >physico-theologists< (Groh et al 1991: 34)

1679) in order to give reasons for atheism (Groh 1991: 34) expressing a rather pessimistic view on the world. Pierre Gassendi (1592 – 1655) and Baruch or Benedict Spinoza (1632 – 1677) referred back more directly to Lakrez's *De rerum natura*<sup>89</sup> (58 BC), which presents the principals of atomism. These principals dealt with the nature or the mind and soul, explanations of sensation and thought and the world's development under exclusion of any divine intervention (Roman dieties at his time). Instead, *fortuna* [fortune] and chance have been decisive.

As could be seen, the debate on the two arguments gave already birth to the upcoming transition of independence of science from religious constraints. This disengagement was driven by the spirit of progress optimism and anthropological utilitarianism and goes back to the above named Francis Bacon (1561 – 1626). Isaac Newton's (1642 – 1727) link to Bacon bridges the 17<sup>th</sup> century to the 18<sup>th</sup> since it is "auch jene Verbindung von Wissenschaft, Utilitarismus und Optimismus" [also this connection of science, utilitarianism and optimism], which became predominant for that time (Groh 1991: 40). Newton scholar and follower on Newton's chair as Lucasian Professor of Mathematics at University of Cambridge Robert Whiston (1667 – 1752) confessed his belief as representative for this time with particular regards to the relevance of Newton's in the *Principia* (1687). There, Newton had published three universal laws of motion in formulating a millenaristic formula, about which Whiston wrote:

"Which noble Discovery proved the happy Occasion of the Invention of the wonderful *Newtonian* Philosophy: Which indeed I look upon in an higher Light than others, and as an eminent Prelude and Preparation to those happy Times of the Restitution of all Things, which God has spoken of by the Mouth of all his holy Prophets since the World began, Acts iii, 21."

(Whiston 1749: 38)

With the beginning of the 18<sup>th</sup> century, design theology's widespread optimism outreached also the economic theory of society of the Scottish Enlightenment and Adam Smith (1723 – 1790) (Groh et al 1991: 49), who will be discussed in more detail in chapter 3, or liberal economists and philosophers as John Stuart Mill (1806-1873). In the middle of the 18<sup>th</sup> century, the efficacy of the design argument in the majority's belief of Europe people was strong enough to not even been challenged by the earthquake in Lisbon in 1755 (Ibid: 50) Another picture is made up by Breidert's 'Die Erschütterung der vollkommenen Welt', where the shattered reaction of François-Marie Arouet, known as Voltaire (1694 – 1778), is described. Voltaire's 'Poème sur le desastre de Lisbonne'<sup>90</sup> (1755) became highly influential for the discussion about decay and design arguments in the European elite. The following debate refered to the raised theological contradiction in the poem and concentrated on the original sin argument of the decay argument. Hereby, Voltaire opposed the also intellectual *dictum* of Gottfried Wilhelm Leibnitz (1646 – 1716) and Alexander Pope (1688 – 1744) about the optimal world of all possible worlds (Breidert 1994: 53). The root of the design argument appears

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<sup>89</sup> Translations: 'On the Nature of Things' or 'On the Nature of the Universe'

<sup>90</sup> Poem on the Lisbon Disaster



in Leibnitz' consideration that all concepts can be ascribed to simple atomic concepts. The design argument here enlarges to a theological-mathematical frame, which assumes that not the contemporary world is the optimal, but the today's world with its development potential is the optimal world of all possible. The argument of the best world of all possible worlds assumes that God has created the world out of nothing (*creation ex nihilo*) by choosing the optimal world from a mathematically determined list of possible worlds. Hereby is assumed that God cannot create or change logic truths in the world and has no influence to constitution and events on the world after its creation. Even if God chooses to perform a miracle and – hereby – to suspend existing natural laws, this miracle has already been chosen when decision on the particular world has been made. Voltaire argued instead that the theses of Pope and Leibnitz are empirically contradictory to the pain on earth. He accuses them to follow a cruel philosophy of incorrigibility and therefore a philosophy of desperation.<sup>91</sup> As Goldberg points out, the success of Voltaire's poem was based on his strict expressivity of language. The suffering of the people was the principle argument of Voltaire against Leibnitz's *Essai de Théodicée* (1710) and Alexander Pope's *Essai on Man* (1734) (Goldberg: 9; in: Löffler 1996: 61). Jean-Jaques Rousseau (1712 – 1778) responded to the poem that the bitterness in Voltaire's jeremiad would take away human's last hope in an – in spite of everything – charitable God. Goldberg interprets this claim as being in line with Voltaire's argument's strategy of an agony creating culture and in the following as a proof of a metaphorization of agony in general. The metaphorization slurs any clear position towards the sufferers for the benefit of arguments for the theory of a better society without civilization (Löffler 1996: 61). According to Voltaire, Leibnitz and Pope misconceive the character of harm in life and lacking cosmic harmony by proofing both in their findings. „Vernunft fragt mehr, als ihr Antworten zuteil werden“ [Rationality asks more than it answers], Voltaire states (Ibid.: 57).

Whilst the influence of the above named physico-theologic movement grew in quantity and quality, David Hume (1711 – 1776) published the influential *Dialogues Concerning Natural Religion* (1779). Herein, Hume proofed – influenced by Cicero's *De natura deorum* (see above) – the predominance of the physico-theologic reasoning with reference to Immanuel Kant's (1724 – 1804) preliminary works. Kant's contribution with the *Kritik der reinen Vernunft*<sup>92</sup> (1781) and the *Kritik der Urteilskraft*<sup>93</sup> (1790) are in retrospect seen as the end of the design argumentation. Basically, he argued that the God's proof of physicotheology was wrong and incorrect according to the laws of logic since conclusion from teleological observation of the corporeal world<sup>94</sup> to God as ultimate goal isn't comprehensible according to the laws of logic. Even if the struggle between design and decay arguments constantly continued, Kant's findings are seen as the obvious proof of creeping over the ancient Greek views on nature and the decay argument of the middle age by implicitly making the way free for natural sciences without theological interpretation. In the same time,

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<sup>91</sup> For an overview about the arguments in the following debate cf. Breidert 1994: 54-56

<sup>92</sup> Critique of Pure Reason (cf. B649)

<sup>93</sup> Critique of Judgement (cf. § 90)

<sup>94</sup> This means an expedient observation approach.

Comte de Buffon (1707 – 1788) calculated with base on the cooling rate of iron in the *Les époques de la nature* (1778) that the earth must be much older than officially determined by the church. Even he had to retreat finally to avoid further problems, the process of questioning religious interpretations as requirement for scientific findings has started already. Only when Charles Darwin (1809 – 1882) published his *The Origin of Species by Means of Natural Selection* (1859) and *The Descent of Man and selection in Relation to Sex* (1871), the ‘shock of modernization’ was completed. This ‘shock’ of the ‘Copernican turn’ and the ‘Darwin shock’ superseded the fundament of Christian Genesis from scientific reasoning and – in consequence – finally changed the whole world view on how to deal with nature. Nevertheless, the behind all arguments in today’s debates about logic reasoning, the religious principles of anthropocentrism and progress (technique) optimism remained dominant in the ‘iron coffin’ (Weber, see below). Despite the growing enthusiasm in Europe due to self-excitement in men’s achievements, growing empirical findings on unpredictable risks of the accelerating progress optimism appeared already in the 19<sup>th</sup> century. One representative was David Thoreau (1817-1862), who played a crucial role for theory building of ecological movements later on. Thoreau stood for a direction of thoughts within physico-theology called 'arcadian tradition'. The Arcadians proposed a non-imperialistic nature piety, first literally and philosophically expressed in the time of Romantic period (end of 18<sup>th</sup> century until mid of 19<sup>th</sup> century), later on by technophobic remarks.

## 2.5 The classics' contribution to the concepts of 'social nature' and a 'dialectic of nature-society'

In consideration of the above outlined historical frame in the 18<sup>th</sup> century, the fruitfulness of contribution of the three classics of sociology to a workable frame of a 'dialectic of society-nature' relationship, in consideration of the 'social nature' concept, will be discussed in the following. The chapter will follow the mentioned structure from Marx via Durkheim to Weber. In current debates about understanding of the classics, the line of confrontation is between the mainstream and its critics. In this regard, the first conflict line is, who are the classics of sociology and who is relevant for the topic of environmental sociology<sup>95</sup>? No one challenges Weber's and Durkheim's status as classics of sociology. Marx – on the other hand - is mentioned – recognised as classic or not – under different classifications, philosophy (Schmidt 1971: 7), sociological anthropology (Kraemer 2008, index) or economical sociology (Groß 2001, index), concerning his contribution to the relationship between human and nature. Therefore, the debate about different classic's perception of Weber's concept of the environment for instance can be seen as a dispute about development theories (see below), theories of justice and equality and about sociology in total ('naturalism' or 'biologism',

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<sup>95</sup> This examination is a very German one, since sociology in the Anglo-Saxon or South American scientific community has less reserves regarding Karl Marx than German sociology did, such as those about which is to speak about later on as Harvey 2009, Foster 1999, and Buttel 1992, which on the other hand in parts suffer from simplification.

'sociologism' and 'dialectic of nature-society'). Critical researchers naturally refer to Marx as a classic (Eblinghaus et al. 1996: 20, cf. also Grundmann 1997: 539 and Groß 2001). According to this work's aspiration to critically give answers to the environmental question, usefulness and undoubtedly belonging to the classics of sociology will be demonstrated by the following critical review of Marx's nature<sup>96</sup> conception.

### 2.5.1 Karl Marx

“Marx, following Hegel,” as Sabines points out, “has regarded the dialectic as a *method especially suited to the social studies*, because they have to do with a subject-matter in which development and growth is an important factor. Sciences that deal with inanimated nature like physics and chemistry, Marx assumed, are sufficiently well served by a materialism of the non-dialectical type” (1953: 815, own emphasis). The importance of Marx's approach results first from mentioned demand for a theory and method based on Grundmann's claim for a new 'dialectic of society-nature'. Grundmann stresses there the important possible contribution in the 'early'<sup>97</sup> Marx. Even more, regarding 'nature', of all social scientific classics Marx is discussed the most (Groß 2001: 33, footnote 3). In three steps, this chapter seeks to reveal both the character of Marx's nature conception in consideration to both critiques and adoptions: Different 'readings' by different classification of the author, distinction between 'early' and 'later' writings, and distinguishing between Marx and Engels. The first step will be outlined in the first sequence named as 'adoptions'. The two other aspects will be discussed within the sequences on 'emphatic dialectic' and the 'the emphatic dialectic approach and its unresolved problems' will be discussed finally in the sequence on 'conclusion, critique, consequences'.

#### Adoptions

One quotation has determined all discussions about Marx's understanding of nature and reduced his theory conception to a relationship between social actors. Here, he points out:

„Als Bildnerin von Gebrauchswerten, als nützliche Arbeit<sup>98</sup>, ist die Arbeit daher eine von allen Gesellschaftsformen unabhängige Existenzbedingung des Menschen, ewige Naturnotwendigkeit, um den Stoffwechsel zwischen Mensch und Nature, also das menschliche Leben zu vermitteln.”

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<sup>96</sup> Marx himself uses very different terms for the material world, which are beside the named nature term, material, natural material (*Naturstoff*), nature thing (*Naturding*), earth, concrete momenta of being of labour (*gegenständliche Daseinsmomente der Arbeit*), concrete or factual labour conditions. (Schmidt 1962: 21)

<sup>97</sup> This important distinction will be spoken of later in more detail

<sup>98</sup> Based on Hegel, Marx emphasized the status of *work* and *labour* in the construction of the social system. Therefore, here short mention of the distinction between these two terms is needed. As Engels wrote in a footnote of the Capital Vol. I “The English language has the advantage of possessing different words for the two aspects of labour here considered. The labour which creates Use-Value, and counts qualitatively, is *work*, as distinguished from Labor, that which creates Value and counts quantitatively, is *labour* as distinguished from Work.” (Marx 1970: 47, footnote) In order to further clarify the used terms here, I introduce the term of *productive human activity* (PHA) in order to capture both *work* and *labour*. This specific and, consciously chosen, complex term considers Marx social understanding of valuable *work*. Value is practically understood in a concrete - adjuvant manner. Therefore PHA sums and describes the qualitative and quantitative form best.

[As creator of use values, as *useful* work, work is therefore an existence condition of men, independent from all societies, and a permanent nature necessity for the metabolism between men and nature to facilitate human living.] (Marx 1972a: 47) This falls too short. Only Marx's theoretical frame provides as an approach a holistic system of social inter-correlation with opportunity to include all other factors into this structure. Therefore, it is surprising, that Marx's examination regarding the nature of nature, and here the 'social nature', are presently overlooked, neglected and/or ignored in the environmental sociology debate so persistently (cf. Murphy 1995). This is despite his environmental sociological thought and some problems he mentioned being up to date (Groß 2001: 33). The holistic system attributes to an understanding of human ways of existence within a holistic nature context without giving these ways an ontological status out of social practices (Kraemer 2008: 58). Furthermore, Marx's works are addressed the most, compared to all other social scientific classics (Groß 2001: 33). This already discloses the present problem of adoption in terms of various 'readings' of his social theory. Depending on different ideological viewpoints of readers and their exegesis, a huge debate was and still can be constructed upon 99. But examination of all these debates, more or less related to the environmental problem set, is not the interest here, which is why a full discussion is relinquished.

The different readings of Marx by authors, who tried to evaluate the notion of 'environment' basing on his heritage, already give evidence for enormous differences. This starts by classification. Kraemer as a sociological anthropologist classifies Karl Marx as anthropologist, whilst he is classified according to Groß as a classic of economical focussed social science. Certainly Marx's writings can be distinguished in papers of (German) philosophic, (British) economic and (French) socialism, but the way to read Marx (economist, philosopher, political activist) has strong impact on the understanding or interpretation of his nature conception. Even if inter-connection between Weber, Durkheim and Marx is thinkable, the question remains: How can it be analysed? Inasmuch as Marx's socialism theories and debates can be counted to the realm of theories will be left undiscussed here, as mainly two paths in environmental social sciences can be seen as sufficiently discussed: economical and philosophical focus. Groß emphasizes more the economic and political considerations of Marx whilst Kraemer is more engaged to his philosophical thoughts. Consequently, Groß connects Weber and Durkheim to Marx as some who have strengthened the emphasis of human-human relationship as proposed by 'sociologism' (see above). Nevertheless, Groß stresses, that Marx's metaphoric usage of 'nature' proves that culture has the decisive position (2001: 38). Kraemer on the other hand includes writings by Marx from a different origin that, as it is, does not reveal the whole potential of Marx's writings, to which Grundmann (1997) refers. More traditional Marx exegesis of nature refers to the ownership structures, which matters the most (Eder 1988: 30-31). Various authors instead showed that it is not that easy (cf. Dickens 1992, Grundmann 1991, Pepper 1993, Schmidt 1971). Regarding this point, some critiques are easier applied by fading out Marx's economic-political assumptions and considerations. Some of

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<sup>99</sup> cf. Goehler 1980, Vollgraf 2011, Harvey 2010, Althusser 2009, Bellofiore 2009, Altvater 1999 among others

the most prominent critiques of this kind will be discussed in the last sequence of this tract. Removing or underestimating the economic and political core of Marx theory not only makes it easier to apply critique, but also eases rebuttal of such arguments. Considering Marx theory as a whole in its relevance to a new sociological understanding has to be tackled and will be shown hereafter. The more philosophic point of view holds true that:

„Der Marx'sche Ansatz (...) vor allem dadurch gekennzeichnet [ist], dass menschliche Existenzweisen innerhalb eines umfassenden Naturkontextes thematisiert werden, ohne jedoch diesem einen ontologischen Status unabhängig von sozialen Praktiken zuzuschreiben. In Abgrenzung zu Hegel und dem deutschen Idealismus betont Marx die Vorrangstellung von materiell-stofflichen gegenüber geistig-ideellen Prozessen und streicht in Anlehnung an den anthropologischen Materialismus von Feuerbach die Leiblichkeit und Naturbezogenheit menschlicher Individuen ('Naturwesen') heraus.“

[Marx's approach is labelled by its thematisation of human ways of existence within a comprising nature context. This thematisation is conducted without attribution to an ontological status to these social practices. In contrast to Hegel and the German idealism, Marx emphasized priority position of material-substantial processes vs. mental-ideational processes. Here, he accents the corporeality and nature relationship of human individuals ('creatures of nature') referring to the anthropological materialism of Feuerbach.] (Kraemer 2008: 58) But human individuals are not just 'creatures of nature' but also “für sich seiende Wesen” [separately being creatures] (Marx 1983c: 579). Since Marx borrowed Feuerbach's priority of an 'outer nature', the concrete material-substantial ('materiell-stoffliche') reality, conciliated (vermittelt) by specific historic-societal processes and reality, producing individuals created the material conditions as they found them in the praxis. The 'material-substantial reality is connected to the economic-political sphere of Marx, named as the development of the productivity of labour, the second then is understood in his terminology of infrastructure ('Basis') and superstructure ('Überbau'). As a result, the sensually perceived outer world is a product of industry and the condition of society. (Marx 1983a: 43) The adoption of nature potentials via *productive human activity* (PHA) is not just clear material but a utilitarian and societal process. At this point the first direct inclusion of 'social nature' as theoretical principle and assumption becomes obvious. The extent to which this will and can be considered within the final frame, will be discussed finally in the last sequence. The conclusion will discuss the question, whether or inasmuch nature has or must have its own status in Marx' theory, independent from societal development. To this open question (Groß 2001: 33) comes another one, which more obviously derives from the economical frame, in which Marx has settled in social theory. Here, we come to the second main adoption of Marx's nature conception in terms of his economic theory, in which will be focussed on explained distinction between *work* and *labour* as its centred part.

In practice, if Marx refers to environment, he assumes at the same time always the totality of economic and technical practices of annexation. He always conceptualizes human acting within a widespread<sup>100</sup> concept of environment. As Kraemer points out, the construction of environment and social as being different and

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<sup>100</sup> Rather in a social manner but by inclusion of constant capital, so the material concreteness of being not as something external, but something internal, corresponding to, with, and in the self-constituting of social interaction.

entangled via *labour* at the same time is „eine wichtige Besonderheit des Marx’schen Materialismus“ [an important characteristic of Marx's materialism]. (Kraemer 2008: 62) Therein, two processes take place at the same time: The derivation of the Money Form as the fourth Value Form (VF) on the one hand, and the development of the Exchange Process (EP) on the other. Within the latter, the above-mentioned distinction between abstract and concrete *work* is transferred and attributed to commodities. In terminology, Marx distinguishes between Use-Value (UV) and Value, also referred to, and further used, as Exchange-Value (EV). The qualitative distinction of commodities in the UV is bound to the quantitative equality of the commodities via the EV. In his argumentation Marx focused more on the EV within the EP than on the UV<sup>101</sup>. This as well raises logical, methodological and theoretical problems, which cannot be outlined here in full length, but will be referred to, where applicable and necessary. So, since *labour* has an ascendancy in its economical theory, this applies to his theory of social systems as well. Groß correctly mentions this point, when he emphasizes, that Marx's comprehension of nature is not very different from the protagonists of the capital, as both assume, that nature should just satisfy human needs. (2001: 3) The material production of life (Kraemer 2008: 59-60) or non-separability of nature and society (Groß 2001: 36) is a double relationship between natural relationship on the one hand and a societal relationship (Marx/Engels 1962: 29; Marx 1983a: 29 et seq.). 'Societal' is here understood as several individuals which co-operate regardless conditions, kind and aim. (Marx 1983a: 29) The overarching factor, which connects all individuals, is the *labour*. Since PHA is, according to Marx, the permanent existing condition of societies (Groß 2001: 33, Kraemer 2008: 59), the historic dimension of Marx's approach becomes obvious, when looking how these social processes are connected to natural processes. Marx's historic materialism (HistoMat) is his application of dialectic materialism (DiaMat) to history. There, he examines, how and whereby human societies develop. In his theory the further development of PHA, the further division of labour (as Durkheim would call it), consequently the economic development of the infrastructure, creates increasing pressure on the superstructure and forces – once the limits of the superstructure are reached – this structure to change. This cohesion designates the transition from biological evolution to social evolution. Original biological evolution became social evolution with the end of the anthropogenesis<sup>102</sup> (Kraemer 2008: 60) and therefore a historic development, basing on the antagonistic form of societal production processes. Based on class<sup>103</sup> structure of society, antagonistic interests are driving on human history and social evolution as result of class struggles. The problem remains in an economical basis, which delivers material conditions to finally resolve this

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<sup>101</sup> Therefore *labour* matters more than *work*.

<sup>102</sup> This does not mean, that biological evolution stopped, but points to the fact, that the relevance of nature processes are determined by social relation, not vice versa. This fits profoundly into the aspect of 'social nature' as it adds a historical dimension in terms of time relation to the theoretical conception. This means, that even though biological evolution takes place in day by day life by selection, societal processes will not recognise them as impacts of biological evolution since the time line in which cause and impact follow each other apply on a long term scale whilst social evolution happens in much shorter time periods.

<sup>103</sup> A class is determined by the objective position of the class members within the production process.

antagonism. In consequence, history in its dialectic development pushes, by social revolution, replacement of superstructures, which limit further elaboration of social evolution. This applies to past, present, and future. The driving force is economic development, change of economic infrastructure, and continuing confrontation with the superstructure. As a result, only within this framework cultural, religious, and political developments can take place. Marx assumes producing and (in a societal manner) productive individuals. These transform, in concrete praxis, the existing social environment in order to fabricate new living conditions, which fit the needs. The 'outer nature' is in this context just as much a classified priority as this priority is conciliated via societal interaction. Technology on the other hand comes into force as part of human existence and as a medium with which society can regulate their metabolism with the nature. This metabolism is characterized by a reciprocal relationship. Just as human activities change the environment, these activities change themselves. This means that humans can only rule the environment if they subject to the principles (Naturgesetzmäßigkeiten). To execute processes by subjecting these principles, *labour* comes into play as driver of this change or manipulation and as manipulation of the executors by the fetishism of the commodities. By the former manipulation, the environment is introduced into his theory via Exchange Process (EP) of the Exchange Value (EV). The transformation of the environment into value concreteness (Wertgegenständlichkeit) proceeds by means of incorporating of matter (Naturstoff) and *labour*. The bodies of commodities “are combinations of two elements – matter and labour” (Marx 1970: 43), but the value relationship (Wertverhältnis) of a commodity contains no atom of matter. (1983b: 57, 62) The incorporating creates a commodity body, in which both *work* and *labour* appear – in the shape of UV and EV, but with a one-sided, unbalanced focus on the *labour* part as detected before. The next section of this sequence will be lead from this detection to the examination of his approach in two further sequences. The development, and inherent constitution, of exchange process (EP) – UV and EV inclusively – and Money form by four value forms (VF) was different in Marx's 'early' and 'late' writings. In reference to Peter Dickens (1992), the 'early' Marx provided, according to Groß, an interesting approach to resolving the problem of an absent unitary theory (2001: 34). Kraemer states that

„[i]n den Frühschriften(...) noch in emphatischen Zügen eine anzustrebende Einheit von Mensch und Natur als Höhepunkt bzw. Abschluss einer gattungsspezifischen Emanzipationsgeschichte beschworen [wird]“

[an aiming unity of human and nature is summoned in his early writings as highlight of emphatic points BTW conclusion of a generic history of emancipation] (Kraemer 2008: 60). This is interpreted as „Humanisierung der Natur“ [humanisation of nature] BTW as „Naturalisierung des Menschen“ [naturalisation of men] (Marx 1983c: 538). This is also supported by both Groß (2001: 34) and Dickens (1992). Schmidt points out, that Marx didn't go into a „Resurrektion der Natur“ [resurrection of nature] anymore, when it came to his later writings about the critique on political economy (Schmidt 1971: 159). Methodological analysis of Marxian dialectic gives some evidence in regards to Schmidt's claim (cf. Kaufmann 2003: 23-31). The early writings (Critique) on political economy (Marx 1951) used an emphatic

dialectic approach whilst in the later ones (*Capital*) (Marx 1983b) the emphatic dialectic is reduced to explicative contradiction development (cf. Göhler 1980: 172), but even this extends only to some. Hereafter will mainly refer to the *Critique* and the *Capital* to demonstrate the emphatic point [*Zug*], which characterizes the 'early' Marx. In order to develop the concept of commodity to the concept of money based on exchange process (EP) and value forms (VF), Marx's analysis starts in both books with the Use Value (UV), Exchange Value (EV) and abstract *Productive Human Activity* (PHA) of the „sinnliche Erscheinungsformen der kapitalistischen Warenproduktion“ [sensual manifestation of the capitalist commodities' production] (Göhler 1980: 46), pointed at the development of the money form, a dialectic observation of both can show convincing results.<sup>104</sup> As will be shown, the 'emphatic point' in Marx's early writings have influence to both theory and methodology. So, this will be the focus, since the whole argumentation regarding the process of de-emphasis cannot totally be outlined here.<sup>105</sup> The examination will concentrate on some representative main problems of emphatic dialectic development in Marx's conception to give traceable reason, why Marx has stopped his seminal approach and 'came' to another one. The goal is to show both a new dialectic method and a possible starting point for researching an omnibus sociology of nature or a new 'dialectic of society-nature'. Therefore, the reasons will fall into place, at which point the emphatic point, where Marx started in his early writings, came to an end – and why. Even some of the critiques can be answered in consideration of this path, such as the argument, that Marx's theory never considered the environment as something of importance.

### Emphatic Dialectic

Firstly it will be briefly outlined what are the basic specifics of emphatic dialectic in general and in Marx's connotation in particular. Another word use has to be introduced at this point in order to clarify and specify the different meanings: All argumentations related to the applied emphatic dialectic to 'develop' EP or money form within the Marxian argumentation will be called 'derivation'. This is necessary to not create confusion in regards to the whole development debate as well as to distinguish the dialectic, argumentative inherent development from all other forms of development which can be imagined. Emphatic dialectic as logic and evolution bases primarily on the occurrence of contradictions in processing thesis, anti-thesis and synthesis<sup>106</sup>. This means, that the conceptual reproduction of real contradictions constantly promotes the derived conceptual reproducing design. The characterisation derives from dynamic explication. This explication bases on the identification via the previously made contradiction derivation. This, conversely, entails the contradiction in explicative function: Finally, the derivation of contradictions and their solution is

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<sup>104</sup> For further arguments cf. Göhler 1980: 44 et seq., Kaufmann 2003: 23-25

<sup>105</sup> For further reading cf. Göhler 1980; for another interpretation of Göhler's results cf. Kaufmann 2003: 31

<sup>106</sup> This is too simple to describe the whole frame, in which the dialectical logic is framed, but sufficient for the purpose here.



bound to the movement of the 'thing itself' [Sache selbst]. Two other approaches belong to the type of emphatic dialectic<sup>107</sup>: First the reconstruction of issues in the basic structural correlation via showing the necessary co-action of real antagonistic elements. Consequently at this point, the contradictions have a descriptive function, are termed as real contradictions and concluded to chiasmic (cf. Göhler 1980: 60-61, 116) instrumentality structure [Vermittlungsstruktur]. At this status the contradictions can stay in the interim. However the instrumentality structure doesn't require a logical presentability in regards to the differentiation.<sup>108</sup> The second approach contains the derivation from elementary structures to extended and differentiated ones. Thereby logic contradiction problems must not be raised in the dichotomy of the inherent elements as antipode and sequence of the single structures.<sup>109</sup> (cf. Kaufmann 2003: 28)

### The emphatic dialectic approach and its unresolved problems

Nothing less than a „vielversprechenden Anfang einer umfassenden Soziologie der Natur“ [promising begin of an encompassing sociology of nature] (Groß 2001: 38), „fascinating“ (Göhler 1980: 172) or rather, a seldom case of an early mentioned formulation of a 'dialectic of nature and society'<sup>110</sup> (Grundmann 1997: 540) is recognized in Marx's 'early' writings<sup>111</sup>. Based on this outline, this sequence will look at how the emphatic development of Marx's theory as the mentioned fruitful path to a new 'dialectic of society-nature'. Evidence has been found for emphatic development of his social theory, referring to his 'early' writings. Here, the 'Critique' is used to represent the 'early' writing, in which emphatic dialectic as method is applied, and the 'Capital'<sup>112</sup>. In both writings, Marx develops the 'fetishism of the commodity', but with a variance in his approach. Hereby, two main fields must be observed, which are the development of the value forms to

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<sup>107</sup> „sofern sie nur insgesamt eine Struktur der Vorgehensweise gemäß der dynamischen Explikation der Bestimmungen durch ausgeführte Widerspruchsentwicklung erbringen“ [if they reveal only altogether a method structure in accordance to the dynamic explication of designation by the executed antagonism development]. (Göhler 1980: 125)

<sup>108</sup> Also, the reconstruction of facts and circumstances in their real and crucial, structural connections is required. The reconstruction is result of the demonstration of necessary collaboration of real antagonistic aspects, in which the antagonisms have a descriptive function, are denominated as real antagonisms, and condensed in temporary persisting chiasmic mediation structures. The mediation structures don't require differentiation in their logic presentability accordingly.

<sup>109</sup> On the other hand the approach of extending and differentiating structures from elementary structures under the condition that neither the contradictive elements as bipolar antagonisms nor the series of single structures itself results in logical contradiction problems.

<sup>110</sup> “Die Grundkategorien seiner Theorie reflektieren” as Grundmann states at this point in more detail “die Beziehung Gesellschaft/Natur und haben alle einen Doppelcharakter: Wert ist abstrakt-ökonomischer Tauschwert und stofflicher Gebrauchswert, konstantes Kapital ist eine abstrakte Wertgröße und verkörpert sich in Technik und Rohstoffen” [The principle categories of his theory reflect the relationship society/nature and all have a double character: Value is both abstract-economical exchange value and substantial use value, constant capital is an abstract value size and embodies itself in technique and raw materials] (Ibid).

<sup>111</sup> In opposite to Schmidt, who used the 'early' Marx just as a reference whilst concentrating on “den genetischen Zusammenhang zu bestimmten Motiven des mittleren und reifen Marx” [the genetic connection to certain motives of the middle and more seasoned Marx] (Schmidt 1971: 8).

<sup>112</sup> 2<sup>nd</sup> edition; the first edition contains some differences, which are also important to the methodological examination, but not for the focus of the discussion here, that focuses more on revealing the state of the art of the emphatic dialectic approach. Göhler has profoundly argued selection of the books as well as the particular character in difference between 1<sup>st</sup> and 2<sup>nd</sup> edition.

the (final) Money form and the exchange process, which contains use value and exchange value as two values inherently existing in all commodities. In the 'Critique', Marx develops the structure of commodity exchange, consequently of *labour* time exchange, of value forms and exchange process at the same time. As will be discussed in the sequence on 'conclusion, critique, consequences', in the 'Capital' he starts with the value forms from which he attempts to derive the exchange structure by distinguishing use value and exchange value later on. The problem of this will be manifested in the 'Critique' as outlined in the following. As development of the commodity in the 'Critique' focuses a little more on the exchange process by developing the whole structure<sup>113</sup>, the analysis here will start with the definition of the two characteristics of a commodity: Use Value (UV) and Exchange Value (EV). Opposite to the UV, the EV<sup>114</sup> expresses a societal production's proportion in two ways<sup>115</sup>: First, in its quantitative (concrete-utilitarian) definition of the exchange within the societal production's proportion and second in its qualitative (abstract-general) definition, in which the UV applies various Productive Human Activities to each other. So, the double characteristic is expressed twice: First in the lamination of the commodities (UV and EV) and on the other hand in the double characteristic of Productive Human Activity (PHA) (abstract-general *work* and concrete-utilitarian *labour*). Thus commodities are both qualitatively different (as different commodity bodies) and quantitatively equal (as they are exchanged with the same amount of 'curdled working time' in the EP) at the same time. This is a contradiction against the requirements of the emphatic dialectic. The laws of logic forbid the binding of the fulfilment of one condition to the fulfilment of its contrary. The problem of this becomes obvious when considering, that UV and EV require each other mutually before they have constituted themselves, which is just possible in the structure of an already developed exchange process (EP). Consequently, UV and EV presuppose the EP, which should be deduced from those. „Die Schwierigkeit,“ [The difficulty,] as Marx points out in retrospect „an der wir zunächst steckten, war, daß, um sich als Tauschwert, als vergegenständlichte Arbeit darzustellen, die Ware zuvor als Gebrauchswert entäußert, an den Mann gebracht sein muß, während ihre Entäußerung als Gebrauchswert umgekehrt ihr Dasein als Tauschwert voraussetzt“ [at which we initially had to stop, has been, that the commodity had to be realized as use value before to be constituted as exchange value. Consequently, the commodity must have been alienated before it can be realized in reified PHA, so *labour*, whilst conversely and at the same time the realization as use value requires its existence as exchange value] (Marx/Engels 1961: 31).

The second contradiction is in the reciprocal condition of UV and EV as a qualitative and contradictory commodity relationship. The commodities bear on each other via the UVs in the EP if they mutually satisfy the needs of the non-owners. UVs are without any relation in their substantial difference among each other.

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<sup>113</sup> This is not the whole picture as Marx did an insertion from p. 25-27 in the Critique in which he implicitly develops form I to IV by expression of the EV in the UVs of other commodities (cf. Göhler 1980: 52-53), but looking the logical structure one can rather say that the value forms result inherently (at the same time) from the developing exchange process (EP) and emergence to the exchange structure.

<sup>114</sup> Or just Value, a clear distinction of the term is made by Marx beginning with the 'Capital'

<sup>115</sup> Produktionsverhältnisse

The relationship as EV on the other hand is abstracted from the relationship to the needs, but this relationship is required from according the UV aspect. In order to achieve the exchange of commodities in the emphatic dialectic frame, this abstraction is necessary. So, the EP is the process, that equalizes and distinguishes commodities qualitatively. The UVs equalization takes place as 'materiatur' of the general working time and the distinction appears in the specific UVs for specific needs. Marx concludes this consideration as follows:

„Dieselbe Beziehung also soll Beziehung der Waren als wesentlich gleicher, nur quantitativ verschiedener Größen, soll ihre Gleichsetzung als Materiatur der allgemeinen Arbeitszeit und soll gleichzeitig ihre Beziehung als qualitativ verschiedene Dinge, als besondere Gebrauchswerte für besondere Bedürfnisse, kurz, sie als wirkliche Gebrauchswerte unterschiedene Beziehung sein“

[The same relationship shall be relationship of commodities as essentially more equal, only quantitatively different magnitudes, shall be its equation a *materiatur* of general *labour* time and shall be at the same time its relationship as qualitatively different things, as certain use values for certain needs, in short, as real use values in different relationships] (Ibid: 30). The combination of these constitutes the initially mentioned omnibus contradiction as Marx himself states in the 'Critique' indirectly: „Aber diese Gleichsetzung und Ungleichsetzung schließen sich wechselseitig aus. So stellt sich nicht nur ein fehlerhafter Zirkel von Problemen dar, indem die Lösung des einen die Lösung des andern voraussetzt, sondern ein Ganzes widersprechender Forderungen, indem die Erfüllung einer Bedingung unmittelbar gebunden ist an die Erfüllung des Gegenteils.“ [But equation and non equation seclude itself mutually. Therefore, not only a mistaken circle of problems is constituted, if the solution of the one requires the solution of the other, but the whole of antagonistic claims, if the delivery of a condition is immediately bound to the delivery of the opposite.] (Marx/Engels 1971: 30)

Thirdly, two hidden problems furthermore exist in the development structure of emphatic dialectic. They do not appear in the explicative examination, but do appear when Marx changes the argumentation structure in the 1<sup>st</sup> edition of the 'Capital': The interconnectivity between exchange process (EP) and value forms on the one hand, on the other a historicism when developing the fourth form of value, the Money form. Since Marx started in the 'Critique' with the exchange process by which he inherently developed the value forms, consequently the two aspects didn't appear so obvious as a logic problem. Regarding the historicism problem<sup>116</sup>, the problem lies in the development from general value form (III) to Money form (IV), by which money only replaces the given example of canvas for no reason in accordance to both emphatic dialectic (in the 'Critique') and explicative function (in the 'Capital'). Marx rather uses a conflicting identification, „die er so weit spezifiziert bis die historische Ebene deutlich wird, in der Widersprüche zwar möglich, aber irrelevant sind.“ [which he as far specifies as the historical level becomes obvious, where antagonisms are possible, but irrelevant.] (Kaufmann 2003: 28) On the other hand, the difference to other concepts of nature – and the 'early' Marx contribution – is its relational, historical-societal characteristic (Görg 1999: 43 et seq).<sup>117</sup> The second aspect of what Göhler calls the reduction of dialectic by Marx in the 'Capital' (Göhler 1980: 172)

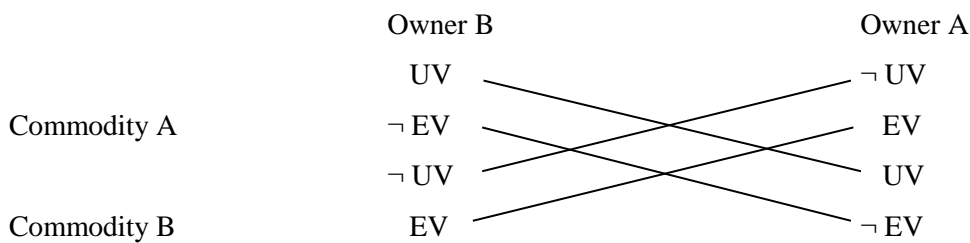
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<sup>116</sup> Not connected to the HistoMat aspect as discussed above.

<sup>117</sup> Basically Schmidt 1971

can be revealed in the process of distinction by developing exchange process (EP) development and development of value forms (VF). Here, examination in separate chapters reveals, that development of both EP and VF require each other mutually, a thing which cannot work without logical bias. Even the first, the simple, value form (I) already requires the exchange process to consist, but without the exchange of commodities one can hardly speak of an exchange process. When looking at the formula, the problem becomes evident: The exchange process starts with distinction of a random commodity by dividing its value into use value (UV) and (EV), by which each one of the two commodities is in ownership of one exchanger. For one exchanger the commodity he owns has an EV as he is about to exchange the commodity with another commodity of another exchanger. In this process, commodity A of owner A is expressed by the chiasitic exchange structure<sup>118</sup> of contradictions:

Table 2: Chiasitic exchange structure of UV and EV



In this structure, the exchange of the value of commodity a, owned by owner A, expresses the value of commodity a in its UV and EV by function of  $UVAa \rightarrow EVAa \rightarrow UVBb$ , but nevertheless requires the exchange of value forms. Hereby, even the simple value form (I), expressed by  $xCa = yCb$ <sup>119</sup>, reveals the logical problem of what comes first, the chicken or the egg. This is why Marx ascertains a decisionistic (sic!) argumentation as decisive<sup>120</sup> according to Göhler (1980: 119). Leaving aside all further logic problems of value form development to the final Money form (value form IV) (Kaufmann 2003: 28-29) due to the fact,

<sup>118</sup> The complete examination of the exchange structure will be omitted since no new quality (beyond the already stated) can be revealed from that, for the already mentioned problem set in examination of the emphatic dialectic as argumentation approach.

<sup>119</sup> x, y, z = amount; C = commodity; a, b, c = different types of commodities

<sup>120</sup> In more detail: “Auf diese Weise hat Marx den sachlichen Schwierigkeiten aus der 'Kritik' sehr offen und sehr konsequent Rechnung getragen. Er hat die Dialektik so formuliert, wie es die Sachlage hier (...) anscheinend nicht anders zuläßt: als dezisionistische Argumentation. Nicht willkürlich, aber abgesichert nur in einem unbezweifelbaren empirisch-historischen Faktum. Was er von der Sachlage her als dialektische Entwicklung hier nicht zu leisten vermag: die Realisierung des Austauschprozesses als faktische historische Veränderung aus seinen strukturellen Zusammenhängen heraus als notwendig zu begreifen – das ist auch als dialektische Entwicklung nicht mehr formuliert.” [By this means, Marx was able to cope very open and consequent with the objective difficulties of the 'Critique'. He has formulated the dialectic, as the circumstance here apparently doesn't admit otherwise: as decisive argumentation. Not arbitrarily, but secured just by an undoubted empirical-historical fact. What he couldn't reveal based upon circumstances of dialectical development – comprehending the realisation of the exchange process as de facto historical change out of its structural correlation – is no more than formulated as dialectical development.] (Göhler 1980: 119)

that money, as a general exchange equivalent, is not necessarily, but possibly, the constitutive part of a 'dialectic of nature-society'. Derivation of both Exchange Process and value form require each other from the beginning and at the same time, but this be just disclosed for the sake of completeness. The conceptual gathering of the EP's structure elements in its different relationships and conditions leads first to a conceptual reproduction of real contradictions. But it doesn't lead to the realized structure. The EP is realized in reality. Therefore one must not stop at the contradictions but deduce as movement of the 'thing itself' the realization in a conceptual reproduction. „Der Austauschprozeß der Waren muß sowohl die Entfaltung wie die Lösung dieser Widersprüche sein, die sich in ihm jedoch nicht in dieser einfachen Weise darstellen können“ [The exchange process of commodities has to be both evolvment and solution of these contradictions, that cannot be expressed themselves in this simple form] (Ibid). Further development of EP's contradictions is the conceptually reproduced development of its realisation by the development of commodity to money. The mutual coherence of EP and money exists in the capitalist reality continuously. Therefore this coherence is captured not only adequately [sachadäquat] but also necessarily [denknotwendig] if the conceptual reproduction succeeds. This is the target course of the emphatic dialectic in the 'Critique'.

#### 2.5.2 Conclusion, critiques, consequences

Concluding remarks will shed light on some common, contemporary understandings and critiques in regards to Marx's nature and environment concept. Many critiques on Marx' access to the environment are based on the assumption that value of nature only comes into force, when natural resources are extracted. Therefore nature can just be understood via the inherent Exchange Value (EV) and Use Value (UV) of the commodity 'natural resource'. Since the sensual perceptive world (nature, environment) is a product of the industry and society status, so a historic product (Kraemer 2008: 58), nature just exists inasmuch as natural resources are extracted and extractable respectively. Without this precondition, nature has no value and therefore is not part of the human environment since the societal relationship is built up in connection between humans via the exchange value. The form of existence of commodities is based on the nature form and the form of value. Therefore, according to Kraemer, Marx's anthropocentrism consequently prevents a reference to the intrinsic value of nature. (Ibid. 61) This critique was first published by John Clark (1989) who points out that Marx wasn't worried about the intrinsic value of nature, but of humans, since he was more focused on economical usefulness (Groß 2001: 37). Similarly Immler (1985, 1989, cf. Immler/Hofmeister 1998) criticizes Marx for 'forgetting' nature due to his theory of value. His „These von außergesellschaftlicher Naturproduktivität“ [thesis of outer-societal nature productivity] as a source of economic accumulation of value leads to Immler's statement of the „unzureichende naturalistische Erdung des Marx'schen Ansatzes“ [insufficient naturalistic grounding of Marx's approach] (Kraemer 2008: 62). Within the holistic approach, Immler still owes the reader an answer to what extent raw nature can be quantified within the material's economy. On the contrary, Eder points out, that Marx' incomplete considerations lead to a naturalistic abbreviation. Since Marx refuses

in his 'Grundrisse' a naturalistic approach to societal relations and replaces this naturalism by societal relations, which can become all time object of praxis, Eder applies this societal theory critique of naturalism to Marx's critique. As he assumes, that Marx focuses on the ownership structures of society, he presumes a neglect towards the material in Marx's approach (Eder 1988: 31). According to Eder, Marx's critique on the societal layer continues in the Historical Materialism, thus he comes to a similar problem as examined above: *Labour and work* as social and natural PHA, as

“Gleichzeitig Poiesis und Praxis (...) provozieren geradezu die Auflösung dieser Verknüpfung entweder in Richtung auf Naturalismus oder in Richtung auf Normativismus”

[*poiesis* and *praxis* at the same time provoke nothing less than the dissolution of this connection either in direction to naturalism or in direction to normativism] (Ibid.). This examination finalizes in a naturalistic as well as normativistic resolution and critique. The *normativistic resolution* of the naturalism's Historical Materialism is to subsume the PHA concept in the verdict of naturalistic objectivism. Habermas disposition (1976) is an attempt to that entity: His “Rekonstruktion des historischen Materialismus” [reconstruction of historical materialism] tries to replace the nature bound *labour* concept by an interaction concept of morality as well as to take development not as coming from labour forces [Produktivkräfte], but from the 'production's proportion' [Produktionsverhältnisse] point of view (Eder 1988: 33). History therefore is no more a result of an evolution of societal productive *labour*, but of moral evolution. So, societal self-organization results interpret history via interaction.<sup>121</sup> The critique on the *normativistic resolution* points out, that normative resolution is lacking a sufficient theory of culture, as production and consumption is reduced to strategic and instrumental acting. Since the environment is an object outside of *labour*, the society-nature relationship remains committed to the theoretical frame work of naturalism (Ibid: 36). *Naturalistic resolution* comes to more similar results like the above made examination.

Starting from the point of Marx's overestimation of exchange value (EV) versus use value (UV), concerning the derivation of the UV history, neither the naming of UV nor the reference to a good pre-history can replace required theory, which reconstructs EV history from the theoretical perspective of UV history. Thus, the domination structure towards environment has to be reconstructed from the perspective of non-domination nature relationships. The *naturalistic critique* emphasizes instead two problems. Firstly, the consumption of commodities is only seen as a process of natural needs satisfaction (Ibid: 34). Secondly, only the production, so the way working time is curdled into EV as general exchange equivalent in the commodity, realises its social character. As Eder concludes, the way remains as a theoretical enigma, how the systematic camouflage connection can be opened (Ibid. 32). These critiques culminate inter alia in the

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<sup>121</sup> Eder refers to theories of moral evolution that assume self-contained logic of cultural evolution, but haven't disengaged oneself from the model of nature history. (cf. Habermas 1976, Eder 1976)

recommendation to return to Feuerbach's „anschauendem Materialismus“<sup>122</sup> [examining materialism] (Schmidt 1962) and Schelling's notion of the „Naturganzes“ [nature as a whole] (Kraemer 2008: 63). This recommendation can be seen as the approach to finally replace the (reduced) dialectic claim by Feuerbach's metaphysic, which also cannot lead to the required 'dialectic of society-nature'. As will be shown, this direction is more strongly geared to Engel's approach to the environment than to Marx'. Görg on the other hand emphasizes the necessity to extend the problem set of Marx to consider such social processes and institutions, which regulate the societal environmental reference practically as well as symbolically (1999: 60). One must state that updating or extending Marx comes up in various contexts. According to Göhler (1980), the reduced dialectic in the Marxian approach can easily cross over to empirical theory; so, the idea of Görg (1999) is based on a further development of the reduced dialectic which would require to resolve the stated problems in the derivation process as mentioned by Göhler (1980) in consideration of the critique on his conclusion of insolubleness (Kaufmann 2003). Even if a deeper social differentiation of social processes and institutions (beside the societal structure of social classes) to the extent of racial, gender and cultural concerns as well as geographical in environmental sociology focus be achieved, the theoretical development of a 'dialectic of society-nature', methodologically derived free from defects, would nevertheless be required. Especially the critiques of Clark (1989), Immler (1985, 1989), Immler/Hofmeister (1998) and Kraemer (2008) are influenced by long-term reception of Marx' notion of nature. Those refer mainly to the introduction quotation of Marx (1972a: 47, cf. p. 61 in this book) in the 'Capital' as described by Groß (2001: 33). If 'Arbeit'<sup>123</sup> is an incessant existence condition for humans, Marx is primarily interested in human-human relationship. Thus, he shared with the protagonists of capitalism the same estimation in regards to nature: 'Social nature' has to suffice clear human needs. Even basic theoretical considerations (Göhler 1980) as well as exceptions by Dickens (1992), Grundmann (1997), Pepper (1993), Schmidt (1971) and Groß (2001) – as mentioned above – seem to be less respected than necessary.

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<sup>122</sup> Schmidt profoundly described the examining materialism in his recent recension of Falko Schmieder's examination of the relationship between anthropological and historical materialism, where he outlines that Marx's theses on Feuerbach have been more than just the distinction between idealism and materialism, since they interpreted – in the concept of historical praxis – Feuerbach's 'sensualism' as operative and the spiritual minded 'operative side' – considered by idealism, as sensual, *id est* interpreted it as objective activity. Marx's 'new' resulting materialism adhered to Feuerbach's refusal of the Hegelian system as well as its [idealistic] dialectical method. (Schmidt 2006: 249) The core of Marx's distinguished non-examining materialism is consequently, as Meyer-Ingwersen emphasises, expressed by the last two theses on Feuerbach (1974: 219) and means an orientation to a more historical materialism, instead of a just nature scientific one (Schmidt 1971: 11). Therefore, as the 11<sup>th</sup> thesis on Feuerbach states, that “[d]ie Philosophen haben die Welt nur verschieden *interpretiert*; es kömmt drauf an, sie zu *verändern*” [the philosophers have just *interpreted* the world differently; but it matters to *change* the world] (Stein 1983: 105). So, the examining materialism is distinguishable from Marx's materialist perspective due to his determination of a 'practical materialist', who – as a communist – seeks revolutionise the world and to practically understand and change the given environment to establish the requirement of 'human society' as claimed in the 10<sup>th</sup> thesis on Feuerbach (Meyer-Ingwersen 1974: 219).

<sup>123</sup> Since Groß' work is written in German and German language doesn't provide two similar words, he didn't distinguish between *labour* and *work*, but one can reckon that he mind *labour* as the overall binding and connecting addition to the UV of the commodities.

Eder's critique must be responded differently. Problematically, Eder didn't distinguished in his examination between the early and later writings of Marx. In consequence, he refers to Marx 'Grundrisse' (1988: 35, footnote 10) and to the Capital (Ibid: 34/35) without any distinction or consideration. On the other hand, he delivers a first thought of how to theoretically formulate the symbolic logic of the consumptive acquisition of societally produced and allocated environment. According to his considerations, the socialization of nature can only be finished by the socialization of its consumptive acquisition. This acquisition cannot be an individual process but must be defined societally – meaning from a use value (UV) point of view. *This would be the key to a theory of a cultural evolution, which can be differentiated from a theory of natural evolution.* Rightly, he points out that sociological theory development hasn't done much to work on that gap, but focused just on the identification or alienation from Marx (Eder 1988: 38). One evidence of this circumstance is the examination of Marx by Kraemer. Those – as Eder continues – have consequently just reproduced and proceeded the Marxian problem. One of the 'most prominent victims' of this process is the socio-scientific functionalism, to which he counts Bronislaw-Malinowski as well as Redcliff-Brown (Ibid). This important point can be proven as well by looking at Ulrich Beck's approach towards a 'reflexive modernity'<sup>124</sup> theory in avoidance of a system-theoretical and functional conception (1993). According to Friedrichs, Beck gives the individual a preferred place within the concept of the 'reflexive modernity'. Even refusing concepts of functionalism, the focus remains on an individual level. One can find assumptions of a “wachsenden Bedeutung der Subjekte im Vergesellschaftungsprozeß, aber keine Analyse des Subjektbegriffs. Individuen werden zwar in ihrem heroischen Kampf um die Realisierung ihrer politischen und auch existenziellen Ideale und Vorstellungen betrachtet, aber der Subjektbegriff bleibt ungeklärt“ [growing importance of subjects in the process of socialization, but no analysis of the subject concept. Individuals are perceived in their heroic struggle to realise their political and existentialist ideals and notions, but the subject concept remains unclear] (Friedrichs 1998: 52-53). Another point, mentioned in Eder's examination, is the realized contradiction between Engels' metaphysics and Marx's dialectic. The distinction is in different dialectic understanding. This distinction is not made, even by Groß. According to Bochenski the dialectic of Engels was more strongly influenced<sup>125</sup> by the 'natural scientific materialism'<sup>125</sup> than Marx<sup>126</sup>.

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<sup>124</sup> Opposite to 'normal modernity', the concept of 'reflexive modernity' is understood by Beck as preparation of disengagement from functionalist and evolution theoretical premises for societal evolution of Talcot Parsons' theory (1993: 72-80).

<sup>125</sup> The 'natural science materialism' was represented in France of the 18<sup>th</sup> century by notable encyclopedists as J.O. La Metterie (1709-1751), E. Bonnet (1720-1793), P.H.D. von Holbach (1723-1789), D. Diderot (1713-1784) and Cl. A. Helvetius (1715-1771). It was further developed in German settlement area in the mid 19<sup>th</sup> century by Carl Vogt (1817-1895), Jakob Moleschott (1822-1893), Ludwig Büchner (1824-1899), peaking into the 'materialism argue' in 1854. Two directions supported the 'natural science materialism', the German 'Positivism' struggling with the Hegelianism as represented by Ernst Laas (1837-1885), Friedrich Jodl (1848-1914) on the one hand and the debate about the 'evolutionism' of Chales Darwin (1809-1882) in his 1859 publication 'Über den Ursprung der Arten'. This struggles led in the second half of the 19<sup>th</sup> century to a consistent assumption of an important part of German intellectuals. (cf. Haeckel 2008: 91 et seq.) For further reading see Gregory (1977).



Furthermore, this gave the materialism a more speculative, metaphysic direction. He emphasized the dialectic factor in the term of dialectic materialism and applied the „materialistisch umgestülpte Dialektik Hegels“ [materialistic upside down dialectic of Hegel] (Bochenski 1962: 22) to all single fields of philosophy. Engels has created the metaphysical and methodological basis of Marxian's materialism. In order to 'defend' the absolute congruence of Marx and Engels usually is referred to a quotation of Engels in the 'Ludwig Feuerbach und das Ende der klassischen Philosophie' in 1886:

„Daß ich vor und während meinem vierzigjährigen Zusammenwirken mit Marx sowohl an der Begründung wie namentlich an der Ausarbeitung der Theorie einen gewissen selbständigen Anteil hatte, kann ich selbst nicht leugnen. Aber der größte Teil der leitenden Grundgedanken, besonders auf ökonomischem und geschichtlichem Gebiet, und speziell ihre scharfe Fassung, gehört Marx. Was ich beigetragen, das konnte – allenfalls ein paar Spezialfächer ausgenommen – Marx auch ohne mich fertigbringen“

[I cannot deny, that I had a certain independent part at both the elaboration and the explanatory statements during the 40 years of co-working with Marx. The major part of the basic considerations, especially in the realm of economy and history, belong to Marx. Beside of some specialties, Marx could have done this even without me] (Engels 1962: 291, note 1). Bochenski states, that Engels talks about economic and historic lore excluding philosophy. Bearing in mind the three mentioned classifications of Marx' writings, Bochenski concludes that the philosophic lore of Marx' theory – the Dialectic Materialism – was established by Engels (Bochenski 1960: 22). On the other hand, a general problem – as assumed by both Marx and Engels – is the belief that socially generated nature can be accepted as reality. This materialistic postulate<sup>127</sup> establishes an assumption of cultural projections which can be undertaken on the assumed reality. This is a very clear reference to the argumentation, that even Marx followed an understanding basing on 'natural scientific materialism'. According to Eder, the contradiction within Engels' 'Dialektik der Natur' consists in the assumption of both the permanent circular flow of the material, whilst the decisive forces in the development are „Arbeit und Kapital“ [labour and capital] (1988: 31, footnote 6), and the idea of a formulated human history of the material world. The contradiction is resolved by considerations of self-preservation. According to him, ecological crises are consequently just small incidents in this process. According to Groß's, „[e]benso

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<sup>126</sup> This is the reason, why most quotations in regards to the dialectic materialism refer to Engels and not to Marx writings. According to Bochenski, Engels exegesis is the bridge between Marx and Lenin. (1960: 23)

<sup>127</sup> „In der gesellschaftlichen Produktion ihres Lebens gehen die Menschen bestimmte, notwendige, von ihrem Willen unabhängige Verhältnisse ein, Produktionsverhältnisse, die einer bestimmten Entwicklungsstufe ihrer materiellen Produktivkräfte entsprechen. Die Gesamtheit dieser Produktionsverhältnisse bildet die ökonomische Struktur der Gesellschaft, die reale Basis, worauf sich ein juristischer und politischer Überbau erhebt, und welcher bestimmte gesellschaftliche Bewußtseinsformen entsprechen. Die Produktionsweise des materiellen Lebens bedingt den sozialen, politischen und geistigen Lebensprozeß überhaupt. Es ist nicht das Bewußtsein der Menschen, das ihr Sein, sondern umgekehrt ihr gesellschaftliches Sein, das ihr Bewußtsein bestimmt.“ [In the societal production of his life, humans agree to certain, necessary production relations, independent from their will. These production relations correspond to a certain development stage of its material productive forces. The totality of these production relations creates the economical structure of society, the real basis, on which a juridical and political superstructure bases, and which meets certain societal forms of conscious. The production's mode of the material life in general requires the social, political and intellectual process of learning. It is not the consciousness of men which determines its being, but on the contrary the societal being, which determines the consciousness.] (Marx 1972: 8 et seq, emphasis by myself)

wie die menschliche Aktivität die Natur verändert, verändern auch diese [die Aktivitäten – Anm. d. Verf.] sich selbst“ [likewise as human activity changes, also changes this activity itself] (2001: 34), one must wonder inasmuch these are activities changing for themselves. Groß leaves this question unanswered. One can guess that the productivities of labour development via the invention of new technologies and non-natural living condition changes – such as information technology or the need of access to certain non-natural resources (equality, equality, knowledge and institutions among others) – comes at that point into play. So, an existing holistic theory of nature would be required in order to explain the gap between the Marxian claim of a holistic theory and the examination in reality. According to Groß, Marx' understanding of the 'social' (human) and 'environment' (nature) is defined in the “Ökonomisch-philosophische Manuskripte” (published in 1844, early writings) as a “permanente Beziehung” [permanent relationship] (2001: 34)<sup>128</sup>. Later on, in the 'Capital' (later writings) distinction is made by consciousness and religion and “was man sonst noch will” [whatever else you like] (cf. Groß 2001: 35) using the example of human (social) and animals (environment). In the following, Marx states, that a being (thus animals and humans) “welches seine Natur nicht außer sich hat, ist kein *natürliches* Wesen, nimmt nicht Teil am Wesen der Natur. Ein Wesen, welches keinen Gegenstand außer sich hat, ist kein gegenständliches Wesen. Ein Wesen, welches nicht selbst Gegenstand für ein drittes Wesen ist, hat kein Wesen zum *Gegenstand*, d.h. verhält sich nicht gegenständlich, sein Sein ist kein gegenständliches. Ein ungegenständliches Wesen ist ein *Unwesen*” [which doesn't have its nature outside of itself, cannot be called a natural creature since it doesn't take part in the essence of nature. A creature, which is by itself object for a third creature, has not creature as an object, if this creature doesn't act concrete, its being is not a concrete one. A non concrete creature is a nuisance] (Marx 1968: 578). On the one hand we find the postulate that sociality and environment are part of each other, a permanent relationship (first quotation), but the same entities – as animals are definitely part of the environment<sup>129</sup> whilst humans belong to the social – are distinguished qualitatively (consciousness, religion,

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<sup>128</sup> “Die Universalität des Menschen erscheint praktisch eben in der Universalität, die die ganze Natur zu seinem unorganischen Körper macht, sowohl in sofern sie 1. ein unmittelbares Lebensmittel, als inwiefern sie 2. die Materie, der Gegenstand und das Werkzeug seiner Lebenstätigkeit ist. Die Natur ist der unorganische Leib des Menschen, nämlich die Natur, soweit sie nicht selbst menschlicher Körper ist. Der Mensch lebt von der Natur, heißt: Die Natur ist sein Leib, mit dem er in beständigem Prozeß bleiben muß, um nicht zu sterben. Daß das physische und geistige Leben des Menschen mit der Natur zusammenhängt, hat keinen anderen Sinn, als daß die Natur mit sich selbst zusammenhängt, denn der Mensch ist Teil der Natur.” [The universality of men appears practically just in his universality, which makes the whole nature to his inorganic body, either insofar nature is 1. an immediate groceries, or to what extent it is 2. the material, the object, and tool of his vital activity. Nature is the inorganic body of men, consequentially his nature, insofar as it is not itself the human body. Humans live dependent by nature, meaning: Nature is his body, with which they have to be in a steady process not to die. The connection of psychical and intellectual human's life with nature has only the meaning, that nature is connected with itself, since man I part of nature.] (Marx 1968: 515 et seq)

<sup>129</sup> Awareness of arguments concerning and distinguishing human animals and non-human animals must be neglected at this point, since this distinction rather seems to be part of a political judgement than based on an environmental sociological framework. In particular in this case, one can state that without any doubt the social relationship of animals and humans cannot be grasped by the general exchange equivalent of *labour* as Marx did, on which construction and self-constitution of the discussed approach of a new 'dialectic of nature-society' would be based on.

'whatever else you like'). Furthermore the time difference between the 'early' and the 'late' Marx has to be further distinguished whilst – according to Nicolaides – the time in which Marx wrote the “Ökonomisch-philosophische Manuskripte” [April to August 1844] was before he first met Engels<sup>130</sup>, whose influence on Marxian theory is discussed above. This may be the reason why Marx in this paper is still bound to “den Feuerbachschen Idolen 'Mensch' und 'Natur'” [the idols 'men' and 'nature' of Feuerbach] (Nicolaides 2007: 3). As she writes, formally and with regards to content, some analogies between Feuerbach and Marx are not in question, they just start from a different point of view (see above). Concluding, distinctions within Marx's approaches can be found between the 'early' Marx before Engels, the 'early' Marx after he has met Engels, and the 'later' Marx. But this distinction is missing, even in Groß's profound examination. This is even more surprising, given that already Schmidt stressed importance of disputing Engel's approach when outlining Marx's nature conception (1962: 41). On the other hand, one has to consider, that, as Nicolaides stresses, “Frühschriften' und 'Spätwerk' können dabei nicht einfach gleichgesetzt werden, sind aber trotzdem im Zusammenhang zu sehen, weil die in den 'Manuskripten' entwickelte Entfremdungstheorie auch Bestandteil noch folgender Arbeiten ist” [early writings and later work cannot simply be equalled, but must also be seen in correlation since the estrangement theory, developed in the 'Manuskripte', is also part of the following works], even though she recognizes, that an emancipatory approach becomes more apparent in the there than in his later works (Ibid: 4-5). As could be seen, the difference is more than that, since even the less emancipatory approach (finally) results from the reduction of dialectic. On the other hand, a possible 'upgrading' (instead of 'updating') of Marx in this regard is not unopposed, or rather broadly discussed (Görg 1999: 60, Kraemer 2008: 63, Groß 2001: 38, Kaufmann 2003: 31). But even those, who formulate direct critiques, such as Simmler and Schmied-Kowarzig (1984), Eder (1988: 30 et seq.), Clark (1989), Schmidt (1971) as well as those who claim basic reconsiderations of Marxist theory (Immler 1985; Immler 1989, Immler and Hofmeister 1998), cannot provide a holistic approach yet. Concluding, main critique on the critiques of his model is based upon the lack of provided alternatives. This does not mean, that it is better to take a bad solution than none, but there is without certain weakness in critiques that charge insufficiencies in Marx's thoughts to the extent that we stand without anything that can replace it. From this point of view one can state that most recent approaches have been either influenced by political / ideological considerations or still remain to struggle within the two extreme poles of sociology: sociologism and naturalism. In fact, the need to distinguish social sciences in general, and sociology in particular, from other sciences, can be found by looking at disciplinary borders between environmental sociology and related disciplines (i.e. biology, medicine, political science among other) but also by analysing reasons for dis-recognition of 'environmental social sciences'<sup>131</sup>. But even where border thinking between disciplines has been limited, the research

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<sup>130</sup> In August Engels came to Paris, the first letters from Engels are written in October and November 1844, but it is not clear when they met first. (Nicolaides 2007: 2)

<sup>131</sup> This term accommodates the fact that the multifaceted problem set for all means requires co-working of all disciplines to provide wide ranging answers and to improve contemporary theory state. This well-known fact is

objective mainly remains unsatisfying, from viewpoint of theoretically approaching what Grundmann (1997) has claimed more than a decade ago. Moreover, the examination and discussion of various critiques could reveal strong explanation power of a functioning dialectical approach for all social sciences dealing with the environmental problem set. Therefore, as my own conclusion, Marx's social theory of mutual exchange based on emphatic dialectic in his 'early' writings is incomplete due to methodological-dialectical problems as well as in complete consideration of 'social nature' which cannot be controlled just by a more of rationality. In this regard, it must be pointed to the fact, that this rationality which controls nature forces and dominates the laws of nature by technological progress has been exactly this rationality which has created the fragility of a social system in which relatively small disruptions in nature processes have enormous impacts to social life and therefore 'social nature'. Nevertheless, adoption of social connection theory by *labour* can be a key for the development of a new 'dialectic of nature-society'. As the starting point, further theory building by Grounded Theory (Glaser/Strauss 1969) with focus on the 'social nature' concept, which leads to distinguishable concepts of Sustainable Development and Environmental Justice, should follow the gap in Marx's later writings, where he gave up his previous approach and made a compromise with another analytical standard of social science (cf. Göhler 1980, concluded Kaufmann 2003: 30), resulting rather in a compatibility analysis ('Verträglichkeitsanalyse') than in an emphatic dialectic explication (Kaufmann 2003: 28). At this point, the required 'dialectic of nature-society' can emerge.

### 2.5.3 Emilé Durkheim

Conceiving a reality *sui generis*<sup>132</sup> allows the definition of the relation between environment and the social on the society level more precisely. Durkheim attempts to contain the social in a way of understanding societal environment within the sociological realm of social facts<sup>133</sup> [sozialer Tatbestände]. That is why he is called the inventor of the first social constructivist approach to environmental sociology even he himself has never had called it that way. (Groß 2001: 46) „Die Frage ist,“ [the question is] Durkheim points out „aus welchem Bereich der Natur diese Wirklichkeiten stammen, und was den Menschen veranlasst, sie sich in

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considered more in other countries such as the US, Australia and Brazil but yet widely ignored in German academic community, even though, as can be seen, German sociology can broadly contribute to the environmental field from a theoretical point of view, in particular, when overcoming artificial constraints of disciplinary borders.

<sup>132</sup> Using a broader concept notion as a theoretical access to social practices of environmental utilization

<sup>133</sup> Durkheim defines the social facts as: „Sie bestehen in besonderen Arten des Handelns, Denkens, Fühlens, die außerhalb der Einzelnen stehen und mit zwingender gewalt ausgestattet sind, kraft deren sie sich ihnen aufdrängen. Mit organischen Erscheinungen sind sie nicht zu verwechseln, denn sie bestehen aus Vorstellungen und Handlungen, ebensowenig mit physischen Erscheinungen, deren Existenz sich im Bewußt sein des Einzelnen erschöpft.“ [They consist in certain kinds of acting, thinking, feeling, that stands inside of the single, constituted with forcing power, with which they impose on them. They cannot be confounded by organic appearances, since they consist in imagination and actions. They are also inconfoundable with physical appearances, whose existence is limited to the appreciation of the single.] (Durkheim 1976: 107) Durkheim's postulate claims the sociological object of investigation to not being the actions itself (therefore contrary to psychology) but in the given 'things' outside of a single person and provided with imperative force. (cf. Groß 2001: 41)

dieser einzigartigen Form (...) vorzustellen“ [from which area of nature descend these realities, and what prompts men to imagine these realities in this unique form]. To answer this question „muß man zuerst zugeben, daß es sich um wirkliche Dinge handelt, die auf diese Weise dargestellt werden“ [one must confess that these things, which are constituted this way, are real.] (1981: 104) Here, right one the begin, an approach to the 'social nature' concept can already be seen, even if this conclusion is just an interpretation, for which Durkheim's own consideration that refers to „Natur als objektiv gegebener Grundtatbestand der gesellschaftlichen Entwicklung.“ [nature as objectively given facts of societal development] (Kraemer 2008: 82) Since the things are just integrated in societies via persons, things cannot an acting impetus [Handlungsanstoß], but can have a destructive or stabilizing impact on the social life within the societal context. Durkheim's classification of phenomena in the „dinglich-sachlichen“ [material-factual] environment made him according to König (1984: 51) to the ancestor of Hermann Schmalenbach's 'Soziologie der Sachverhältnisse' [sociology of thing relationships] (1927). These phenomena are produced societally and bound to normative expectations in the sense of a specific symbolic meaning or specific usage acts [Nutzungspraktiken]. As Schmalenbach never converted his claim to a whole systematic theory<sup>134</sup>, a deeper examination must be left aside. The relationship between the social world and environment or nature itself is affected by the social in separation from biological, individual psychological and economic approaches. Durkheim didn't ignore the material context, but shows in his Suicide study of 1897 (1973), that organic predisposition, psycho pathological conditions, the physical environment (such as climate and seasons), racial affiliation and copy of acting have no significant influence. (Kraemer 2008: 76) Social action is based on the social construction of societal constraints and the reasons for social action can be defined and analysed within the societal frame work, On the other hand he states 1893 in his dissertation about the 'Division of labour' (1988) that moral and material density is mutually caused. (Ibid. 77) The development of labour division is causative explicable neither by economic [such as increasing productivity or surplus progression] nor by natural facts [such as soil conditions or climate] but only by social ones (moral density). In his Suicide study he excludes all material considerations in favour of a genuine sociological examination. As he shows, suicides are happening in all inquired cultures more often in summer than in winter as it would have been expected. Durkheim acts on the assumption that this fact is related to a higher rate of societal activities. Comprehensibly societal activity BTW inter connectivity is lower in winter than in summer but according to Groß (2001: 45) this observation just shifts the causal chain as Durkheim himself must acknowledge (cf. 1983: 120). The environment – the climate – is the impulse of the suicide even conciliated through societal structures and processes instead of a direct solar radiation to the individual. Material density comes into play by expressing the geographic-spatial and material milieu of the society. Beside of the abstract economic production steps by for example building a house, the naturally built house becomes a social fact in the realization of a specific architecture. This architecture expresses and constrains, like giving

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<sup>134</sup> For further reading Schmalenbach 1927: 44 et seq.

a frame to the social stakeholders of the society for their acting and cooperative relationship to each other. This is the way that the social facts become the subject of the outer world. So – as he writes in the ‚Regeln‘ (1984: 113) – the sociological facts of anatomic or morphological order are interpreted as a substratum of collective life. The moral dimension of object complexes (material density) are of importance just inasmuch as they express „eine bestimmte Art des Handelns in Bezug auf eine spezifische normative Orientierung“<sup>135</sup> [a certain kind of action in reference to a specific normative orientation]. Relevant variables in Durkheim's view are the social facts, which are the manifesto of the collective conscious and consciousness. More difficult is his usage of 'things'<sup>136</sup>. According to his credo to reckon sociological facts [Tatbestände] as things, he designates „Rechtliche Normen, Werkzeuge und Wohnhäuser“ [legal norms, tools, and tenements] (Groß 2001: 41) as such. As Benoit-Smullyan argues, Durkheim uses 'things' in four different senses (1969: 207 et seq.). Considering the research question of this work, a deeper examination can (again) be disregarded since all four definitions include the material environment.

The environmental things are theoretically a fix part of the social world. Depending on the circumstances, these things, such as structures and nature fields, can be stabilizing or destructive. In accordance to Durkheim a sociological fact is all that can constrain or constrains a single person. The most pressing question is inasmuch as environment is a constraint for human society thus for social acting. Durkheim's approach is not undisputed. At first the borderline problem, which can be found even in Durkheim's Division of labour regarding a differentiation between organic and mechanic solidarity, is faced in his considerations at this point (Kraemer 2008: 81) in the assumed distinction between the social and the non-social (the society and the nature). A social phenomenon is explicitly not a material thing (as he mentions in the second edition of the ‚Regeln der soziologischen Methode‘ (1984: 89, 101)), but an objective subject *sui generis* to show the 'super subjective core' of the social reality. On the other hand nature constrains human acting in the way as physical-chemical forces. As Groß points out, the „äußere Natur wird hier betrachtet als in und durch die Selektion sozialer Institutionen erzeugte Wirklichkeit“ [outer nature is here observed as reality, created in and by selection of social institution] (2001: 46). Durkheim follows a naturalistic false conclusion as he takes nature and the natural environment as given. The false conclusion is based on the belief that socially generated nature can be accepted as reality and cultural projections can be undertaken on the assumed reality. Furthermore – and a true critique to Marx as well as will be demonstrated below – he shares a doubtless

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<sup>135</sup> hus by physical constraints such as freedom of choice, the kind of clothing or the how of house architecture as mentioned above

<sup>136</sup> In Durkheim's words, a 'thing' can be recognized as „es durch einen bloßen Willensentschluss nicht veränderlich ist.“ [it isn't alterable only by will decision.] These 'things' „bestehen gewissermaßen aus Gußformen, in die wir unsere Handlungen gießen müssen. Häufig ist dieser Zwang so stark, daß wir ihm nicht ausweichen können. Aber selbst wenn wir ihn schließlich überwinden, genügt der erfahrene Widerstand, um uns klar zu machen, daß wir hier vor einem Ding stehen, das nicht von uns abhängig ist.“ [consist quasi in moulds, in which we infuse our actions. Often, the constrain is so strong, that we cannot avoid it. But if even we finally overcome the constraint, the experienced resistance is enough to reveal that we are facing a thing which is independent from us.] (Durkheim 1976: 126)

belief in (economic) progress and the increasing influence of modern science with the majority of scientists in his time (such as economists as Adam Smith and David Ricardo). He argues that Durkheim's approach to a social constructivist environmental sociology led to the belief that „die Natur ihre entscheidende Kraft zur Lenkung und Veränderung gesellschaftlicher Entwicklung im Laufe der Modernisierung eingebüßt hätte und sie nur noch gelegentlich betrachtet werden müsse.“ [nature lost its decisive power to steering and modifying societal development during modernization and must only be observed occasionally.] (Groß 2001: 47) In his own words „it is not the land which explains man, it is man which explains land; and if it remains important for sociology to be aware of the geographical factor, this is not, because it sheds new light on sociology, but because the former can only be understood in terms of the latter“ (Durkheim 1972: 88). Related to his main distinction in the 'division of labour' between organic and mechanic solidarity in societies, Durkheim's view distinguishes between „primitive Völker“ [primitive populations] and „moderne Wissenschaft“ [modern science] (Groß 2001: 47) to look for the mutual relationship between religion and science. He finally reasons that „religious beliefs in the less developed countries show the imprint of the soil upon which they are formed; today, the truths of science are independent of any local context. Thanks to improved communications, fashions, tastes and the customs of different regions become more and more homogenous“. (Durkheim 1972: 88) Furthermore he claims to be able to discover the „true character“ of nature from his secular European point of view culminating in the conclusion that modern science will replace religion within this process as a requirement for the change to the organic solidarity. (Durkheim 1981: 574 et seq.) According to Durkheim (1988: 168) things are only integrated elements of society „durch die Vermittlung von Personen“ [by mediation of persons]. This suggests that either present or anthropogenic transformed 'social nature' by itself can be recognized as sociologically important. This is definitely true with a special centre on 'by itself' since the environment plays an important role in the communicative and social relationship between humans. Therefore we can find strong impacts for the constitution of society and its regularities too. The fundamental question arises of, inasmuch 'material subjects' (*Sachobjekte*) and 'material contexts' have to be integrated in the sociological framework. One can argue that it would be a questionable undertaking to establish a complex environment-society-interaction within sociology. Even approaches to found a new kind of environmental research which covers interdisciplinary, social scientific as well as nature scientific problems would result in a loss of the clear outlines of sociological questions. Furthermore mainstream sociologists pass criticism on the intention of some environmental sociology approach which propose to extend the sociological object of research by an original ecological complex of problems. Even more difficult is the disposition of Durkheim's distinction in sociologically relevant and non-relevant phenomena. His normativity criteria excludes other possible criteria in order to classify social facts or events in the physical environment. This classification of material subjects (*Sachobjekte*) remains unfinished. As intentional acting to change the environment (the material world) is a non-sufficient attribute for classification purposes, according to Durkheim sociological relevance of the material world would depend

on usage of specific social, sanctionable (sanktionierbar?) expectations. Therefore, the environmental problem set would have to express a collective value system which enforces the society to act in order to be relevant. The exclusion of any clear defined relationship (borderline problem) between human acting to material facts and acting towards material density could lead to assumption such as irrelevance of environmental burdens for sociological purpose, since they don't fulfil this requirement. Even more, lack of collective conscious and consciousness for such a value system would mean that concrete problems, as bared in Environmental Justice struggles, be sociologically irrelevant. Consequently, neither habitual nor situation-relevant normative controlled acting routines can be bore in mind. On the other hand, impacts of environmental burdens, any kind of injustice or unequal shared environmental risks can be of interest for the sociological field, even though the collective conscious of society does not recognize them as such. This matters in particular if we look at this from a macro level. If, for example, nuclear waste is produced in one society, but shipped to another where the final storage is not sufficient, waste, then, contaminates the environment over there, damaging health and reducing population's standard of living (SOL), one can hardly state, this question wouldn't be of interest for sociology, even though collective conscious of society in the former country doesn't recognize the impacts. Furthermore, according to Durkheim's very strict definition, irrelevant for sociology would be double moral standards in society if they appear outside of constraints and existing collective conscious. Another difficulty is in Durkheim's assumption in regards to economic progress and increasing influence of modern science. In combination with an understanding of the reciprocal relationship between material and moral density, one can assume that Durkheim's theoretical frame is close to the group of stakeholder which base on the fact that technical development will be able to resolve current environmental challenges by future progress. Unresolved considerations of value spheres (such as natural resources) in Durkheim's theory makes it impossible to use his 'sociologism' to the problem of both social differentiation of environmental burdens and understanding of the inherent terms if they are not recognized as belonging to the sociological field. Therefore, the initially mentioned context reappears referring to Durkheim's holistic notion of society. Invented in the struggle against ancient 'naturalism' in general, being geared to Spencer's organism model in particular, his model is inappropriate to properly analyse contemporary conflicts of socialization processes of the natural environment.

#### 2.5.4 Max Weber

In contrast to Durkheim one can find in Weber's theory concrete considerations with regards to the natural resources of the world. Whilst Durkheim only refers to man made artefacts as an expression of social and cultural development (material and moral density), Weber states that the „Raubbau an Bodenschätzen seine zeitlichen Grenzen haben muß“ [overexploitation of natural resources must have its time limits], since „das eiserne Zeitalter wird höchstens ein Jahrtausend dauern können“ [the iron age will last at most for thousand



years] (1958: 263, note 1). As Groß concludes, a sustainable solution for the permanent lack of resources in capitalist economy is according to Weber impossible since the continuing search for alternative resources has to be seen as an integral part to capitalist growth. (Groß 2001: 54) Weber's access to the environment is human acting. In his theory, sociological relevance is – similar<sup>137</sup> to Durkheim – constrained inasmuch as acting is '*sinnhafter*' [meaningful] referred to the environment. The other way around, any 'external doing' (acting) towards a lifeless artefact without '*Sinnhaftigkeit*' [meaningfulness] is outside of the category of social acting; that things, which are outside of social acting, are just of interest for sociological questions under specific circumstances. In this regards Weber distinguishes between two kinds of artefacts. A non-understandable one of the outside world and an understandable one. The latter anthropogenic influences BTW societally designed. Examples of the 'understandable artefacts' are cultural or industrial landscapes. Therefore it is not just the individual that matters in relationship to the society but the physical, human made environment too. Rather he focuses on the question of societal utilization or constraints of multiple social practices and regimes respectively. So, the 'understandable artifacts' are described in his book *Wirtschaft und Gesellschaft* [economy and society] as the dimensions of cities' typology (1980: 727 et seq). There he defines the object of research explicitly not only in terms of the social, politics and economy but also in terms of its geographic dimension (Groß 2001: 50), which Kraemer calls „naturräumliche(n) Dimensionen“ [nature spacial dimensions] (2008: 86). In *Zur Psychophysik der industriellen Arbeit* he furthermore emphasizes the importance of the cultivated environment to understand social phenomena (such as working conditions of fabric workers) (1909). In addition, Weber combines the problem of exploitation as well as the domination of natural resources and both the diffusion and the all day experience protestant ethics in the *Protestantische Ethik und der Geist des Kapitalismus* (1988: 17 et seq.). The very famous sentence is the one that the Puritan wanted to be a professional, but we have to be professionals<sup>138</sup>. At this point he comes up with the most important part of an understanding of Weber's considerations of the environment: „Denn indem die Askese aus der Mönchszelle heraus in das Berufsleben übertragen wurde und die innerweltliche Sittlichkeit zu beherrschen begann, half sie an ihrem Teile mit daran, jenen mächtigen Kosmos der modernen, an die technische und ökonomischen Voraussetzungen mechanisch-maschineller Produktion gebundenen, Wirtschaftsordnung zu erbauen, der heute den Lebensstil aller Einzelnen, die in dieses Triebwerk hineingeboren werden – *nicht* nur der direkt ökonomisch Erwerbstätigen –, mit überwältigendem Zwange bestimmt und vielleicht bestimmen wird, bis der letzte Zentner fossilen Brennstoffs verglüht ist“ [Because when transferring the ascesis from the religious to the professional life and started to control the mundane morality, the ascetic took part in creating the powerful cosmos of the modern economical order, which today determines and will determine the life style of all single – not only the the direct gainfully

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<sup>137</sup> In opposite to Durkheim Weber means that the nature 'could' be ignored whilst Durkheim means, it 'must' be (Groß 2001: 49).

<sup>138</sup> „Der Puritaner wollte Berufsmensch sein, - wir müssen es sein“ [The puritan wanted to be a professional, - we have to be] (Weber 1973: 188).

employed person – until the last ton of fossil fuel is burned up] (Weber 1973: 188, original emphasis). This 'until the last ton of fossil fuel is burned up' is worth to deeper look, since he explicitly mentions there is a natural limit to the 'overwhelming constraints' as well as the economic system. The inevitable dilemma of natural over-exploitation and the threat of nature destruction is 'extensively discussed in his writings' (Groß 2001: 51). Even his personal engagement in the first German environmental group, the *Heimatschutz* [homeland security] and his protest with about 1500 other scientists and artists against the landscape destruction of the construction of a hydroelectric power plan should be mentioned at this point. So, one can say that environment matters as much for the sociological research as it is a mutual constraint to human acting. Furthermore, with the transfer of this 'powerful cosmos' and its impact to the world, „gewannen die äußeren Güter dieser Welt zunehmende und schließlich unentrinnbare Macht über den Menschen, wie niemals zuvor in der Geschichte“ [outer commodities of the world became increasing and finally inescapable power over men, as never before in history] (Weber 1988a: 203 et seq). It was the Protestant ethic which upvalued daily fleshly work and contributed to a redirection from the hereafter to this life. The Protestantism created a human desire for a godly life in asceticism and prosperity. This meant to have a well-planned life, having control over the irrational instincts, and to live in primacy of restless 'labour' [Lohnarbeit]. As consequence, the class of private entrepreneurship emerged which mainly used their gains for reinvestment for the purpose of capital accumulation. Economic success is seen by these entrepreneurs as proof for the mercy in face of God<sup>139</sup>. This distinguished the Protestant ethic from the catholic one and finally was responsible for prosperity and growing influence of protestant countries (Germany, United Kingdom, Scandinavia, later USA among others) whilst catholic countries, most powerful in the past, such as France, Spain, and Italy, declined. There are many critiques on his Protestantism thesis, namely by MacKinnon (1988a, 1988b) and Lehmann (1996) among others. In the process of modernization, the 'iron coffin' remains in the shape of overwhelming constraints whilst the religious roots stall (Kraemer 2008: 86). These 'overwhelming constraints' become the 'overwhelming power' that dominates all human, not just the *homo oeconomicus*. But in order to make the difference more obvious, Weber didn't mean that therefore the nature is going to constrain or even determine human acting and history. Also, the reciprocal relation between the circumstancing environment and the social doesn't drive human progress, but external conditions matter. They matter insofar as they appear as constraints, as they have to be recognized as social constraints. In his lecture on ‚Wirtschaftsgeschichte. Abriß der unversalen Sozial- und Wirtschaftsgeschichte‘ in 1958, he argued, that external conditions such as geographic structure of the European continent are relevant for the rise of capitalism, but must not be overestimated as the beneficial conditions still existed in the ancient world. Referring to the long routes of transport in China and India he mentions that the exorbitant expenses of transport for the trading class had to slow down the economic growth. For the same comparison even in

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<sup>139</sup> Remarkable is the Calvinist movement which played an important role in the development of nature perception (as 'social nature') of rising capitalism.

that time, the European trading class had all advantages to develop because of geographic advantages such as the continental waters (Mediterranean Sea) whilst China suffered from typhoons in the Pacific Ocean. These external conditions such as nature play a role in the development of societies but not on the primary position. As Weber carried out, rationalism<sup>140</sup> of occidental culture<sup>141</sup> was the main reason for the development of modern capitalism<sup>142</sup> but not a coincidence. As could be seen, he clearly denies all naturalistic approaches since external factors – neither on the macro nor on the micro level – are determining for social acting. Even though, Weber's theoretical approach gives some very useful inputs to framing the environmental question, he also is stuck in the assumed 'sociologistic' constraints as a defining aspect of sociology itself. Further critiques in literature focus on his assumed mutual relationship between the social and the environment. Weber mentioned the mutual reaction between social factors and the external constraints, he never analysed this inherent hierarchy in detail. Also, he never reasoned where his open technical optimistic assumption had certain influence to his *Verständnis* [comprehension, understanding] of the 'external world' is based upon. He didn't query this assumption as well as Durkheim and Marx.

#### 2.5.5 Conclusions to Weber and Durkheim

In the following, mutual critiques on Weber and Durkheim will be exchanged in order to enrich the theoretical context and debate. Another reason is to grasp central understandings of 'social nature', or rather, 'how it is perceived', and what underlying assumptions can be found. Groß (2001) and Kraemer (2008) must be seen as opposing. The latter refers (as will be seen in more detail later on) to a broad extent to Groß, but also criticizes his viewpoint. Their conflict lines bare crucial points in perception of Weber and Durkheim for environmental discourse; even more, since Kraemer's work is most recent State Doctorate of sociology and focuses on theoretical approaches, outlining the distinguishing lines will be useful. Kraemer criticizes Groß' understanding of Weber: Groß argues, Weber described the world as devoid of meaning [*sinnfremdes*] proceeding, as „Anlaß, Ergebnis, Förderung oder Hemmung menschlichen Handelns“ [occasion, result, promotion or restraint of human acting], which faces the concrete acting person (*praktisch Handelnder*) (Weber 1972: 3, Groß 2001: 49, 55). Therefore in his opinion Weber has not neglected the environment as the „Mainstream der Nachkriegssoziologie zusammen mit der 'Hegemonialstellung' von Funktionalismus

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<sup>140</sup> As one example Weber uses the rational accounting of the occidental world. An open question in this regards is the difference between the German „kaufmännischem Vorsichtsgebot“ [businesslike security bid] and the Anglo-Saxon equivalent. As well this opens the question inasmuch Weber's considerations are still applicable in the way he did, since one could argue that the rise of US American hegemony could be attributed to the specific geographic situation and supply of resources. For the current point, the mentioned point will be placed back.

<sup>141</sup> Especially the 'formal rationality' of capital account

<sup>142</sup> Weber distinguishes in his Protestantism study between 'adventure capitalism' (irrational-speculative), 'colonial capitalism' (violent-warlike) and 'modern capitalism'. In the study capitalism is described as the „schicksalste(n) Macht unseres modernen Lebens“ [most fateful power in our modern life] (1988: 4). Since profit motivation existed in all cultivated lands on earth (ancient Latifundium systems, antique China, middle age fief feudalism or modern colonial empires) the first two named 'capitalisms' can be separated from the latter because of its overall successful basing on the occidental rationalism.

und Modernisierungstheorien zur Mitte des 20. Jahrhunderts“ [as the mainstream of post-war sociology did together with the hegemonial position of functionalism and modernization theory in the middle of the 20<sup>th</sup> century]. (Groß 2001: 49) Kraemer follows this criticized position of current environmental sociologists, which claimed that the environment could be ignored, in opposite to Durkheim's 'must'. He states, that this thesis is problematic but owes the concluding answer to that entity. Kraemer claims that sociality (*Sozialität*) of environmental constraints would be excluded in Weber's considerations because of his focus on the 'social roots', the conditions and consequences of occidental rationalism. (Kraemer 2008: 90) Compared to Groß' *Die Natur der Gesellschaft* (2001), this critique is – as carried out – not really convincing. Another more convincing and more useful critique is the one of Groß (2001: 55). Since, according to Weber, the embedding of social acting and the dynamic process of nature (in the mutual hierarchical understanding as examined above) are the conditions for the new social order and for the natural environment, one can and probably should ask, whether it is sufficient to discuss his ecological factors, the environment, only in regards to the economic degradation.

#### 2.4.6 Final Considerations

As could be shown, anthropocentrism and technical optimism, with its link technique optimism, have been evaluated as the universal arguments against the grounded theory conceptions of the sociological classics. As argued, the widespread optimism of the design theology influenced not only Marx's conceptions, but also the intellectual world of his economical theory's counterpart Adam Smith. Anthropocentrism and progress optimism have their roots in these times, regardless of the political orientation. As can be explained (*verstanden*) with reference to max Weber, the hegemonic design argumentation grew to the all-embracing 'iron coffin' in the raise of capitalism only two centuries after the Enlightenment. In consideration of the emergence of first scruples about progress optimism, as represented for instance by David Thoreau (see above), it would be too easy to conclude, the classics were just somehow 'victims of his time'. As Groß concludes, not only at the end of the 20<sup>th</sup> century parts of civil society have discussed the impacts of natural scarcity on mankind's existence, but already at the end of the 19<sup>th</sup> century (Groh 2001: 89). Weber's concern about the industrial threat of capitalist production to human society could show that thoughts on this issue aren't only a phenomenon of the 21<sup>st</sup> century.

Further general critiques on the classics concentrate on the over-focussing of the economic system as pointed out by Groß (2001: 54, regarding Marx cf. Bochenski 1962: 24). The conclusion here will now exemplarily deal with the this critiques, in particular on Marx, which come from both mainstream environmental sociology (Kraemer) and critics of this mainstream (Groß). In particular the mainstream argument on economic over-focussing of the classics in general must be questioned. Weber for example didn't write (as criticized in chapter 2.5.5) a holistic theory on capitalism as suggested by Kraemer (2008: 87), but Marx did.

Kraemer argues that Weber's handling of data from outside of the society, as the “Handlungskalkül der sozialen Akteure” [action-calculus of social actors] in his '*Soziologische Grundbegriffe*' of the '*Wirtschaft und Gesellschaft*' (cf. Kraemer 2008: 90) is the same as of Karl Marx (1983b: 57<sup>143</sup>). Both allegedly treat 'social nature' as something outside<sup>144</sup>. This ignores the possible conclusion that Weber didn't 'forget' to give a holistic theory to explain capitalism, but agreed in most parts with Marx' considerations. In case of Durkheim the data aspect doesn't apply since his works always had a strong empirical basis. Kraemer instead concentrates on Marx' anthropocentrism and the above named interpretation of Marx access to the 'social nature'. Here, Kraemer didn't completely understand the conception of Marx's theory, which he covers by his highly complicated language<sup>145</sup>. This may be caused by conscious disrecognition or ignorance.<sup>146</sup> The mainstream discourse on the classics of Kraemer<sup>147</sup> misses to give answers to the arguments of Groß. Groß stated that the neglect of the physical in sociology is a result of one-sided interpretation of the classics by mainstream sociologists after WWII in order to establish a hegemony of functionalism and modernization theory (cf. Groß 2001: 15 et seq.). Other opposing positions – even to Grundmann (1997), who is considered and referred to by Kraemer – are just statements, meaning, that he doesn't provide any argument besides his contrary opinion. He simply concludes that the sociality of environmental constraints escapes “auch dem

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<sup>143</sup> There Marx states: The producer can “in seiner Produktion nur verfahren, wie die Natur selbst, d.h. nur die Formen der Stoffe ändern” [just proceed in his production as nature itself, meaning just the shape of substances can be changed] (1983b: 57).

<sup>144</sup> Natural laws are something – as Kraemer argues on behalf of Marx – with which one has to count on, which can neither be ignored nor transfigured (such as making a fetish of them). Natural laws have to be treated as data of social evolution. (Kraemer 2008: 61)

<sup>145</sup> This brings to mind Goethe, who wrote in his 'Maximen und Reflexionen' aptly: „Gewisse Bücher scheinen geschrieben zu sein, nicht damit man daraus lerne, sondern damit man wisse, dass der Verfasser etwas gewusst hat“ [Some books seem to be written not to learn of it, but to show that the author has known something]. Other words are used by Karl Popper who referred to the 'specific duty of intellectuals, saying that those have the privilege to study, but in exchange they owe their fellow men to demonstrate the results of their studies in the easiest, clearest and most decent form. „Das Kochrezept ist: Schreibe schwer verständlichen Schwulst und füge von Zeit zu Zeit Trivialitäten hinzu. Das schmeckt dem Leser, der geschmeichelt ist, in einem so 'tiefen' Buch Gedanken zu finden, die er selbst schon einmal gehabt hat.“ [The recipe is: Write difficultly and add betweenwhiles trivialities. This is to readers linking, who is flattered to find in such a 'deep' book thoughts, which he already had once himself.] (Popper 1990: 100 et seq) According to Girtler, Popper's claim equates to Weber's 'plain integrity' [schlichte Rechtschaffenheit] which implies the description of a scientific problem in a way that a non-academic, open minded person can understand and develop the idea by herself. (2001: 29) In the following, sometimes complex word structures can be used to hide certain ignorance. Truly, some social scientists seem „sich allerdings bemüht zu fühlen, nicht immer verständliche Gedankengänge (...) der Welt vorzuführen.“ [to feel obliged to not always present comprehensible reasoning.] (Girtler 2001: 28; cf. 47 et seq)

<sup>146</sup> Or rather, he didn't want to. The subjectivity aspect in all these debates must be stressed at this point and will become evident in the following. Misrecognition of certain facts may be caused in ignorance, but Kraemer's work is well elaborated. Even more, most importantly, when comparing the chapters about Marx in Kraemer's [1.1] (2008) and Groß's [2.1] (2001) work, one mainly finds difference in interpretation of the same facts and similar references. So, lack of indices for a more differentiated Marx reading bases consequentially hardly on knowledge failure, but on subjective selection by political worldview.

<sup>147</sup> One may ask, why Kraemer's piece is given such a space in this debate. First of all, it is the most recent work to this entity and stands for the highest academic degree available in Germany (Habilitation). Second, his piece represents a powerful mainstream viewpoint, which dominates the debate, particularly in Germany. Therefore I am willing to give space to proper critique, since this viewpoint is the decisive factor in the scientific and political debate about the environmental question.

Problemhorizont der Weber'schen Soziologie, die bekanntlich die sozialen Ursprünge, Bedingungen und Folgen des okzidentalen Rationalismus in den Mittelpunkt stellte" [also the problem's horizon of Weber's sociology, which focuses on social roots, constraints and consequences of occidental rationalism as is generally known] (Kraemer 2008: 90). Furthermore, besides the contradiction to classify Marx' theory contribution to nature as part of anthropology whilst quoting mainly from Marx's economic writings<sup>148</sup> (such as 'Capital', 'Critique' and 'Manuskripte'), Kraemer mixes philosophical considerations of Marx – such as the differentiation between Marx and Hegel or Feuerbach's materialism vs. Dialectic Materialism (2008: 58) – with debates coming from the political (French socialist) part of his work – such as considerations about the Historical Materialism including the claim of a „teleologisch ausgerichtete Geschichtsphilosophie“<sup>149</sup> als Abfolge verschiedener Typen der gesellschaftlichen Produktionsweise“ [teleological directed philosophy of history as sequence of different types of societal production] (Ibid: 60). This is far too simple and neither reflects suggestions of Grundmann (1997) and Groß (2001) to which he strongly refers nor considers enormous debates in past and present about this conclusion<sup>150</sup>. Instead he mixes economic thoughts on use value (UV) and exchange value (EV) without even mentioning the relevance of the value form derivation for the whole argumentation of Marx. His economic critiques appear in the shape of opinion statements instead of a resulting argumentation line of evidence. Kraemer supposes unresolved problems of in the Marx' 'Arbeitswerttheorie' [value theory of labour]. Evidence is missing for even who posed these arguments. Same is true regarding the relation of Marx's value labour theory to economic mainstream theory [ökonomische Produktionskostenlehre] as well as to subjective value theory of the 'Vienna school of marginal utility' [Wiener Grenznutzenschule] of Karl Mengers. Regarding the latter, Kraemer points out without evidence, that these arguments as well as those of Marx's economical theory and Georg Simmel's value theory must be disregarded at these points (Kraemer 2008: 60, footnote 29). As can be seen, subjectivity and political positioning plays an often underestimated but decisive role by looking at theory rating in general, in

<sup>148</sup> Even though considering (Kraemer 2008: 62) Grundmann's argument, that Marx neither belongs to the field of 'naturalism' nor to 'sociologism' (Grundmann 1997: 540), pressing question arises, why Kraemer subsumed Marx (just) under the field of anthropology. Moreover, why did he neglect any further considerations regarding a 'dialectic of society-nature' even knowing the Grundmann text, that he refers to?

<sup>149</sup> Again, 'historical determinism' and 'teleological history' are terms derived from interpreting Marx. Interpretations from Marx experts rather refer to his claim of “socialism or barbarism” as stated by Enzensberger (1974: 21).

<sup>150</sup> On a very simple level Enzensberger gave on behalf of Marx a clear answer to that charge: „Perhaps one has to remember that Marx represented *historical* materialism. From that it follows that the time factor cannot be eliminated from his theories. The delay in the coming of revolution in the overdeveloped capitalist lands is therefore not a matter of theoretical indifference. But that it was delayed does not in any way falsify the theory; for Marx certainly regarded the proletarian revolution as a necessary but not an automatic and inevitable consequence of capitalist development. He always maintained that there are alternatives in history and that the alternative facing the highly industrialized societies were long ago expressed in the formula: socialism or barbarism.“ (1974: 21-22, my emphasis) Further, on Kraemer's statement a huge theoretical debate took place in the past considering i.e. some perspectives by Max Weber mentioning an alternative or an attachment of the HistoMat. In his critique on Rudolf Stammeler's "Überwindung' der materialistischen Geschichtsauffassung" ['overcoming' of materialistic conception of history] Weber didn't make clear whether Stammeler interpreted the HistoMat correctly. He just criticizes concluding his attempt to replace the HistoMat with a scholastic a-priorism (Weber 1988b). As well the whole discourse in regards to Max Adler's meaning of 'materialistic' is not even mentioned. (Adler 1904)

particular by looking at Karl Marx's contribution. If Kraemer's approach had been to show Marx's philosophical access to the social constitution of nature, economic considerations would have been needless. Excluding the pros and cons of the neoclassic Marx critiques after mentioning those, doesn't clarify the point Kraemer wanted to make. Last but not least, there is no proof that Kraemer's approach of an 'anthropological Marx reading' can bring any further insight into the environmental problem set and for environmental sociology in terms of a dialectic of nature-society. Rather, this must be counted to the field of sociology and economy (Bochenski 1960: 21). The basis of all Marx's theory is the utilization of materialism (Feuerbach) and dialectic (Hegel) as epistemology (Kimmerle 1978: 343), theory (Nowak 1977) and method (Göhler 1980, Kaufmann 2003). The crux of all is the dialectic advancement of Hegelian's (philosophical) idealism. Marx weighs within dialectic, interdependency of 'ideas' and 'material interests', saying that normally the 'ideas' disgrace themselves (Marx 1972: 16). This doesn't necessarily exclude a retro-acting of 'ideas' towards the basis (*labour*) as Weber assumes. Popper considered that „as soon as we have competing theories, there is plenty of scope for critical, or rational, discussion: we explore the consequences of the theories, and we try, especially, to discover their weak points - that is, consequences which we think may be mistaken. This kind of critical or rational discussion may sometimes lead to a clear defeat of one of the theories; more often it only helps to bring out the weaknesses of both, and thus challenges us to produce some further theory.” (Popper 1973: 35) But Kraemer does the opposite, which is why to him same critique is applied as to Habermas. This is stated by Hans Albert in the positivism dispute, who emphasized that with an “esoterischen Sprache lassen sich Probleme und Sachverhalte nicht genauer ausdrücken, sondern ihre eigentliche Funktion scheine darin zu bestehen, 'gerade die zentralen Punkte eines Argumentes metaphorisch zu paraphrasieren’” [esoteric language, problems and facts cannot be properly expressed but its functions seems to be 'to paraphrase the crucial points of an argument by metaphors] (Kiesewetter et al. 2002: 34-35, note 11). Kraemer's viewpoint as most recent and prominent publisher on nature examination in sociology also explains his assumption of a possible linkage between Gehlen's anthropology (detailed discussed in chapter 2.6.1) and Marx's considerations without its materialistic theory corset (Kraemer 2008: 63). In the least, the theoretical distinction of Latour's 'hybrid character' (1995), as presented by Grundmann 1997: 543), the French Enlightenment, the German Idealism (Hegel) and the English macroeconomics to classify Marx properly, would have been required for Kraemer's conclusion. Without this a-priori classification both examination and critique remain unsatisfying. The implied dogmatic economic determinism is less simple and closed as Kraemer's arguments suggest. Coming back to initial mainstream understanding of Marx economy offered, that didn't consider environment as an factor of independent value from mankind activity: In fact, Marx didn't examine specifically the status of nature in his theory. Considerations on the relationships of 'ideas' and 'material interests' could also give reasons to conclude equal weighting between environment and social in Marx's assumptions. “If we take away the useful labor” Marx states in the Capital “expended upon them, a material substratum is always left, which is furnished by Nature without the help of

man. The latter can work only as Nature does, that is by changing the form of matter.<sup>151</sup> Or rather more in this work of changing the form he is constantly helped by natural forces. We see, then, that labour is not the only source of material wealth, of use-values produced by labour. As William Petty puts it, labour is its father and the earth its mother” (Marx 1970: 43). The problem of the nature's 'eigen' value<sup>152</sup> status in Marx's labour theory of value remains unanswered even though the unconsidered aspect is obviously considered. Inasmuch as nature has its own status, independent from societal development, cannot theoretically be answered just based on the existing writings of Marx and would need further development on the principles of value form and exchange process development. However, this isn't Kraemer's approach to critic. He neglects the general inherent differences within Marx theory and cannot show any approach of answering the theoretical gap in environmental sociology as raised by Grundmann, Groß disregards the differentiation he emphasizes (2001: 34). His hint to an anthropological reading of Marx and the combination of his theory of Gehlen therefore leaves the reader unsatisfied. In harmony with Kraemer is to say that the „the concept of material progress” (Enzensberger 1974: 22) technical optimism of Marx<sup>153</sup> (cf. Kraemer 2008: 62) “plays a decisive part in the Marxist tradition. It appears in any case to be redundant in that it is linked to the technical optimism of the 19th century“ (Enzensberger 1974: 22). The cognition of these two is important not just to the environmental debate in general, but also for the field study about the Brazilian Amazon in chapter 4. Another reason is the role of science and environment in the so called socialist or communist countries. Enzensberger points to „the fact that, in the socialist countries destruction of the environment has also reached perilous proportions is not even disputed, merely ignored. Anyone who is not prepared to go along with this type of scientific thinking is guilty of drawing analogies between the systems and is denounced as an anticommunist, a sort of ecological Springer“ (Enzensberger 1974: 20). As one example may serve the

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<sup>151</sup> As Marx writes in the Capital (1970: 43, note 13), „Tutti i fenomeni dell' universo, sieno essi prodotti della mano dell'uomo, ovvero delle universali leggi della fisica, non ci danno idea di attuale creazione, ma unicamente di una modificazione della materia. Accostare e separare sono gli unici elementi che l'ingegno umano ritrova analizzando l'idea della riproduzione; e tanto è riproduzione di valores" (...) "e di ricchezza se la terra, l'aria e l'acqua ne' campi si trasmutino in grano, come se colla mano dell' uomo il glutine di un insetto si trasmuti in velluto ovvero alcuni pezzetti di metallo si organizzino a formare una ripetizione. (Pietro Verri, "Meditazioni sulla Economia Politica" - zuerst gedruckt 1771 - in der Ausgabe der italienischen Ökonomen von Custodi, Parte Moderna, t. XV, p. 21, 22.)“ [Alle Phänomene des Universums, die von Menschen erzeugt werden, die bzw. ihren Ursprung in den Gesetzen der Physik haben, sind für uns als keine derzeitige Schöpfung, sondern als eine Stoffänderung zu interpretieren. Zusammensetzen und Trennen sind die einzigen Elemente, die der menschliche Geist findet, wenn er das Konzept der Reproduktion analysiert; und so ist auch eine Reproduktion (oder Wiedergabe?) der Werte „(...)“ und des Reichtums, wenn sich die Erde, die Luft und das Wasser in den Kornfeldern in Weizen verwandeln, als würde der Gluten eines Insektes mit der Hand des Menschen in Samt verwandeln oder als würden sich Metallstückchen näher stellen, um eine Wiederholung zu schaffen.] [All phenomena of the universe which have been created by man and which have their source in the law of physics, are not an idea of contemporary creation but has to be interpret as a change of material. Compounding and separating are the only elements which can be found by human mind when analyzing the concept of reproduction. Therefore the reproduction of values and prosperity – if earth, air and water in the cornfields are transformed to wheat – are same as if the 'Gluten' of insects would become velvet manmade or if pieces of metal would come closer to create a recurrence.]

<sup>152</sup> This must not be mixed up with the other meaning of 'eigenvalue' in the statistical examinations of the field research at the end of this work.

<sup>153</sup> Or the metaphysic of the Labour (Kraemer 2008: 62)



interview with Wolfgang Harich who interprets Marx's contribution in support of the political agenda of SU and GDR (Harich 1975: 111 and 122-123). Kraemer personally may have wittingly or unwittingly had this agenda in mind when criticizing. However, this point isn't properly considered in the critiques of the mainstream critics as well. Groß wonders, why even Marxist theorists have ignored the 'ecological' side (Groß 2001: 37) of Marx, asking why Marx should have cared for nature. Groß ignores here, as mentioned above, that even in the 19<sup>th</sup> century, environmental risks have been a concern (see above). Another critic on mainstream sociology comes from Alfred Schmidt. He had the perspective that ending nature's exploitation in future would be possible by rationalising human impacts. Even long-term impacts would be then under control (Schmidt 1971: 134). Schmidt's examination – like many other mainstream critics which are inspired by Marx – assumed by mistake that Marx's and Engels' theoretical approach to nature would be the same, but can show the backward conscious in Germany at this time by placing 'pro-nature' claims in the field of reactionary technophobia in combination with adulations of nature growth. Hereby, his critique is more focussed on the problem of capitalist production in his time. Groß's critiques are more profound even though he also assumes Marx and Engels as consistent theory unit (cf. Groß 2001: 35, 36, 32, 10<sup>154</sup>, and footnote 1). His critical examination points to a crucial obstacle in sociological theory on nature: Economic and technical-nature scientific acting is "immer noch vorwiegend von einem wachstums- und fortschrittsfixierten anthropozentrischen Denken bestimmt" [still predominantly determined by an anthropocentric thinking focused on growth and progress] (Groh 1991: 59).

In the following examination on post-classics contribution of sociology the open questions of anthropocentrism and progress optimism in the grounded theories of the classics of sociology will be kept in mind.

## 2.6 Pre and Post World War II contribution

As mentioned in the beginning<sup>155</sup> the caesura of nature anticipation in social theory is breaking point for the following contention. In accordance to the pre-selection of relevant theorists by environmental sociologist Matthias Groß (2001) and sociological anthropologist Klaus Kraemer (2008), these theorist's contribution will be reviewed in order to both present latest state of the art and reveal contemporary gaps and useful contribution for creating the stressed necessity of a 'sociology of things'. Considering the wide ranging field of sociological areas that deal with nature, some limitations are necessary to not overstretch the content. First of all, classical distinction between a environmental sociological debate and debate about general sociology and nature about the theoretical status of environment in separated chapters, as done by Kraemer (2008: 39 et seq.), will not be applied here. Even though there are good reasons to do so, the argument of Elvers – as will be proven in the following examination in more detail – is true, that sociology was mis-focused in the

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<sup>154</sup> Even the three volume text sample of Redclift and Woogates (1995) refered in the monography 'International Handbook of Environmental Sociology' just to some paragraphs of Engels' 'Dialektik der Natur'

<sup>155</sup> cf. p. 8, footnote 4

environmental debate (2007: 21, see footnote 43 for more details), which can also be seen in the attempts to theoretically grasp nature as a unit of sociological research. Less considered<sup>156</sup> than necessary though, due to this selection, will be contributions of sociological theory, which mainly deal with this question coming from culture sociology perspective (Douglas/Wildavsky 1993), risk sociology (Halfmann/Japp 1990, Perrow 1987), and from human ecology (Jaeger 1996), with some exceptions. One is Giddens (1984) as coming from geography, and another Beck's risk sociological approach. Niklas Luhmann (1984), also be counted to the field of risk sociology, shows an interesting approach as his system theoretical approach seeks a holistic theory, able to include all. Where appropriate contributions of other authors will be added within the continuous text or in footnotes. Basically, the extent, by which single authors are discussed in the review, does not necessarily reflect their importance in comparison to the other authors (by which Luhmann would be absolutely underrated and insufficiently considered), but their consideration in the debate about rudiments of a new 'dialectic of nature-society' in accordance to Grundmann. Hereby, selection has been made in their real or possible contribution to the claim of a 'dialectic of nature-society' (Bloch<sup>157</sup>, Adorno) or 'social nature' (Gehlen and Popitz<sup>158</sup>), not their contribution to mainstream environmental sociology as such, which would go beyond the scope of this piece.

In consideration of this, the following review will include and start with environmental sociological schools from Park's Chicago School to the New Environmental Paradigm (NEP) of Catton and Dunlap. Robert E. Park's reception by constituting a first environmental sociology in the Chicago School as part of the area of human ecology will make the start, also famous, different adoptions of Chicago School's heritage will reveal the mentioned caesura and the describe the gap in theory. Continuing with Luhmann, Catton and Dunlap's contrasting ecological communication will be named, Giddens will be analysed as most famous representative of geographic sociology, to which Arnold Gehlen contrasts in regards to his rather anthropological-sociological approach. In consideration of Habermas' rightful critique on Gehlen, Heinrich Popitz's contribution to Gehlen's 'insufficiency' conception of men constitutes a useful contribution to the 'social nature' conception, which is also focus of this review. Ernst Bloch is not considered in the canon of

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<sup>156</sup> As a complete history of environmental sociology would go beyond the scope, mainstream debates like the American traditions as represented by William Graham Sumner, Franklin H. Giddings, Edward A. Ross, and William Isaac Thomas will be just used as a reference to outline the selected. Beside the theoretical focus argument, to showing solution opportunities for the sociological gap between 'naturalism' and 'sociologism', detailed examination of the most relevant is already well-documented: First of all in the profound discussion of Groß (2001), who also belongs to the field of Environmental Justice Research (EJR) and therefore is the most important reference in this chapter, but as well in the well-considered overview of Redclift and Woodgate (1997), plus discussion and examination by Kraemer (2008) and Groh (1991) among many others.

<sup>157</sup> Inclusion of his ideas in 'Das Prinzip Hoffnung' and the consideration of his thoughts to Marx's dialectical nature in Schmidt (1971) make his inclusion an unavoidable necessity. Less consideration of Brazilian and Brazilian Amazon debates to this topic don't base on failure of theoretical literature to the nature complex, but to logic conception.

<sup>158</sup> Here Popitz's work about the early Marx (1953) was decisive for not ignoring his possible contribution to the discussion. Even more, Gehlen's conservative approach as hint to the 'social nature' conception was fruitfully adopted by Popitz which awarded the efforts of examination.

contemporary environmental sociology so far, but represents an interesting and useful philosophical dialectic view on nature conception which, in combination with Theodor Adorno's thoughts on 'negative dialectic' top off most relevant attempts (and its insufficiencies) to the 'social nature' and 'dialectic of nature-society' complex. When looking for a possible new comprehension of the 'nature-environment-complex' even conceptual understanding of dialectic materialism is – as the US American mainstream discourse<sup>159</sup> – not even close to the conceptional level, which was achieved by German debate<sup>160</sup> and as it was used by Marx.

### 2.6.1 Review

At the begin of the 20<sup>th</sup> century already, the debate about limited natural basics to satisfy men's needs was expressed in the systematic society description of the Chicago School in sociology by Robert Ezra Park (1864-1944), among others, based on the combination of Simmel's theory of interplay and the philosophy of Wilhelm Windelbands and the geography of Alfred Hettner. In concrete terms, Park's human ecology is based on the geography of men, the research on spatial division of social phenomena, on the interplay and tension between men and object, between spirit and nature and finally on the theory of economical competition (Groß 2001: 139). Here, one can see very early attempts of an environmental sociology, which was seen as a sociological bridge of the (criticised) naturalistic approach of sociologists like Herbert Spencer (see above) and the cultural perspective of 20<sup>th</sup> century mainstream. Leaving aside at the beginning different conceptions and interpretations of the term human ecology in terms of reception of Park in contemporary sociology, characteristic of the ecological model of Park is its close connection to the developed concept of 'social nature'. According to his understanding, the material environment contains two functions. First its vital requirement for society and second it societal momentum. Groß describes the attempted solution as follows:

“Die Dualität von Gesellschaft und Natur wird aufzulösen versucht, indem man die Different zwar in Richtung Gesellschaft verschiebt, d.h. Gesellschaftlicher Wahrnehmung die entscheidende Rolle

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<sup>159</sup> I wouldn't go so far as Albion W. Small, a US American student of Simmel and part of the Chicago School sociologists, who stated very generalising about the origins of sociology in his correspondent work, that “the American intellectual atmosphere, without the German admixture, would not have contained the variants that could have generated the sociology which actually appeared, and when it appeared” (1924: 326), but in particular in regards to the beginnings of sociological tradition, to which to refer is one claim of this work, 'population pressures' and economical development (Edward A. Ross), already criticised nature behaviour (W. I. Thomas), relationship of resources and population density, distinguished in human and geographical nature, and environmental variables to measure mutual reaction of environmental stimuli (Franklin Giddings) rather manifest the described dualism of nature-society problem than opening solutions to a dialectical entanglement.

<sup>160</sup> This grounds in a translation gap, but also fails to be relevant in the way of the dialectical materialistic conception is both constituted and used. Here, Cheptulin (1982: 212-223) may serve as one example among others for the Brazilian case. This book was not originally written in Portuguese, or even in Brazil, but its translation is broadly used, in particular for the method discourse over there. Concept adoption rather refers to a more metaphysical simplification in terms of an epistemological understanding of the problem than an examination of inherent logic of dialectical derivation. Comparison to perception of Bochensky (1962) or Göhler (1980) cannot be labelled as equally relevant.

zuschreibt und die Natur zuerst als gesellschaftlich erzeugt verstanden betrachtet, jedoch der Natur nach dieser gesellschaftlichen Erzeugung wieder Eigendynamik, Objektivität und Unabhängigkeit zugesteht”

[The attempt is to resolve duality of society and nature by shifting difference towards society, meaning giving societal perception the crucial role and understanding nature as first of all created societally, but to admit nature after the named societal creation again momentum, objectivity and independency] (2001: 90). At this point, the important influence of Simmel, whose local focus to space becomes the pivotal point of sociological relations (Simmel 1992: 708), in particular in an urban environment (Ibid: 709), which – on the other hand – is constituted by creation of natural and man made borders (Ibid: 695). The distinction can be seen as an adoption of Marx's work and labour conception, or rather, of his hints to the connection of natural material (abstract) and labour (concrete) (Marx 1972a: 57), but differs in terms of a more aesthetic idea of an cosmic order, that presents nature as both basement, material and *Halbprodukt* [half product], and the spirit as definitive creating and capable entity (Simmel 1986: 120). By leaving here the pure materialistic viewpoint of Marx aside in favour of creation of space out of imagination, he can offer a concept of borders with enormous usage for environmental sociological conception. Since the border as such isn't a spatial fact with sociological impacts, but a sociological fact, which forms itself spatially, the space of imagination is specialized in a way, that living environment, which Simmel calls border, becomes a sociological function (cf. 1992: 697). Therefore, Park – as his teacher Simmel – and consequently the roots of environmental sociology, perceived society as nothing else than just as mutual reactions, *id est* as a network of manifold relations with persons and “vom Menschen erschaffenen Dingen und 'Naturen” [man made things and 'natures'] (Groß 2001: 105). In difference to Marx's assumption, Simmel's conception of society bases on the assumption of development without control, which is why long term planning is not possible. Since competition regulation by norms, values, law and moral replaces Darwin's struggle for life, the system functions nevertheless. This is an important point for revealing the wrong tree on which the sociological understanding of the classics by Chicago School (cf. Groß 2001: 94), which is in its nature aestheticism, to which even Weber refers in parts (but didn't base – as Simmel and further human ecology – his theory on). As Park wrote to his wife: “When the world gets a belief again why should not men return to nature and to God.” (Mathews 1977: 18) Further critiques, which criticised – in recognition of the racial fanaticism of the Nazis at the same time – social Darwinism tendencies in Chicago School's conception, are mislead<sup>161</sup>, as it ignores – beside of his undoubtedly existing nature romanticism (like Weber). Even more, Park gave explicit hints of distinction from direct reduction to Darwin's conception, when he introduced the concept of 'accommodation', in opposite to Darwin's 'adaptation', as a concept “with a slightly different meaning. The distinction is that adaptation is applied to organic modifications, which are transmitted biologically; while accommodation is used with reference to changes in habit, which are transmitted, or may be transmitted,

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<sup>161</sup> Men are located in both the social and natural environment, but suggested similarities by metaphors are delusive, since society bases on meaningful communication, which is required for building institutions. Institutions on the other hand are defined as inseparable bound to the natural environment. (cf. Groß 2001: 135)

sociologically, that is, in the form of social tradition. (...) They are not part of the racial inheritance of the individual, but are acquired by the person in social experience. The two conceptions are further distinguished in this, that adaptation is an effect of competition, while (...) social accommodation I the result of conflict” (Park/Burgess 1972: 663). This applies for all sociological researches until now, but is in particular important when looking at conception of environment. Part of this conception was his preference to information technology as part of ecological processes, such as newspapers, telephone, telegraph, later on radio (Park 1936b: 1972), records and cinema (1939b: 329).

The understanding of the ecological environment in terms of communicative must be seen, years before Niklas Luhmann wrote his communication theory (see below), beside the adopted hints of Simmel to a kind of 'social nature', as his biggest contribution to a new 'dialectic of nature-society'. Hereby, he sees ecology as an explicitly sociological idea in the field of biology (Park 1936a: 2; 1939a: 11), not vice versa. Basing on what was initially said in regards to the three constitutive parts of the Chicago School approach, Park built his eternal triangle to describe the key problem, that

„[m]an and Society present themselves in a double aspect. They are at the same time products of nature and of human artifice. (...) Society is a product both of nature and of design, of instinct and of reason. If, in its formal aspect, society is therefore an artefact, it is one which connects up with and has its roots in nature and in human nature“ (Park/Burgess 1972: 8 et seq)

The decisive point for his human-environment-nexus is at this point his distinction between 'community' and 'society', by which he distances himself from Ferdinand Tönnies, who equalled 'society' and 'metropolis' on the one hand and 'community' and 'rural environment' on the other hand, but understands 'community' generally as a biotic level, rather following nature laws, and 'society' as cultural level. According to Park, 'society' and 'community' are, necessarily, distinguishable, but both are conclusive elements of one social world. Consequently, each contains part of the other with shifting determination of occasionally one or the other. This reciprocal correlation of both inclusive and exclusive aspect with mutual determination is a clear evidence for the dialectic of human-nature construction in Park's theoretical consideration. Source of this obviously positive (defining from one side) and negative (exclusion of one side) reference of the two concepts at the same time is in the simple and clear formulation, used by the protagonists of the early Chicago School<sup>162</sup>, an aspect which got lost in later generations of sociologists, which not only make use of (unnecessarily) difficult language and construction, but also deal with unclear concepts, as will be seen when looking in particular at the usage of the Sustainable Development concept as will be discussed in the next chapter. The clear formulation of contradiction gave opportunity to relate the two levels, biotic and cultural, not in terms of a strict dualism, but in kind of a dialectic. Society is not seen as something independent from

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<sup>162</sup> This attitude is shared by other famous social scientists as will be referred to in the later argumentation. So, when Groß states, that Park's preference of simple expression, or rather his dissatisfaction with the specific jargon of sociologists is due to his history as reporter, this might be too simple. Even Carl Popper, but also Roland Girtler among others claim the usage of simple explanation, as Park told his doctorate student Pauline Young when saying that her dissertation thesis must be written as simple and exact, that “the man in the street readily grasps their meaning” (in: Raushenbuch 1979: 185).

nature, neither as part of nature as Sumner and Ross (see above) assume, but as something created by society without falling nature into society as done by Durkheim (see above) (Groß 2001: 88). His honourable attempt was geared toward a distinctive analysis of the two, but a fusion for empirical purpose, by which these two parts are theoretically entangled. Thereby, he revealed four factors in interaction: “(1) population, (2) artifacts (technological culture), (3) customs and beliefs (non-material culture), and (4) the natural resources that maintain at once the biotic balance and the social equilibrium, when and where they exist” (Park 1936a: 15).<sup>163</sup>

Concluding, one can say, that Simmel's concept of interplay is in the centre of all sociological analysis levels in Park's conception. Park tried to frame this interplay between objects and man by using ecological concepts. The social process of competition and cooperation in a re-naturalized urban environment was the base of that, what he called human ecology. Within this urban context, he developed in his well-recognized studies the additional sociological variable of 'space'. In accordance to the logic of Park, his approached dialectic frame could have been applied also to areas outside metropolitans, but in particular in the time of the 1920s his ideas have been mainly applied there. Problems arise consequently from two sides: First, since Park's, and therefore the whole early Chicago School, directed the frame, in which the dialectical approach took place, to Simmel's philosophically rather idealistic understanding of the spirit's influence to the surrounding environment. The focus on regulation possibility didn't question the general problematic approach due to a lack of holistic theoretical systematic. Therefore even though he identifies the world in terms of knowledge about the world which:

„increases the world itself and has measurably realized the economic conception of a closed system. In this system natural resources may be regarded as relatively fixed quantities, the important variables are the population density and the state of science.“ (Park 1934a: 82)

So, within this closed system as the regulator, in which the problem must be thought, analysed and resolved, resource scarcity requires due to “increasing population within the limits of a steadily narrowing world the application of the same rational control of the reproduction of human beings which we have already imposed upon the other domestic animals” (Ibid.). This response to natural resource scarcity links to ideas of Malthus, but first of all bears a thinking within a societal frame, that is not systematically included in the conception a phenomenon that is both social and natural at the same time (even though with different emphasis). As Groß rightly criticises, his reflections on this brilliant approach seem to be rather randomly appearing ideas without systematic background (2001: 163). The main problem is unanswered. This is, whether the material environment can be described as a genuine social environment, which is posed by my concept of 'social nature', or whether the material environment must be added as an environment outside society, but connected in an analytical and empirical manner. The decline of relevance of Chicago School's human ecology and its basically interesting and possibly fruitful approach came in the shape of a paradigm change by the claim for

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<sup>163</sup> This classification provided the base for Duncan's P-O-E-T model and therefore the origin for contemporary environmental sociology.(Mehta/Ouellet 1995: 9-10)

a more exact science with capability to predict. At the least the founding of a second, well-funded sociological journal, the *American Sociological Review*, in 1935 at Harvard heralded the start of the end. The displacement also was result of a struggle about the leading discourse in sociology, by which the structural functionalist focus, pushed by Harvard and Talcot Parsons's famous AGIL-scheme<sup>164</sup>, framed sociology for about three decades as allegedly genuine sociological theory. This process was accompanied by growing enthusiasm for technique and progress. In environmental sociology, one can see a radical re-orientation towards a 'more' of sociologism, which refused any nature consideration, even in the classics of sociology (such as Durkheim, cf. Benoit-Smullyan 1969: 214), as fouling sociology's own nest. This 'phobia' of biologizing in sociology after World War II resulted mainly, as discussed above, in accusations of geographical, Darwinian, biological, and architectural determinism as Grossman points out (1977: 127 et seq.) and was according to Matthews (1977: 183) accompanied by an increasing number of sociologists, which recognised themselves rather as manipulating elite than as rational scientists. The core problem, according to Eugene Odum, of sociology and ecology was the fact, that the basis of analysis in sociological statistic, the approach with the most certain predictions (see above), is based upon units such as countries and have not been comparable with units such as climate zones and regional soles. A problem, that is to state in advance, which still remains in environmental sociology until now. Park on the other hand posed his ecological research method (as considered in Girtler's above named approach) just as starting point of a social science to solve men's problems. "What we need more than anything else", he says, "is a conception of society and of human relations that will include within the perspectives of a single point of view all the diverse tendencies and forces that are obviously and actively operative in bringing about the changes we are now witnessing in the existing world order" (1940: 149). When giving up the social-biological connection<sup>165</sup> for researching the environmental topic, just city sociology remained from this path, which was focus of many early Chicago School studies, but never meant to be the scientific focus of the beginning environmental social science. In consequence, the space variable of Park, understood as an ecological unit only in terms of a metropolis by using only 'city environmental' concepts, limited the information value of

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<sup>164</sup> As Groß confirms, Parsons AGIL-scheme belongs to the most disregarded elements of his theory (2001: 175). According to Dickens, the scheme contains a linkage between human acting and physical environment, inclusively material resources. His 'adaptive function' is centred for this linkage: On the one hand, society must be functional, on the other hand it is entailed by its reciprocal relationship to its environment. The function transmits between society and physical environment. It accommodates and converts these external resources with those provided by the social system. Consequentially, the social environment adapts the natural environment, whilst the former again adapts the latter. (Dickens 1992: 40) But Parsons is already trapped in the structural functionalism frame which is why his 'theory of action' – even some aspects seem to be – is by no means similar to Park's adopted concept of interplay. Here be just to mention, without discussing Parsons's generally valuable approach any further, that his only reference about the classics of sociology in regards to nature is found in his article 'The Structure of Social Action', when he takes position of the new growing sociologism focus by pointing out about Durkheim: "What he ends up with is population pressure, not in any analytical sense a social element at all, but essentially biological. In so far as this is Durkheim's main line of thought it is a familiar one here; it is the breakdown of utilitarianism into radical positivism, in this case the 'biologizing' of social theory" (Schnore 1958: 624)

<sup>165</sup> Even though Park has never systematically grasped this connection, he was very clear when stating that "[s]ociety is fundamentally a biological phenomenon and institutions are not enacted, but like trees they grow. Society is something that cannot be taken apart and put together again" (1940: 150).

his conception to the extent that conceptual focus on competition could easily be matched by principle critiques. Why should – in theory – competition be the central focus for human ecological research if it is just applied to the city as biotic process of accommodation and individual changes? On the other hand, if Park's theory of such a 'dialectic of nature-society' in a perceived environment must be understood as part of (Simmel's) theory of interplay, so as a general process of human ecology, the limitation to metropolis is neither logical nor theoretically deducible. Based on the re-naturalization perspective of early Chicago School proponents, a rather cultural perspective emerged, whilst the theory of human interaction with his environment was abandoned in the following, even though some scientists (exemplified by the prominent example of Otis Duncan and Amos Hawley) used some parts of it for their theory. The lack of a systematic frame in Park's theory of human ecology made it easy to transmit his approach to the disciplines of anthropology, geography or demography. Accompanied by discrediting of the early conception and re-definition of the term 'human ecology' combined with the accusation of social Darwinism and biologicistic perspective, the Chicago School disappeared in inanities, until now (Abercrombie et al. 1994: 440).

Other notable researchers, such as Otis Duncan, approached the 'human ecology' concept with quibbling (1969) and presented its perspective, in concordance with Dunlap and Catton which will be discussed below, as something genuinely new (Groß 2001: 93). Duncan (1959; 1961) developed the well-recognised 'Population-Organization-Environment-Technology-model' (P-O-E-T-model) based on the model of Park (1934b; 1936a), among others, but referred to him only discrediting (Groß 2001: 170). So, he didn't bring anything new and neither provided attempts to resolve the open questions, which emerged in Park's theoretical examination, such as the failure of systematisation. The second, Amos Hawley, turned focus into a more quantitative direction by adjusting Park's terminology. There, he replaced 'succession' and 'natural history' by 'conversion' and 'contraction' to make measurement easier. Thereby he didn't change the basic paradigm of Park of how individuals, groups or classes in population collectively, consciously or unconsciously adapt their social and material environment and vice versa (Hawley 1950: 10 et seq.); Nevertheless, his approach was without any doubt functionalistic and in concordance with contemporary *zeitgeist* (Groß 2001: 170). Hawley's impact to development of environmental sociology adopted by Boskoff, for instance, who considered human ecology only as a useful add-on to general sociology (1949: 308), which corresponds with Hawley's goal to develop human ecology to a nomothetic sub-discipline (1950). In the following, original sociological human ecology was adapted by biologists and ecologists, which enforced demarcation necessity of environmental sociological studies to not being confounded. After 1970 ecology becomes prominent, but sociology has its difficulties not least because:

“sie ökologisches Denken entweder als fremd betrachtet (d.h. Gedanken Parks, der Odums und anderer ignoriert), tatsächlich nicht kennt oder schlicht die Gefahren einer Verunreinigung der sozialwissenschaftlichen Perspektive fürchtet”



[it either sees ecological thoughts as something foreign (*id est* ignoring thoughts of Parks, of the Odums and others), doesn't know it or simply fears the pollution<sup>166</sup> of social scientific perspective] (Groß 2001: 176). Most importantly, and starting about the outline of a new 'dialectic of nature-society' was Grundmann's (1997: 544-545) examination of the sociological gap and need in consideration of Latour's 'symmetrical anthropology' approach. His dialectical model doesn't refer to Marx's concepts of 'work' and 'labour', but instead attempts to resolve the problem by an action concept, with all uncertainties, in particular regarding the identity of the discipline. At the first look, his idea seems to contain similarities with Marx's objectified human work and labour in regards to their hybrid function. In Latour's metaphor, nature and society are like the tectonic movement of the plates, whose process of genesis must be observed like geophysics do, when looking where the magma seethes. At this location, "wo die Mischwesen entstehen, die sehr viel später zu Natur oder zu Sozialem werden" [where the hybrids emerge, that become nature or social at some remote period] (Latour 1995: 118), must be researched and showed, that nature and society are at one. The traditional horizontal perspective between nature pole and society pole shall be replaced by networks of dynamical interplay. Theoretically, he assumes 'second nature' as artificially constructed environment, such as coded computers or manufactured natural resources, created by men, but in accordance to the laws of nature (cf. Groß 2001: 219). Therefore, he sees no difference between artificially created objects and natural objects, untouched by men. According to Groß, three principles are significant to Latour's approach: (1) impartiality in regards to any involvement of actants<sup>167</sup>, (2) general symmetry to understand different and antagonistic perspectives of actors and objects and in consequence (3) the principle of refused a-priori distinction between the social, the natural, and the technological. He combines these 'tectonic plates' by the network concept. This creates an overall, generally applicable frame for human and non-human units. Men, even single researchers, are networks, things are networks, since the nets are "gleichzeitig real wie die Natur, erzählt wie der Diskurs, kollektiv wie die Gesellschaft" [real as nature, told like discourses, collective like society at the same time] (Latour 1995: 14). In his conception, the threat of a 'biologization' of sociology does not appear, since the difference between men and animals only becomes obvious by observation of the material environment, interactions with flora and fauna inclusively (Latour 1996: 228 et seq.). Positively must be recognised, that Latour's anti-social constructivism counter states its most profound argumentation of the social body and revealing its new spiritualism despite their will to be materialist. "In speaking of the social body they only spoke in fact about its *soul*" whilst it be necessary – in order to treat the social body as a body – "a) to treat things as social facts; b) to replace the two symmetrical illusions of interaction and society with an exchange of properties between human and non-human actants; c) to empirically follow the work of localizing and globalizing" (Ibid: 240, italic in the original). Since his 'symmetrical anthropology' assumes, that all collectives create natures and cultures, just different by degree of mobilisation, cultures as such do not exist in accordance to this theory (Latour 1995: 139). Cultural relativism as such is not the

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<sup>166</sup> cf. footnote 144 when Talcot Parsons expresses his view on Emile Durkheim.

<sup>167</sup> Latour uses this term to describe actors in the network. The network conception will be outlined in the following.

central problem, rather indicative for a dialectical viewpoint, but beside the heuristics, Latour remains unclear how to deal with ecological problems based on this model of thinking, as Groß points out (2001: 222). Even more, the conceptual 'hybridisation' problem of nature and society stays unresolved since practical researches must draw on traditional methods which base on the classical dualism of nature and society.<sup>168</sup> So, the described problem in the Marx section of a functional subjective dialectic as a method cannot be seen as resolved within this frame. This problem also applies to Park, who observed the city as *one* growth or Mukerjee, who saw the region as “at once a natural as well as a cultural identity” (1926: vi). Another problem of Latour's romanticist view on nature-society perception in pre-modern<sup>169</sup> societies, which will be outlined in more detail after discussing two further approaches to break with the emerging post World War II mainstream as it applies to those as well. Two radical counter strike movements have been discussed as way out of the closing window nutshell: Deep ecologists and Ecofeminists. Basically deep ecology and ecofeminism are counted to the realm of ecophilosophies, to which biocentrism, gaia-theory, neo-malthusianism, and neo-millennarism must be counted. Deep Ecology was mentioned first as “*ecosophy*” by philosopher Arne Naess (1973: 99, italic in the original). There he refuses the shallow approach of some environmental movements, which have been – close to the 'social nature' concept – only interested in rescuing nature to preserve contemporary welfare of high industrialised countries. In his theory, all living things are seen within a “relational total-field image” as “knots in the biospherical net or field of intrinsic relations” (Ibid: 95) favouring “a philosophy of ecological harmony or equilibrium” (Ibid: 99). Without going deeper into the process of deep ecology popularisation as represented by Devall (1988) and Sessions (Devall/Sessions 1985), the critique on deep ecology is based on a theoretical and a practical aspect: The former arises from ecosophy's idea 'eco-beings' (Naess 1979) which proposes a naturalisation of society and obedience of men under 'natural' laws. Beside the obvious contradiction to the human ecology variant of Chicago School, deep ecology ignores even the possibility that ecological problems could base upon social problems. Neglect of social impacts to the environmental problem set reveals a first hint to the background of its originators and supporters as white<sup>170</sup>, middle-class proponents from the first world<sup>171</sup>. This is the idealisation of nature and aboriginal people as users of nature by a “material technology that was elegant,

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<sup>168</sup> Contrary evidence to the methodological problem empirical surveying is provided by Callon (1986), but critiques to this approach, as Collins and Yearly, argue that such models will lead to already known problems as meaningless predication due to undifferentiated action attribution to objects on the one hand and on the other hand blind technique and science trustfulness. Consequentially, it has been exactly these two sides, which one has tried to leave behind.

<sup>169</sup> This term is used in awareness of the problematic modernity conception and therefore should be understood as societies, which live under different societal and cultural constraints (in Weber's meaning) as Western-European ones which mainly define the concept of modernity.

<sup>170</sup> In terms of a social, not racial, classification as will be argued later on in more detail. Here is to mention in advance, that this work understands racial conceptions of colour as mainly (not only) socially distributed and attributed, in particular on a macro-sociological projection.

<sup>171</sup> Even this attribution or classification may seem to be, and to some extent certainly is, a simplification, which will be discussed in the chapter, where the attribution chronologically is assigned: In the process of institutionalisation and definition of the sustainable development concept, in particular in the section about the Nairobi conference in 1982.

sophisticated, appropriate, and controlled within the contest of a traditional society” (Devall/Sessions 1985: 97). This viewpoint is well-known and found also in the reasoning of Weber<sup>172</sup> and, as mentioned, of Park and Latour, but has no basis in facts. Ignoring the morally doubtful view of the 'noble savage' which will be referred to when describing the cultural regime as part of the environmental regime in Brazil's 'Legal Amazon' in the last case study chapter, archaeological and historical research have already profoundly shown. The idea of 'primitive savages' which have lived in harmony with nature without any principle distinction between men and nature is indefensible, neither for the past nor in today's times as could be shown in case of hunters and collectors societies (Steele 1996), of the North and South American Indians (Yoffee/Cowgill 1988), of Australian aboriginal people (Edgerton 1992) or in case of any other cultural form (Turner 1990) which existed before and after European invasion. So, natural mysticism was used to answer the growing and recognised problem of anthropocentrism and technique/progress optimism as outlined in the section about the classics. Deep ecology finally bumps against critical borders as the proposed goal of social sciences to fight reactionary ideologies, even though more moderate approaches in sociology (Bergesen 1995) attempted to cut topic relevant closeness to ecofascism by rigorously naming this danger (Zimmermann 1994; 1995). In political science, this ecocentric view was adopted by the attempt to transform the mental approach into practical political proposals, such as by environmental political scientist Robyn Eckersley (1992). As Groß concludes, the pure abstract constitution of the concept of 'practical' proposals ends up in very general formulations, such as establishment of a democratic public legislative for an ecocentric future, a bigger split-up of power and possession inside and outside of local communities and more 'macro control' in combination with an emancipation of an ecocentric culture. The theoretical and practical relevance of such considerations are questionable and clearly criticised, for instance by Enzensberger (1974: 26), whose argument will be considered on more detail later. The second stream was the gender specific variant, called 'ecofeminism' which emerged in the mid 1970s, first used by French Francois D'Eaubonne. Opposite to classical gender perception of 'gender equality' claims between the genera, this label posited genuine female virtues. In a simplified dictum of women as coming with an earthbound, close to nature, and intuitive understanding of cosmos in opposite to a male, mechanical logocentrism, women were biologically defined as better enabled to research physical reality than non-women can. Logical contradiction immediately emerges when looking at the argumentative historicism, by which the 'modern sciences' of Bacon among others are linked to the decline of nature friendly, feminine cultures. Major proponent Carolyn Merchant argues in favour of a return to 'pre-scientific' times and to femininity and ecology (1987: 177 et seq.). The paradox of her by claiming the return to a more patriarchal and pre Enlightenment time to re-discover and strengthen woman's role in society is completed by the idea of an equalisation of men and women under the laws of nature (Devall/Sessions 1985: 229 et seq.). Hereby, another problem reveals the reactionary character of this approach, which is in the pure biological

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<sup>172</sup> Not as part of his theory conceptions, but as his political viewpoint as environmental activist.

understanding of genders and in its reduction to just two. Even mainstream gender theories assume its mainly social construction. As Judith Lorber confirms, “[f]or the individual, gender construction starts with assignment to a sex category on the basis of what the genitalia look like at birth. Then babies are dressed or adorned in a way that displays the category because parents don't want to be constantly asked whether their baby is a girl or a boy. A sex category becomes a gender status through naming, dress, and the use of other gender markers.” (1994: 55) To the same entity of reactionary nature romanticism in general, Schmidt (1971: 134) refers to Adorno and Horkheimer, who stated that “Natur wird dadurch, daß der gesellschaftliche Herrschaftsmechanismus sie als heilsamen Gegensatz zur Gesellschaft erfaßt, in die unheilbare [Dialektik industrieller Entwicklung] gerade hineingezogen und verschachert” [due to capture of nature by the societal domination mechanism as beneficial contradiction to society, nature is sold off and dragged into irremediable dialectic] (Horkheimer/Adorno 1969: 157). Within this frame, not gender related but social interaction focused, important theorists of sociology worked out ambitious systems, in which societal interaction could be grasped. Here, the 'New Environmental Paradigm' of Cutton and Dunlap comes into play. Defined in distinction to what the authors called the 'Human Exceptionalism Paradigm'<sup>173</sup> (HEP), they tried to develop a frame based upon the normative premise of obedience of social systems under laws and existence conditions of a general ecological system wherefore theoretically both anthropocentrism and sociologism centrism must be overcome. Therefore social conditions must be sociologically reflected within the “reality of ecological constraints” (Cutton/Dunlap 1978: 44). Their attempt geared towards revealing grounded development problems of modern societies and opposing the sociologicistic axiom. Based on these conditions they claimed to create nothing less than a reorientation of sociology what they propose to call 'New Environmental Paradigm' (NEP). Within the given constraints, the 'nature of social reality' is defined by three assumptions. The first (1) considers human beings as “are but species among the many that are interdependently involved in the biotic communities that shape our social life. 2. Intricate linkage of cause and effect and feedback in the web of nature produce many unintended consequences from purposive human action. 3. The world is finite, so there are portent physical and biological limits constraining economic growth, social progress, and other societal phenomena” (Ibid: 45). So, the theoretical approach is to observe environmental phenomena or the nature-environment-complex from a societal viewpoint, where the 'complex' provides vital resources and releases “im Sinne einer gelungenen Vergesellschaftung die normative Richtschnur des Handelns” [in the sense of a successful socialization its normative guideline] (Kraemer 2008: 40). Even though they are trying hard in the following to specify the environment concept by distinguishing between 'natural environment' (societally unmodified nature), 'human-altered environment' (such as air pollution), 'man-made or built

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<sup>173</sup> Basically – as described in their program – HEP is defined by 4 bullet points: “1. Humans are unique among the earth's creatures, for they have culture. 2. Culture can vary almost infinitely and can change much more rapidly than biological traits. 3. Thus, many human differences are socially induced rather than inborn, they can be socially altered, and inconvenient differences can be eliminated. 4. Thus, also, cultural accumulation means that progress can continue without limit, making all social problems ultimately soluble.” (Cutton Dunlap 1978: 42 et seq.)

environment' (infrastructure for instance) and 'social environment' (individuals, groups, organisations, cultures and societies), problems of demarcation remain difficult. For the theory, the problem is much more grounding, since the to take the biophysical environment as principle variable for a new environmental sociology is not just not new, but doesn't touch any of the grounding problems as faced by the classics and even the Chicago School. The theoretical concept finally cannot convince for two reasons: First, since the reproval of biological determinism of NEP couldn't be falsified sufficiently (consistently Groß 2001: 191 et seq.; Kraemer 2008: 41; Brand /Kropp 2004: 114), and second since the one sided theoretical emphasis of the nature-environment-complex opposite to the social counterpart cannot be logically reasoned as the authors declined to clearly outline the differences. This one-sided dissolution also contradicts with the author's claim of a holistic relation definition of nature and society, as Kraemer stresses (2008: 41). One must doubtless grant them to honestly having tried to fill the gap when facing the critiques but without success. One sidedness and failure of the authors must be seen as consequence of the created theoretical frame, which defines the ecological research paradigm anterior by the normative reference point to demand urgency of action. Their action theoretical dissolution of the nature-society dualism consequently is based on judgement of whether urgency in terms of *limits to growth* are already reached, which leverages any sovereignty of society as an actor in the interaction, as proposed by the 'social nature' conception. their approach is honourable, but leads in the wrong direction as it still considers some terminology from Chicago School (such as the named 'biotic communities') but already moved methodologically towards static empirism and theoretically to realism. Even their interaction levels of symbolic and non-symbolic (Dunlap/Catton 1979) remain just a useful tool for modelling the degree of danger, which is reached already. At this point, their approach rather contributes to Beck's risk society considerations, which will be discussed next. Nonetheless, their approach is still important as it basically points to the right gaps in contemporary sociological theory even though the solution is not satisfying. Even though belonging to the field of risk sociology, Ulrich Beck's studies about 'risk society' (1986; 1988; 1996a; 1996b) touch a similar point, even if from different theoretical origin, binding the ecological question to the sociological diagnosis of time. In Beck's conception is the ecological question of principle importance for the institutional construction of modern societies. Positive highlight is the fact, that Beck's theoretical approach – according to Renn (1996b: 39) – rather belongs to the realist faction and therefore opposes the functional constructivist mainstream in environmental sociology. In addition to discussed critiques of Friedrichs (1988) on him (cf. chapter 2.4.2), problems emerge from his opposition focus on mainly the ecological problem set as such, where he sees environmental issues as unfamiliar to the field of sociology, or just an add-on, but not as inherently part of the sociology. Therefore, the biological environmental must appear as something extern and risky to society, even in sociological research focus. Problematic in particular for the purpose of this examination is already his first thesis of modern nuclear, chemical, and gene technology's risks without spatial and temporal boundaries are distributed non class-specific, in opposite to common social risks as income and education poverty. This

theoretical assumption has a close reference to the outlined 'spaceship earth' ideology (chapter 2.3) and leads to a limitation in the theoretical frame, long before his proposed institution crises in terms of a subtle loss of control and regulation appears<sup>174</sup>. The same applied to his theory of 'reflexive modernity' which shall give evidence for a societal society breach (Beck/Giddens/Lash 1996; Beck/Bonß/Lau 2001). These consequences can be calculated in risk chances, by which Beck centres symbolic definition conflicts about valuing knowledge and ignorance. His main theoretical interest was then in elaboration of a political sociology of the risk society to better estimate consequences of political regulation and to describe construction and definition of ecological risks by looking at social conflicts. For the given purpose of this research, the problem already becomes evident in consequence to his core thesis, he cannot include traditional concepts and terms of sociology into his environmental sociological problematisation, which ends up with his argument, rightly criticised by Kraemer, that:

„die soziologische Klassik mehr oder weniger ungeeignet ist, um die ökologische Problematik soziologisch aufzuarbeiten. Andererseits verzichtet er jedoch darauf, genauer zu problematisieren, wie ein originär soziologischer Zugang zum Umweltthema theoretisch begründet werden kann, welchen eigenständigen Beitrag die Soziologie zur Modellierung und Analyse von Interaktionsmustern zwischen natürlichen und sozialen Systemen leisten kann und welchen Stellenwert hierbei realistische und konstruktivistische Ansätze in der Umweltsoziologie besitzen“

[the sociological classic is more or less inappropriate to deal with the environmental problem. On the other side he doesn't discuss, how an original sociological access to the environmental topic could theoretically be reasoned and how sociology can contribute to modelling and analysing interaction patterns between natural and social systems in consideration of environmental sociology approaches from realist and constructivist side] (2008: 48). Without re-opening useless debates about discipline distinction, the very general question appears, which information value finally can be drawn within this frame and without even an attempt of theory which can model the assumed hypotheses. Not from genuine sociological perspective, but nonetheless interconnected with Beck's risk reflection, approaches Niklas Luhmann, like Durkheim and Weber against naturalistic thoughts, the environment from a system theoretical standpoint. Hereby, he outlines the problem of observation and processing of environmental events by functional systems (such as religion, economy, law, science, politic etc.) functions just in accordance to their highly selective communication codes and ability to transform it to system relevant (for the particular system) information. Risk in this context is opposed by danger, and exists only transmitted by the way how an environmental decision is communicated between two (or more) systems (Luhmann 1990; 1991). Some say, Luhmann cannot clearly be counted to the field of sociology. On the other hand, his system theoretical approach has enriched many of the debates in the last two decades. 'Environment' to Luhmann is not a system on its own but outside of the limits of a system. Environment is over-complex and the limit is earmarked by a complexity decline

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<sup>174</sup> Grounding critiques on this theoretical aspect can be found in van den Daele (1996: 431 et seq) and Münch (1998: 9 et seq).

[Komplexitätsgefälle] which crosses to the complexity reduced system. “Umwelt in diesem Sinne ist” [Environment in this sense is] as Luhmann stresses in regards to system and environment in 'Ökologische Kommunikation' [ecological communication] - “das, was als Gesamtheit externer Umstände die Beliebigkeit der Morphogenese von Systemen einschränkt und sie evolutionärer Selektion aussetzt.” [that, what, as totality of external circumstances, limits the randomness of morphogenesis of systems and subjects it to evolutionary selection.] (1986: 23) 'Environment' is a requirement for the existence of social systems, serves as the 'negative correlate' [Negativkorrelat] for the system, thus includes all things which are outside of the given system. Environment of society includes therefore all, what doesn't belong to the field of ecologic constraints (as well motives, mental condition). 'Ecologic constraints' are 'communication'. Consequently the concept of environment is 'system relative' [systemrelativ] since all subsystems of the society constitute their own 'environment' whilst all systems are at the same time always part of the environment of all other social systems. The logic problem of an environment concept defined in demarcation to a system as well as in regards to Luhmann's 'system relative' [systemrelevant] notion definition of environment, rejects both the ontologization [Ontologisierung] of nature and the naturalization of ecological problems in modern societies. As Bühl emphasizes, the whole problem set of Luhmann's approach can be seen in the significance of the communication concept. The concept is seen as a basal sociological category and consequently the equalization of communication and society. (1987: 231) Communication just happens inside of a social system. As it cannot happen outside, Luhmann has no possibility to analyse the material conciliated interactions of environment and society. Since social systems are exclusively constituted via the difference to environment, that is conciliated by *Sinn Grenzen* [limits to the senses], he reduces the 'physical environment' to a neglectable factor. Considering the given point of view to look for a theoretical model that covers the specific questions of Environmental Justice – so the social, gender, age, locational, intra-generation differentiation of environmental burdens –, Luhmann's approach cannot be used to evaluate this. As he replaces an ecologically informed concept of environment by a concept of system, environment as well as ecological dangers and challenges are not linked to a certain over-utilization [Übernutzung] but to a “falsche Kommunikation der Gesellschaft über ihre Umwelt” [wrong communication of society with the environment]. (Kluge 1991: 96) As Kraemer states, (in Luhmann's system theory) unchangeable system-environment-difference cannot provide resilient evidence that environment can totally be displayed in his societal system. (Kraemer 2008: 93) Close to Luhmann – according to Bert – is Anthony Giddens. They “have much in common besides the volume of their writings. (...) Both addressed issues of social structure – Luhmann writing about social systems, and Giddens about the process of structuration.” (Bert et alii 2001: 369) As Luhmann's social theory is a 'systemic super theory' with basic attitude of “ironic distance” towards the world, offering a systematic analysis of the social ordering of chaos, he “literally demoralizes the world” since “[h]e has given up hope and given away the normative foundations of social criticism. In exchange, we get romanticism without *Sehnsucht* and its methodological complement; irony that shows us again and again

the improbability of the probable, but hardly or never the possibility of the improbable. ” (Vandenbergh 1999: 55, my emphasis) In this regards can be answered on the other side in Giddens' own words that “[l]ow-probability, high-consequence risks will not disappear in the modern world, although in an optimal scenario they could be minimized.” (Giddens 1990: 134) As Luhmann's 'ironic distance' didn't deliver by now an usable frame for outlining, where social differentiation of environmental burdens is applicable, a look at the Giddens' will broaden the view beyond “the most original German sociologist since Max Weber” (Holmes and Larmore 1982: xxxvii). Especially since Giddens criticized Durkheim, and later Parsons, for overestimating the importance of constraint and order in social structure, to the neglect of agency and enablement as “One person's constraint is another's enabling.” (Giddens 1984: 170-176) Therefore Giddens comes from a more individual perspective and in particular for his understanding of environment. Opposite to Weber too, he uses the term of interpretative sociology, Giddens argues that the “Objektivismus in Gestalt funktionalistischer, evolutionistischer oder strukturalistischer Konzeptionen die eigenständige Dimension sozialen Handelns [vernachlässigt]” [objectivism in the shape of functional, evolutionistic or structuralistic conceptions disregards the autonomous dimension of social acting] (Kraemer 2008: 94). In other words: “[T]he reason orthodox [structure-functional] theory does not explain social action is that it ignores the importance of power – both individual and structural” (Giddens 1979: 253) Consequently he postulates a well-balanced 'duality of structure' as structural momenta of social systems which are both medium and result of recursively organized practices. So, structures afford and constrain social acting mutually. One can state that the action options are as manifold as in the praxis notion of Marx, meaning that he assumes the humans as being able to transform and arrange environments in general. On the other hand, Giddens acknowledges that “[bei] soziale[n] Systeme[n] (...) sich kaum jenes Maß an Einheitlichkeit [findet], wie dies für physikalische und biologische Systeme typisch ist.” [in no social systems can be found this measurement of consistency as typical in physical and biological systems.] (Giddens 1988: 432) Basically (and just for the purpose of the initially announced question reduced to the minimum) Giddens' theory defines social acting as “absichtsvoll – zweckgerichtet” [intentionally – purposeful] and acting as always be declarable by the actor (Schulz-Schaeffer 2000: 158 et seq). Integral component of acting is the 'durée'. Acting is not defined on a single, individual or even psychological level, as some may have assumed at the beginning, but basing upon a “kontinuierliche(r)[n] Verhaltensstrom” [continuing stream of behaviour], which is why “auch gesellschaftliche Strukturen nicht auf einzelne, isolierte Sinnstrukturen intentional handelnder Subjekte zurückgeführt werden.” [even societal structures cannot be ascribed to single, isolated sense structures of intentionally acting subjects.] (Kraemer 2008: 97) This social acting becomes manifest in power, what he calls 'transformative capacity'. This 'capacity' requires specific instruments and means that are at least mobilizable selectively. These 'instruments and means' are 'rules' and 'resources'. The former is defined by Giddens using the linguistic notion of rules (Regeln) of Chomsky, attached to the ethnomethodology of Garfinkel and the defined term of Wittgenstein. The 'rules' are the methodological



“Verfahrensweisen des Handelns, Aspekte der Praxis” [ways to proceed of acting, aspects of praxis] (Giddens 1988: 73). For the present purpose is to add, that these 'rules of interpretation' [Interpretationsregeln] are codified within the social acting. (Ibid) Resources on the other hand are distinguished in 'allocative' resources and 'autorative' resources. Even the latter is not central for the given question. 'Autorative' and 'allocative' resources are defined as shown in the following table:

Table 3: Allocative vs. Autorative Resources according to Giddens

Nr	Allocative Resources	Autorative Resources
1	Raw Materials	Organization of space and time
2	Production instruments and Technology	Production and reproduction of the 'body'
3	Produced commodities	Organization of life chances [Lebenschancen]

Allocative resources are concrete and refer to the ability of human to change commodities and material phenomena, but always in the meaning that they are included in societal structuring processes. 'Allocative' resources finally result from the “Herrschaft des Menschen über die Natur” [domination of men over nature] (Giddens 1988: 429). 'Autorative' resources on the other hand are also linked to the ability of man to change given, admittedly based on the “Herrschaft über Personen oder Akteure” [domination over persons or actors] (Ibid. 86). Altogether these resources create the 'media of power expansibility' [Medien der Ausdehnbarkeit von Macht]. Because of their storage capacity, both are seen as media to generate and execute power. This capacity describes a social technique and praxis of a conscious binding of space and time in recognition of a future draft as well as the past. So, social environment as a result of Giddens' theory of structuralization gives possibility to broach the issue of social actors' environment. Above named 'transformative capacity', the transformative acting, constructs a self-produced environment. Beside of the general problem of his eurocentric view, “Giddens form[s] an excellent bridge to the (...) modernist theories that lie just ahead.” (Bert et alii 2001: 391) Finally, Giddens' 'theory of structuralization' doesn't provide an elaborated access to the relationship between social and environment. Another often discussed approach is the one of the anthropologists Arnold Gehlen and Heinrich Popitz. They used some concepts of the first. Whilst Gehlen focuses on the concepts of 'openness to the world' (Muller 1997: 403) and environmental confinement<sup>175</sup>, Popitz interprets parts of Gehlen's work in consideration of acting competence and environmental transformation. Gehlen's phylogenetic and ontogenetic argumentation (Kraemer 2008: 63) is based on the assumption that the homo sapiens is a deficit creature from a naturalistic perspective<sup>176</sup>. Compared to other

<sup>175</sup> For the concept of human-animal distinction Gehlen referred to J. v. Uexküll. For a deeper understanding regarding the concept of 'openness to the world', 'environmental confinement' (homo sapiens) vs. 'organ specialisation', 'instinct repertoire' and 'environmental captivation' (Umweltfesselung) (animals) (cf. Gehlen 1962: 35 et seq.).

<sup>176</sup> Gehlen's assumption in regards to human capability bases on researches in zoology (Adolf Portmann) and Louis Bolk's theory (for further reading: Gould 1977: 353, 356 et seq)

creatures on the world the homo sapiens is physically disadvantaged. As examples serve depauperate denture, low natural perception ability, the early birth of a helpless human foetus, deprivation of any natural weapons, embryonic in his entire habitus and unsure of his instincts. Man is according to Gehlen the being whose life depends on technology. In other words: "Poorly equipped as he is with sensory apparatus, naturally defenseless, naked, constitutionally embryonic through and through possessing only inadequate instincts." (Boileau/Dick 1993: 239) Natural disadvantages are classified as a deficit, basing on the assumption of Herder and Kant that the homo sapiens is organically underprivileged. This deficit means a non-specializing in relation to the natural environment. (Gehlen 1962: 48) So the deficit creates a need to act in order to prevail. This insufficient conformity into the physical environment makes the human protagonist not just to a deficit creature but to a 'Prometheus' too. He creates a 'second nature'<sup>177</sup>, a man-made ersatz-world. (Gehlen 1986: 48). This gives the mankind the possibility to change the environment (Ibid: 81). Consequently to invent and apply new technology within his thesis of 'environmental divestiture' expresses the fulfilling of a 'naturally' given necessity and proves at the same time the 'naturally' given ability to create an *Organersatz* [organ ersatz], an *Organiüberbietung* [organ surpassing] or an *Organentlastung* [organ release] (cf. Gehlen 1986: 94).

The concept of 'release' has – this is important to stress – an anthropological background. Luhmann refers to Gehlen's concept within the context of the complexity reduction theorem [Theorem der Komplexitätsreduktion] in order to reformulate it systemically. The anthropological background of Gehlen's concept cannot convincingly describe the ambivalence of 'release' in modernity. Release is – according to Luhmann (1968) – seen in a functional-system theoretical understanding as a condition of the possibility to enhance the inter-system contingency, according to Gehlen discussed in the meaning of a successful normative integration. As Kraemer concludes: "Entlastung ist (...) in der Moderne eine Entlastung *ohne* Verpflichtungscharakter, der hingegen für den Entlastungsbegriff Gehlens konstitutiv ist." [relief is (...) in modernity a relief without duty characteristic, which by contrast is constitutive for the relief concept of Gehlen.] (Kraemer 2008: 68) From a logic point of view, this seems to be an irresolvable contradiction within the argumentation. Further, Gehlen recognizes the threat coming from the plethora of stimuli around it. It "threatens to distract or overwhelm him, unless they are filtered out by institutionally conveyed mental habits" as "man is "burdened" with biological drives not clearly directed by instincts, which leave him prone to anxiety unless he is "unburdened" by institutions which shape and direct these energies." (Muller 1997: 403) So, the stabilization and regulation of human acting is just working via the social institutions. In response to this understanding, Habermas criticises Gehlen's institution concept as basing on a strong, conservative critique of modern cults about individualism and "Subjektivierung" [subjectivization] (Gimmler 1998: 147) and characterizes Gehlen as "der konsequenteste Denker eines gegenaufklärerischen

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<sup>177</sup> The analogism to Hegel is obvious. Men's world is his 'second nature', as far as it takes shape in state, law society and economy. This 'second nature' is manifested reason and objective mind. (Hegel 1956: 28)

Institutionalismus<sup>178</sup> [the most consequent thinker of an institutionalism against the Enlightenment] (Gimmler 1998: 147). Gehlen's concept includes the possibility of a – as mentioned above – 'environmental confinement', but excludes all possible social requirements. This is, since he implies a certain stability and change resistance of social structures and acting model [Handlungsmuster]. As Schülein concludes: "Nachdem erst einmal die Institutionen entstanden sind, ist von Handlungen kaum noch die Rede: die Institutionen allein sind Träger historischer Entwicklung, was dann letztlich Geschichte nicht mehr zugänglich werden läßt" [After emergence of the institutions, actions are hardly discussed furthermore: Institutions alone are carrier of historical development, which finally closes any access to history] (1987: 93 et seq).

Another problem is in the open question of which relevance is attributed to social institutions in the change of environmental practices. At this point, Heinrich Popitz<sup>179</sup> comes into play. In 'Der Aufbruch zur Artifizialen Gesellschaft' he refuses Gehlen's concept of 'environmental release', but he refers to other parts of his theory in regress to sociological, biologic and technical statements of an anthropology of technical and technical acting. His critique refers rather to the relevance of the characterized classifications of Gehlen (Popitz 1995: 54). As developed from the critique on Gehlen, the 'hand' as a biological part of man is decisive (Ibid.: 66) for mankind's evolution. He develops therefore the concept of 'fundamental technology' (Ibid: 13 et seq, 78 et seq) in order to describe different historical phases and changes of artificial environmental and societal remodeling. 'Technology' means in his understanding the 'whole logic of producing', from the production idea via the materials and methods of production to the type of the produced artifact". (Ibid: 13) In more detail, Popitz tries to show the mutual relation of technical (artifacts) and social (institutions) structure in order to prove that "[d]er gesellschaftliche Wandel (...) Bedingung und Folge der neuen Technologien zugleich [ist]" [the societal change is condition and consequence of new technologies at the same time] (Popitz 1995: 10). Undoubtly his assumption of a *konsequentielle Technikdeterminismus*<sup>180</sup> [consequential technique determinism] is based upon Popitz' early work about the early Karl Marx<sup>181</sup> (cf. 1953). Similar to Marx's Historical Materialism he claims, that technical change determines specific societal structures (Schulz-Schaeffer 2000: 21 et seq), since he emphasizes the "Fortsetzungsfähigkeit" [continuance

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<sup>178</sup> For further reading cf. Habermas 1985: 42 et seq.

<sup>179</sup> „Was man von ihm (Popitz – Anm. d. Verf.) zunächst, noch vor allen inhaltlichen Anregungen, lernen kann, sind Kriterien für eine anspruchsvolle soziologische Sprache – jargonfrei, knapp, für jeden Gedanken den treffendsten Ausdruck suchend, um höchstmögliche Verständlichkeit bemüht – und eine die Wirklichkeit des Alltäglichen verfremdende und immer zugleich fachübergreifende Sichtweise, die dessen Fragilität und Voraussetzungsreichtum enthüllt“ [What you can learn of Popitz are criteria for a sophisticated language – free of jargonising, short, for each though seeking the right expression, endeavoured for highest comprehensibility – and a viewpoint that defamiliarizes reality of everyday occurrences multidisciplinary, which reveals its fragility and richness of conditions] (Pohlmann 2005: 21). A fact, that reminds to introducing considerations for a scientific ethic.

<sup>180</sup> Additionally Schulz-Schaeffer points out that the 'genetische Technikdeterminismus' [genetic technique determinism] has to be distinguished from the former. The latter assumes a 'naturwüchsigen' [natural] change of technology. Basing on an inherent logic of procedure the genetic technique determinism is explained "aus sich heraus" [by itself] (cf. Schulz-Schaeffer 2000: 21 et seq).

<sup>181</sup> This is important to mention, since the distinction between the early and the later Marx plays an important role in the following debate.

acquisition] (Popitz 1995: 42) of social innovation. Furthermore the 'technical change' and the 'change of social organizations' is a mutual process, “[d]a fundamentale Technologien und ihre wesentlichen gesellschaftlichen Korrelate nicht verloren gehen (...)” [since fundamental technologies and their essential societal correlates don't get lost.] (Ibid) According to Kraemer, Popitz cannot prove the rightness of his postulated reciprocity. The proof doesn't become evident since the latter asks mainly for the 'social consequences of a technical change' but doesn't detail the technical consequences of the societal change. (Kraemer 2008: 74) As Kraemer stresses at the same point correctly that according to Popitz social structures are grasped as a passively constrained or actively performed capacity of conformance. The permanency of societal correlatives of fundamental technologies is based on not just on the continuance of these technologies but also on the continuance acquisition [Fortsetzungsfähigkeit] of new social models and their continuance suitability [Fortsetzungseignung] by following technologies. (Popitz 1995: 42) Critical is that Popitz doesn't start with a social contextualisation of technical acting as 'current technical sociology' (cf. Rammert 1993; 1998; 2000). He sees him 'behind' the stated 'fact' that technical constraints, social constructed constraints and rules as well as technical norms are less important than social defined norms. Popitz' interpretation of the creation of artificial environments/worlds [[Um]Welten] arises the problem of unclear societal and social 'option conditions' [Möglichkeitsbedingungen]. As well, the stated 'technical change' is not discussed within the frame of theory of socio-cultural evolution. (Kraemer 2008: 74) On the other hand Kraemer recognises Popitz notion of 'technical change' as an exogenous factor (Ibid) why one must wonder inasmuch as Kraemer's counterargument of equal technologies coming along in the shape of different social forms of labour division, organizations of labour, level of qualification and hierarchies of order really considered Popitz' assumptions.

Regarding the announced 'hierarchies' the environmental sociological question consequently has to ask for the specific social factors and dynamics of the technical exploitation of environmental potentials which cannot finally answered by the approach chosen by Popitz. But one has to acknowledge the epochal classification (determined by technical inventions and changes mutually bound to social organizational changes and remodeling) of Popitz as an important component for the understanding of the perceived environment in contemporary debate, in consideration with – as it seems – broader range, but still located within societal frame basing (early) Marx ideas<sup>182</sup>. As Pohlmann emphasizes „[w]ichtig für den grundlagentheoretischen Bereich auch der Techniksoziologie ist Popitz' Konzept der Fundamentaltechnologien, das dort bisher noch gar nicht reflektiert worden ist. Es bietet ein überzeugendes Modell der Verknüpfung technischen und sozialen Wandels, das auch eine evolutionstheoretische Perspektive enthält.“ [important to the realm of grounded theory, as well in technique sociology, is Popitz's less reflected concept of fundamental technologies. It offers a convincing model of linkage between technical

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<sup>182</sup> There must be questioned of this statement can be kept after more profound enquiry, for which is here no space. Therefore I leave this, my own consideration, as suggestion for further research in another context.

and social change, that also includes an evolution theoretical perspective.] (Pohlmann 2005: 22) A connection to Popitz's approach is found in Bloch's work 'Das Prinzip Hoffnung' [the principle hope] regarding terms and assumptions, even if one must stand back from establishing evidential connection in the concept of environment between Ernst Bloch on the one hand and Gehlen-Popitz on the other hand; or rather, Gehlen on the one hand and Popitz-Bloch on the other side. In the chapter 'Wille und Natur, die technischen Utopien' [will and nature, the technical utopias] of the above named book he states that “[d]ie nackte Haut zwingt uns durchaus, zu erfinden” [the naked skin forces us to invent]. Furthermore, the natural human weakness he examined pretty clearly: “Das Gebiß der Affen trat beim Urmenschen zurück, noch die männlichste Faust taugt kaum gegen einen einzigen Wolf. Zum Schutz und Angriff muß sie weiterwachsen, zu etwas, das nicht an ihr wuchs, zur Keule, zum Steinmesser. (...) Seitdem erhalten sie sich nur, indem ein Ding bearbeitet, ein besseres geplant wird.” [The natural dentition of apes formed back in case of the prehistoric men, but the male fist wasn't suitable against a single wolf. For protection and attack purposes they had to grow to something which didn't naturally belonged to him, to a club, to a stone knife. Since then mankind only remains due to building things and planning better things.] (Bloch 1993: 730) He reckons further that Europe has just focused on the external nature factors, ignoring and stealing off from a solid and sustainable tracing of Paracelsic intentions. (Bloch 1993: 800) In concentrating on the unrecognized and sleeping potential of humans, he concludes, opposite to the institutional approach of Gehlen, that the possible action field of man in nature is certainly wider and unfinished. “[U]nd es kann das sein (...) auf Grund jenes möglichen Subjekts der Natur, das nicht bloß subjektiv, auch objektiv sich ausbärt und utopisch dynamisiert.” [And this can be since these possible subjects of nature not just subjectively, but also objectively dynamises itself.] (Ibid 801) Quoting Poincaré, who was surprised by realizing how little humans must know of nature in order to bind it, Bloch refers to more practical considerations of the objectified nature concept. Therefore the bourgeois technique relates to a pure commodity-relationship towards nature forces, which they control by will but outside and estranged (*entfremdet*). This relationship becomes less, the further technical develops. (Bloch 1993: 778-779) His practical considerations question the contemporary social by ideas of a real utopia of invention. As he states, “Erfindung hat erst dann wieder wirkliche Utopie im leibe, wenn Bedarfswirtschaft statt Profitwirtschaft betrieben wird. Wenn endlich das Gesetz des Sozialismus: maximale Bedarfsdeckung auf dem Stand der höchsten Technik, das Gesetz des Kapitalismus: maximalen Profit abgelöst hat. Wenn der Konsum imstande ist, alle Produkte aufzunehmen, und die Technik, ohne Rücksicht auf Risiko und private Rentabilität, wieder zur Kühnheit, ohne alle imperialistisch beförderte Dämonie, braufragt wird.” [invention has only then again real utopy in its corpus if demand economy instead of profit economy is run. If finally the law of capitalism: maximal profit is detached by the law of socialism: maximal fulfillment of demand on the highest technical level.] (Ibid: 771) The problematic causality in Bloch's considerations is less the call for socialism, which is in the face of the Holocaust as reasonable as prudential. The problem lies rather in two arguments: First, the problem of inherent logic in the

assumed superiority of Marx' theory also in regards to environment. The second argument is the unclear defined relation between will and society. According to Paracelsus' basic ideasto, to which Bloch refers consistently, will is able to realize mostly all but is constrained by reality. So, what matters more? Surely, Bloch didn't develop a whole theory of nature, but made some philosophical thoughts. One can concede Enzensberger at this point: "Since the concrete problem in hand — psychosis, lack of nursery schools, dying rivers, air crashes — can, without precise analysis of the exact causes, be referred to the total situation, the impression is given that any specific intervention here and now is pointless. In the same way, reference to the need for revolution to become an empty formula, the ideological husk of passivity. The same holds true for the thesis that ecological catastrophe is unavoidable within the capitalist system. The pre-requisite for all solutions to the environmental crisis is then the introduction of socialism." (Enzensberger 1974: 19) The need of a societal change is clearly reasoned but beside of the general critique on estrangement and unjust societal relationship, a clear statement of the how would be a necessary step beside the call for a change. This is true even in Bloch's time, as critical voices have accused real socialist praxis towards the environment.

After this excursus, in consideration to Gehlen's useful concept of 'second nature', question is, which social mechanisms and institutions are responsible for the change of environmental utilization. Gehlen's assumption of 'environmental divestiture' disclaims definition of exact relations between acting and intuitions as well as the social institutions itself. The latter term is defined on an anthropologic-biologic-functionalistic level, without any further considerations of inasmuch or how these institutions within (sic!) the given frame can change. The stated conservative approach leads furthermore to the unquestioned assumption of an unchangeable status of the social institutions wherefore he disclaims description and explanation of social constitution, reproduction and transformation of environmental utilization in regards to changing societal purposes. According to mainstream sociological critique, Gehlen's anthropology offers an important link to conceptualize an acting notion, which does not abstract from the physical environmental context but cannot really answer the question how the environment is socially constituted. In addition, since explaining is not complete without *verstehen*. Without a theoretical structure for describing and questioning the whole societal structure, the mainstream sociological approach cannot understand or even draw the whole picture. Another advocate of a 'second nature' concept is Theodor Adorno, a representant of the 'critical theory'. Within his philosophical thesis of *Dialectic of Enlightenment*<sup>183</sup>, he develops the concepts of obstacles to freedom his distinctive explanation by society that undermines our autonomy, in which he distinguishes between a 'first nature' such as natural events or our psychological make-up and the 'second nature' which is society. The latter is seen as the main obstacle that endangers our freedom and autonomy. So, the relation of social and

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<sup>183</sup> Adorno and Horkheimer don't mean by using the term of 'enlightenment' the historical Enlightenment, but „a process of demythologizing, secularizing or disenchanting (...) mythical, religious, or magical representation of the world“. (Jarvis 1998: 24)

environment is “the intertwining of man and nature” which “is also the intertwining of man and society” (Adorno 2000: 176). This 'second nature' has two social dimensions, first the prevailing way of thinking about 'first nature' and second the mistaken determination by society. The first dimension relies on Adorno's differentiation of Hegel's dialectic in that what he called later the ‚Negative Dialectic’. As Hegel based upon in his idealistic theory and method on the basic concepts of 'being' and 'nothingness' concluded by a third category, becoming<sup>184</sup> (Stone 2008: 50), which can be reconciled, “Adorno stresses that culture, rationality and enlightenment depend on nature to a greater extent than nature depends on reason” (Ibid. 53). His central concepts are Enlightenment and Culture on the one hand and on the other hand the objects of Myth and Nature. In both cases the former holds the primacy position. (Ibid. 60) Therefore a reconciliation can just be achieved to the extent of his three principles: (1) suggestion is the only form of reconciliation, (2) the other thing is irreducible different from it and (3) one depends to a greater degree on the other than vice versa. Since the two concepts are not the same but a negation of another, he chose the term of ‚Negative Dialectic’. In distinction to Hegel's idealistic dialectic of a 'world spirit', an entity, which drives history towards a positive future, Adorno rejects the necessity of history that arises of those who “want to change the world”. (Adorno 1973: 323) He rather suggests solutions to these dialectical processes which “only as possibilities that humanity might – but may well never – realize in practice.” (Stone 2008: 52) Therefore even science cannot ask whether history could have been happening a different way or accepting current social arrangements as a fate that nobody can escape of. Like Gehlen, Adorno recognizes mankind as “vulnerable creatures” according to Freyenhagen (2008: 103) but to the extent that the capitalist society in which we live is not consciously made by history, but something approximating natural growth according to the aim to master our surroundings to gain security. Like Marx, he assumes the universal power of society<sup>185</sup> over the individual on the one hand (Cook 2008: 27) whose laws of value come into force without individuals being conscious of it. The contemporary floating terms of 'market pressures' and 'structural forces' (Sachzwänge) are often recognized and constituted naturally, since “capitalism presents itself as if it were first nature”. (Freyenhagen 2008: 103) For Adorno's concept of environment he refers to both Marx and Sigmund Freud. In Marx's case he endorses the historical materialism and the role nature played and plays in human history. Furthermore the superior understanding of humans to the natural world is flawed by breaking through “the fallacy of constitutive subjectivity” (Adorno 1973: xx). In this context he adopts Marx' recognition of human history as a progressive mastery and domination of nature (to which will be referred later on in more detail). Since 'real life processes' are not just shaped by capitalist mode of production with its exploitative relationship to nature, but instinctually driven too, Adorno also agrees with Freud, as the “idea of the

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<sup>184</sup> Hegel's 'being' is turned into 'nothingness' when it assumed the form of a distinct category. (cf. Cook 2008: 52 et seq.)

<sup>185</sup> The standard structure of capitalist society is – according to Adorno following Marx – the exchange structure (Adorno 1973: 300-301).

renunciation of instinct<sup>186</sup> (...) formulated in recent years by psychoanalysis goes hand in hand (...) with the direction of civilization". (Adorno 2000: 136-7) The irrational organization of society contradicts in that point since the equivalent reward is always promised by society but never given. (Tettlebaum 2008: 139) Adorno's goal is to develop a more fully dialectic conception of both human and nature. Extracting from the historical materialism he emphasizes history as a concept which can be conceived from two sides: (a) 'history of nature' and (b) history of humankind. Both cannot be separated and both are qualifying each other. In the common understanding of nature and history as an antithesis, Adorno finds both a true and false aspect. It is true insofar it expresses what happened to the natural element. The concealment of *environment* has reached such a degree that what now appears to be natural is actually originally *social*. On the other hand it is false because of its apologetical repeats of history's natural growth concealment by history itself. So Adorno acknowledges humans as inextricable parts of nature as well as being entwined in human history. Within his concept of 'Dialectic of Enlightenment'<sup>187</sup>, environment is always also history and socially and historically mediated. Neither means the former that history can be reduced to nature nor is nature identical to its mediated forms. His thesis is used as the critique of our naturally driven subjugation of nature. Using this he assumes to "prepare the way for a positive notion of enlightenment which will release it from entanglement in blind domination" (Cook 2008: 30) since "We are no longer simply a piece of nature" beginning "from the moment we recognize that we are a piece of nature". (Adorno 2000: 103) And further the more human beings try to become enlightened, the more they fall back into mystic modes of thinking, the more earnestly people pursue the enlightenment project, and try to distance themselves from nature, the more they submit to their natural impulses. Therefore human history "continues the unconscious history of nature, of devouring and being devoured." (Adorno 1973: 355) This *reductio ad hominem* as he calls it, describes a process of manipulation in which nature is unconsciously defined by the needs of human beings. (O'Connor 2008: 189) So, the „creative god and the systematic spirit are alike as rulers of nature. Since „divorcement between God and man dwindles to the degree of irrelevancy“, „Man's likeness to God consists in sovereignty over existence, in the countenance of the lord and master, and in command.“ (Adorno 1997: 9) Stone calls this the achieved ability to use abstract concepts. (Stone 2008: 51) The 'Dialectic of Enlightenment' claims that enlightenment reverts into mythology whilst discovering a new qualitative level of understanding in which both mythical, religious and magical representations as well as the enlightenment are negated (negation) but

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<sup>186</sup> How much it presupposes the non-satisfaction of powerful instinct. (cf. Cook 2008: 30)

<sup>187</sup> As the debate and critiques upon the theory of the 'Dialectic of Enlightenment' is not constitutive for the debate, the very essence of Horkheimer's and Adorno's thesis is encapsulated in 'The Philosophy of Money' by Simmel as follows: „The preponderance of means over ends finds its apotheosis in the fact that the peripheral in life, the things that lie outside its basic essence, have become masters of its centre and even of ourselves. Although it is true to say that we control nature to the extent that we serve it, this is correct in the traditional sense only for the outer form of life. If we consider the totality of life then the control of nature by technology is possible only at the price of being enslaved in it and by dispensing with spirituality as the central point of life. The illusions in this sphere are reflected quite clearly in the terminology that is used in it and in which *a mode of thinking, proud of its objectivity and freedom from myth, discloses the direct opposite of these features.*“ (Simmel 1990: 482, own emphasis)



persist as well. This progress – defined as well as progression – is fuelled by humanity's desire to gain increasing control over environment. This progression was bound to the hope to freeing themselves from the traditional, mythical views on it, of gaining a greater insight into the real 'workings of nature' – Marx would call it an achievement of gaining control and usage of the laws of nature –, and – most importantly – to enhance the ability to intervene in natural processes for their own benefit.

Concluding one can state that since we are all partially natural, we consist of an 'inner nature' and coherently an 'outer nature'. In the abstractness of the 'inner nature' finally lies the solution for the clear goal of his 'Dialectic of Enlightenment': To make all humans to the master of their own 'inner nature'. (Stone 2008: 50) Adorno describes the dialectic process of the terms 'enlightenment' and 'culture'. They revert to their opposites as myth and nature, just when they try to separate themselves from myth and nature. Secondly, he provides a model of how reconciliation regarding 'concepts' and 'objects' can enter into a relationship underlied by *Negative Dialectic* that acknowledges a dependency of 'concepts' on 'objects' that – again – differ irreducible from 'concepts'. Furthermore, 'enlightenment' and 'culture' affiliate in their relation to their opposites their actual relationship towards 'myth' and 'nature'. As the 'concepts' ('enlightenment' and 'culture') become subjects to this dialectic, they may either deny or acknowledge their dependence upon the 'objects' ('myth' and 'nature'), but nevertheless they will manifest as much or as less as more in proportion the reversion is denied. “Just as Freud thought repressed sexual desires must manifest themselves in the form of pathologies such as hysteria, Adorno thinks the asymmetrical relationship between concepts and objects (...) must manifest itself.” (Ibid: 60) The appealing part in Adorno's examination of a reconciliation of 'concepts' and 'objects', which immediately would be considerable, doesn't ground in the entering of into a *Negative Dialectic* when they reconcile, but in the acknowledgement of the “negatively dialectical relationship in which concepts and objects *already* stand to one another” as Cook points out. (Johnson 2008: 117) To distinguish Adorno's approach from the others, as reckoned in the text so far, one might consider, what he said to German students in the late 1960s according to his book 'Introduction to Sociology' (2000). Sociology “is insight into what is, but it is critical insight, in that it measures that which 'is in case' in society (...) by what society purports to be, in order to detect in this contradiction the potential, the possibilities for changing society's whole constitution” (Adorno 2000: 15). A critical view on environmental problems from a perceptible point of view is definitely needed to just mitigate the impacts and outcomes. As society “becomes directly perceptible where it hurts” (Johnson 2008: 117), Adorno's excursus may be interpreted as a hint to the named 'social nature' concept. The essential nature of society has to be discovered by reconstructing the above named mediated social, or – in Adorno's terms – the 'social mediations', in trying to make sense of elementary needs and problems that seem to have nothing directly to do with society. Adorno's thesis was a rooted critique on Hegel's dialectic understanding of which he objected that it “disguises the fact that domination over nature does wrong nature” (Stone 2008: 53), but heavily criticized within the Frankfurter School – namely by Habermas and Brunkhorst – because of the “primal history” and

“its tendency to eternalize a particular version of subjectivity and its apparent over-reach”. (O'Connor 2008: 188) Nevertheless the 'Dialectic of Enlightenment' and 'Negative Dialectic' include many crucial arguments for a deeper debate about 'social nature'. As Cook concludes “Adorno and logic may be an unlikely combination, but it is a surprisingly fruitful one.” (Stone 2008: 61)

### 2.6.2 Conclusion

As could be shown, nature as correlated entity is not sufficiently reasoned in theories, neither in environmental sociological nor in social science tradition. Consequently, Grundmann's listed reasons for sociology's state of the art must be complemented. Certainly, sociology fights reactionary theories, as he states (Grundmann 1997: 541). Looking at the existing discourses, the definition of what is called 'reactionary' would require a holistic theory frame in which this can be objectively analysed or defined. Without this frame and consequentially the state of the art today, different political systems make their own definition driven by different interests, different subjectivity, and different perspectives on reality and rationality. The conglomeration of different environmental regimes, which struggle to dominate the global environmental regime, is the result in today's social reality. The demonstrated problem set could show that the mainstreamed mind set is itself the constraint to analyse the structure. Critical considerations, such as those made by Adorno aren't further developed in the theory debate and also never linked to final findings of early Marx contribution. In conclusion, this work assumes that a fruitful combination of Arnold Gehlen's second nature conception with Adorno's thoughts on negative dialectic can give further answers. In case of Arnold Gehlen theory development should refer to Heinrich Popitz's critiques on Gehlen's conservatism, but refuse his historicist conception of fundamental technologies as argued above. The pre-definition of 'relevant' fundamental technologies cannot provide a grounded theory to analyse the relationship between society and environment. Theodor Adorno's approach certainly provides fruitful beginnings, but relies partly on historicism. Hereby the outlined criteria of Göhler (1980) can help to further develop this frame. Bloch's philosophy on nature also assumes the second nature as outlined above and should be included in the sought theory. The necessity here is to avoid simple 'blaming capitalism' to provide proper critique for finding solutions and to adopt his broad range of development definition.

Further could be shown that sociology was redefined after the Second World War. The development of environmental sociology in general also created the mainstream. Whilst before the Chicago school provided an, even criticism-deserving, approach to environment which also inherently included analysis and critiques on contemporary society, the new dominance by the Harvardian school ignored many critical thoughts for political reasons. The reshape of human ecology didn't even refer to the classics and provides nowadays a scope just 'as if nature did not matter' (Murphy 1995). The concluding claim of this thesis is the rethinking of environmental sociological basement. Most of contemporary environmental sociologists, in particular in

Germany, have widely ignored the contribution of the classics to theoretical consideration of the nature-environment-sustainability complex in sociology.<sup>188</sup> Even important monographs of Diekmann and Jaeger (1997) and Redclift et al. (1995)<sup>189</sup> don't consider theoretical assumptions of the mentioned dialectic of nature-society.

As theoretical conclusion, critical opposition to the existing mainstream in sociology, which mainly focuses on describing the problem and providing accommodative practical solutions instead of looking at the groundings of theory, is needed (cf. Dryzek 2009). In short, progressive environmental sociology requires thinking out of the society's nutshell. Hereby, environmental social sciences should stop to try catching up with nature sciences to demonstrate statistical significance and predictability. Instead, sociology should take advantage from its capacity to explain and *verstehen* the dysfunctional dealing with the 'nature-environment-complex' until today.

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<sup>188</sup> Just to name one, according to Huber, for instance, class analytical construction of Marxism „haben bis heute den Blick dafür verstellt, dass auch und gerade die Entstehung und soziale Integration des Proletariats nichts anderes war, als eine unter anderen Linien der Herausbildung moderner Mittelstandsbürgerschaft, der Schichten und Milieus einer modernen Teilungsstruktur, zusammen mit der Ausdifferenzierung und dem Wachstum der effektuativen Funktionssysteme moderner Gesellschaften“ [has been the barrier until today, that even the emergence and social integration of the proletariat has been nothing more than development of modern middle class citizenship as milieu of a modern exchange structure, together with the social differentiation and growth of effectuating (?) function systems of modern societies] (2001: 255). In further examination he refers to Marx' Historian Materialism to demonstrate his uselessness for the environmental debate by missing the point that class structure and Historical Materialism can hardly be of fruitful use without considering the dialectic conception behind as well as the advantage of having a holistic system to systematize the environmental question.

<sup>189</sup> This text collection includes at least an abridgement of Engels 'Dialektik der Natur' (here: 1972), but doesn't even consider the metaphysical viewpoint of Engels in opposite to Marx as discussed.

### 3. From Environmental Sociology to Sustainable Development and Environmental Justice

In this chapter, gaps, outlined in theory, will be opposed by institutional reality. Even more, due to examination constraints of the initial concepts ('new dialectic of nature-society' and 'social nature') in the last chapter, important and leading institutional or epistemological oriented theorists have been neglected, such as Allan Schnaiberg, O'Connor and Buttel, or briefly refused, such as William Catton and Riley Dunlap. Moreover, the following examination will be classified in the frame institutional theory in environmental sociology by critically adopting useful theories, in accordance with Grounded Theory procedure as outlined. This will be undertaken in order to frame the concluding case study in the next chapter, of the named. Their explanatory model catches up temporarily with and is therefore mutually influential to the political process of institutionalisation from the 1970s<sup>190</sup> until its tentative conclusion in the 1990s, the time by which environmental sociology "has become institutionalized at the international level" (Dunlap 1997: 33). Interestingly "*along the same lines as occurred in the US in the 1970s*" (Ibid.: 28, italic emphasis by me), which is the argument to more strongly consider a US American 'reading' (as from Huber) by outlining this process. Here, the question turns to the two key concepts, which play an important role in both the political "master institution"<sup>191</sup> and the educational institution complex (Buttel 1997: 40). The relationship between educational – here mirrored in the academic sphere of environmental sociology – system (institutional and environmental economic theory) and political system (institution development) will be used as reference alongside a description of the political environmental institutionalisation process to reveal the (real or possibly) existing international environmental regime.

Within the theoretical frame of environmental sociology O'Connor's (1988) explication of environmental problems as 'second contradiction' (Dunlap 1997: 33) – beside the capital antagonism [Kapitalwiderspruch] – gave basis to Schnaidber's often used analysis concept of 'treadmill of production' (1980), which "stresses the role of capitalist relations and the nature of modern state institutions" as Buttel adds (1997: 44), with special focus on society and societal environment as units of analysis (Schnaiberg/Gould 1994). Nature's self-reproduction, assumed as 'treadmill of production', leads according to them (in addition Gould et al. 1996) to environmental degradation through 'withdrawals' – scarcity of energy and material – and 'additions' – different pollutions by which the modern state exhibits a fundamental logic of promoting economic growth and

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<sup>190</sup> This was wrongly assumed as founding time of environmental sociology by Buttel (1997: 43) as could be shown in the last chapter when speaking about its origins in the early Chicago School.

<sup>191</sup> According to Buttel, core of environmental sociology is to theoretically criticise sociology's ignorance of the physical environment (1987: 467). His approach's main object is to examine institutional aspects of environmental change (Buttel 1985; Dunlap 1997: 33), by which institutions are a special cluster of norms and relationships that channel behaviour so as to meet some human physical, psychological or social needs such as consumption, governance and protection, primordial bonding and human meaning, human faith, and socialisation and learning. Within five institution complexes (economic, political, family, religious and educational), where Marx focused on economic and Durkheim emphasised culture, environmental sociology bases on relation of three master institutions to environmental change: economic, political and cultural. (Buttel 1997: 40)

private capital accumulation. Catton and Dunlap, which has been considered in the last chapter, are those with the most political impetus in the institutional debate as they see the institutional process as something that generates environmental destruction (Buttler 1997: 44). Catton (1976; 1980; 1994) and Dunlap (Catton/Dunlap 1978; 1994) are dealing in analysis with several interrelated notions. Those assumptions are taken for the following examination. The dominant western world view has penetrated the entire societal institutions and has led to widespread institutional norms of growth, expansion and confidence in indefinite material resources, which are all so overused by modern societies that they are faster wasted than they can be replenished and also intensified by rapid population growth. Ecological vulnerability, if not systematic 'crash' is faced by societies with a greater or lesser degree as documented by modern environmental science in terms of "major adjustments and adaptations (...) if environmental crisis is to be averted" (Buttel 1997: 45), which in short means, that there is an unequal distribution of environmental goods and burdens and that this information is documented even by mainstream environmental sociology. More problematic are their conclusions, but also – as result of their theoretical approach as criticised above – their first statement. Rightly, they assume a relationship between human and nature as the fundamental (theory) matter of environmental sociology (Dunlap 1997: 27), but they see the inability of conventional sociology to address environmental problems stemming from the world view that "fail to acknowledge the biophysical bases of social structure and social life, or that see social structures and actors as being exempt from the laws of nature."<sup>192</sup> The critique on this one sided biophysical focus has been discussed, their conclusions reveal the limited penetration of societal structure based on their theoretical pattern: Basically, a paradigm shift in society and sociology by rejection of the western view will appear in recognition of the dimension of the ecological crisis and will lead to a new ecological paradigm among mass publics, catalysed by comparable paradigm shifts among social and natural scientists, which will be the source of an environmental improvement and reform. (Ibid) Buttel's rather society critical viewpoint is wiped away by these with reference to his pessimism as typical for the time, in which he published (cf. Dunlap 1997: 22), which hints to the basic circumstancing problem when the concepts in question are discussed right now: A dominating mainstream environmental sociology which recognises the environmental challenge as a problem of western dominated world view, but places the statement in a frame which cannot give any escape, neither for theoretical analysis nor for practical proceeding. Here, an important consideration for the whole following debate, by which 'critical' and 'mainstream' viewpoints are opposed, Enzensberger's statement of an announced environmental catastrophe without theoretical or practical exit illustrates the usefulness of such a condition frame best: "Every parish priest is aware of this noble form of verbal excess; and everyone listening can easily see through it. The result is (at best) a pleasurable frisson. Herein may lie the total inefficacy of widely distributed publications maintaining that the hour will soon come not only for man himself, but for his whole species. They are as ineffective as a Sunday sermon." (1974: 26) Obviously,

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<sup>192</sup> To this entity, Buttel stressed, that Catton and Dunlap (1978; 1979) "have argued that rejection of the radical sociologism of the 'social facts paradigm' must be hallmark of environmental sociology" (1997: 41).

although dealing with the western view, Catton and Dunlap assume similar rationality in the whole world by 'recognising the dimension of the ecological crisis' in order to make the necessary steps. That this is no big difference from those who claim more efforts of the 'underdeveloped nations' to handle the environmental problem or to those who just neglect man made influence to the environmental problem, will also be theoretical and critical divide to distinguish critical and mainstream viewpoints. In praxis both the 'nature-environment-complex' and the abstract concerns have been considered, first of all in the first world, in terms of first institutionalisation steps in the early 1970s by one concept: Sustainable Development (SD). In science, "the bulk of this early work focused on the environmental movement, public attitudes towards environmental issues, environmental policy making and the development of environmental quality as a social problem." (Dunlap 1997: 22) Since the 1980s another concept has been appearing on the international, or rather, on different national projections: Environmental Justice (EJ). As Buttel points out, resources scarcity and environmental degradation don't have consequences (to the same degree) for all people on earth since particular regions can escape by "carrying capacity by appropriating raw materials and ecosystem services from elsewhere". (1997: 43) In opposite to tendency of global projecting by researchers of the sustainable development field<sup>193</sup>, environmentalism

led to growing awareness of pervasiveness of environmental hazards at the local level, the rapidly spreading 'Not In My Back Yard' (NIMBY), the emergence of local grassroots environmental group (Dunlap 1997: 29), under exclusion existing institutional regulations beginning at the 'birth event' of both movement and concept (Schlüns 2004: 2; McGurty 2002: 211), and the emerging environmental justice movement among minorities. This opened – in consideration of the interrelated phenomena of 'environmental racism' a new scientific and political field of environmental concerns (Dunlap 1997: 29).

The following two sub-chapters seek to describe the process of definition and institutionalisation of these two concepts in order to reveal existing regimes and discourses (in the named understanding) about the two. SD, older in history and further developed in institutionalisation (at least) must be seen in the context of the dominating post World War II regime to answer the environmental challenge. The question hereby is, in consideration to the outlined problematic assumptions of an anthropocentric and progress optimistic focus in theory, how dominating international society structure (in terms of institutions) and regimes (in terms of definition) dealt with this issue in face of growing awareness in middle-class civil society. As will be seen, contemporary frustrating failure of necessary international decisions (such as in Cancún 2010 [COP 16] or Durban 2011 [COP 17]) to handle the environmental problem are due to a certain SD regime, which is controversial and created and creates dysfunctional institutions. In accordance to the initial hypothesis, the outlined deficits and structure of the SD regime will be opposed by its younger counterpart. Inconsistency of

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<sup>193</sup> As Buttel, who concludes from the quoted initial, that "at higher level of analysis the human community and global society cannot escape the carrying capacity limits of the biosphere" (1997: 43), ignoring the fact that impact distribution is filtered by economical and political power of nations to avoid or limit negative development.

argumentative structure arise due to frame differences since EJ come from a grassroots background, consequently does not have an institutional background like SD. Therefore, the structure of outlining the EJ regime is rather based on national origins of the movements. For this purpose, and to contrast, EJ's US American origin was contrasted by its Brazilian and German counterparts. The EJ sub-chapter rather seeks to demonstrate how the dominating SD regime is challenged by the new(er) concept and which potential can be found in theoretical considerations inclusively.

### 3.1 Sustainable Development

The term of 'development' is older than the extended concept. 'Entwicklung' [development] was first found in 1645 as a translation of the Latin word 'evolutio' (Mols 1995: 130). First usage of the Sustainable Development (SD) concept is found in Hans Carl von Carlowitz's disquisition 'Sylvicultura oeconomica – Anweisungen zur wilden Baum-Zucht', published in 1713. In this work, Carlowitz stated, that in order to provide Saxon silver mining with enough timber, woodcutting needs to be limited by the maximum afforestation. This sustainable basic principle was implemented in German forest law at the end of the 18<sup>th</sup> century, but didn't influence other economic domains in this period (Kraemer 2008: 15). The concept definition was limited to the forest domain from the very beginning, without any consideration concerning further cross-dependencies. After the Second World War the notion was newly discussed in the German 'Interparlamentarische Arbeitsgemeinschaft für naturgemäße Wirtschaftsweise' [interparliamentarian commission for natural way of economical management] (IPA). On the international level, recognition of societal and economic limits to growth due to outrunning natural resources caused an increasing environmental debate in the political and academic system in the 1960s.

#### 3.1.1 History of the environmental debate

In 1952 the conception these world components<sup>194</sup> was first carried forward to macroeconomy by IPA (Studt 2008: 185; Wey 1982: 157), whilst (political) society was rather engaged in dealing with the emerging Cold War. As Huber points out, it is the "Umweltbewegung, welche die bewusstseinsbildenden Diskurse und deren Verbreitung in immer weitere Kreise der Gesellschaft hinein treibt" [environmental movement, which drives consciousness building discourses and their spread out into more and more parts of society] (2001:

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<sup>194</sup> But not the conception itself, which was first used in the well-known combination in the World Conservation Strategy (WCS) report of the International Union for Conservation of Nature and Natural Resources and the Global 2000 study commissioned by US president Jimmy Carter in 1980. Nonetheless, key concepts for future usage have been established by this commission, needs and limits, as they wrote in their principles: "Mit den sich erneuernden Hilfsquellen muss eine naturgemäße Wirtschaft betrieben werden, so dass sie nach dem Grundsatz der Nachhaltigkeit auch noch von den kommenden Generationen für die Deckung des Bedarfs der zahlenmäßig zunehmenden Menschheit herangezogen werden können" [With the renewable helping resources, a natural economy must be established to follow the principle of sustainability as well in consideration of the needs of future generations] (Wey 1982: 157)

245). According to him, social movements appear as a swarm, collecting fellows, then spreading out. Starting in the 1960s, US American civil right activists emerged to anti-authoritarian students and youth movements in the more industrialised countries of the world, in particular 1967-1972. Even then, the movement was distinguished between institutionalists and anti-institutional or non-institutionalised social activists. The former have and still do believe in regulation capacity of institutions, finally in a top-down manner, balancing interest differences. The latter, on the other hand, have rather been concentrated on individual self-expression and individualism as emissaries of a peaceful anarchy. Activities such as tune-in, turn-on, and drop-out expressed this life attitude by mainly white middle class young people whilst the black minority fought their own struggles in organising the 'Black Panther Party for self-defence' at the end of the 1960s. All this has been strengthened by more or less radical social criticism. In the mid 1960s the environmental movement emerged in the US and Europe, influenced by anti-nuclear movement (mainly in Germany), anti-genetic technology movements, and anti-authoritarian students and youth movements which re-expressed their concern in a women's liberation and peace movement. The vanguard role of the new social movements has been since 1970 in the USA (2001: 257) even though it spread out to a worldwide scale when Meadows 'Limits to Growth' report of the Club of Rome<sup>195</sup> was published in 1972 (2001: 245). Huber<sup>196</sup> distinguishes the development of environmental protection in 5 (five) steps: a) emergence (1960-1972), b) boost (1973-1982/83), c) transition (1982/83-1990/92), d) assimilation (1990/92-2000), and e) maintenance and/or decomposition (since 2000). Acelrad (2009) adopts the main structure of this division.<sup>197</sup> An interesting coincidence can be found by looking at 'boost phase' (b) which changes to transition (c) the time when in Environmental Justice Movement began in the US. In consideration of the

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<sup>195</sup> Since the 'Limits' widespread was most influential to the whole debate, then and until now, some remarks about the composition of the 'Club' might be useful. Basically, the 'club' consisted in an international group of professionals from the fields of diplomacy, industry, academia and civil society having been assembled in April 1968 in Rome, invited by Italian industrialist Aurelio Peccei and Scottish scientist Alexander King. The initial topic has been to discuss the dilemma of prevailing short-term thinking in international affairs and, in particular, concerns regarding unlimited resource consumption in an increasingly interdependent world. (cf. Club of Rome 2011) Not just because of this specific constellation (industrial magnates and political establishment), it was was early criticized as being a club of the "representatives of the monopoly capitalism" which gave the reason to assume, that if these have become "spokesmen—as in the Club of Rome—that is because of reasons which have little to do with the living conditions of the ruling class." (Enzensberger 1974: 10; cf. also Nobre 2002: 34) On the other hand, Nobre adds when quoting Redclift (1987), this Marxist interest in class analysing the environmental question just came up when it turned to a question in the political bourgeois debate. (Nobre 2002: 34)

<sup>196</sup> In awareness of Huber's controversial position in the environmental debate, in particular arguments of non-reference in Brazilian literature, two arguments can be given for using his classification nevertheless: First, according to Dunlap (1997: 28 as quoted above), the institutionalisation process was along the same lines as occurred in the US, second, even Brazil's leading environmental social scientists basically adopt the classification similarly when outlining environmental institutional development (cf. Cunha/Guerra 2008: 16; 51; 55 and Acelrad 2009: 125-132).

<sup>197</sup> The problem, which comes up by analysing such a scale, is the general problem of future uncertainty. Huber sees 'maintenance and/or decomposition' beginning at the time his work is published (2001). In reference to his movement and conscious focus descriptive analysis, this prognosis doesn't reveal significant validity from present viewpoint. Therefore the focus will be his useful four (4) classifications before. This is because similarities can be found by other historical classifications in this context, such as Acelrad (2009: 125-132) and Cunha (et al. 2003: 46-55), as will be discussed in more detail in the last chapter.



explanatory hypothesis of this piece, this is assumed as an excluding shift or squeezing out of the non-institutionalised parts of the environmental movement as mentioned by Huber. This leads to a first answer to the first research hypothesis: If Environmental law fails because of different understandings of central concepts of these laws, the exclusion of groups from the definition process and their shift towards a new concept (EJ) would be a very general reason for this circumstance. Considering the structure of the Environmental Justice Research (EJR), the guess would be that rather the non-institutionalist activists, consequently those with more 'radical'<sup>198</sup> understandings of the conflict and/or solutions, have been the one excluded from the process even though the problems remain. These conflicts have – as said – existed long before specific notions and concepts have been created as Martinez-Alier can show looking at Japan 1888 (2002: 55-57) or at Bougainville about 240 (two-hundred-fourty) years ago and West Papua in Papua New Guinea in the last decades (Ibid: 64-67) among countless others. The following phases demonstrate strong congruency in the process of institutionalisation, what Huber euphemistically calls 'assimilation'. In this decisive phase, Sustainable Development isn't anymore a concept just of environmental movements, but an anchor topic with positive connotation for all societal actors with connection to ecological discourses and environmental policies. (environmental movements, governmental bodies, and industry on local, national and global projection) (2001: 271) Indeed, local communities are not named and one can just guess what is considered as 'environmental movements', but nevertheless, local problems continue to exist in scientific research. As Martinez-Alier emphasises clearly, “materialistic, conflictual view of environmentalism has been proposed since the 1970s by American environmental sociologists such as Fred Buttel” (2002: 4). Omnipresent problem focus has been the perceived threat of an environmental catastrophe scenario as a threat to end human life on Earth indefinitely, generated by concerns about increasing chemical pollution and nuclear risks. The history of the debate is linked to its importance for society. In the pre-'boost' time, the Sustainable Development concept had no clear definition (Nobre 2002: 25) but today it includes the variety of views on an environmental complex of problems in general. Each stakeholder group shares a specific view on the problem and provides its own answer to the question, how or which political institutionalisation can resolve the challenge. These views in theory (definition) and praxis (institutionalisation) will be outlined in the following theoretical considerations and institutionalisation of sustainable development. The latter will consider the limited (cf. footnote 174) five phases model of Huber. A crucial date for both tasks is the transition from emergency (a) to boost (b) phase. The years 1972 and 1973 were the time of the first institutionalisation attempt on global projection and the starting phase of a growing environmental movement. Ecological limits haven been exemplified after Meadows' 'Limits' and the Stockholm conference (in detail see below) by articles as 'Scarcity and Society' in the 'Social Science Quarterly' (September 1976) and turned – as Dunlap argues – the 'sociology of environmental issues' to a self conscious 'environmental

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<sup>198</sup> 'Radical' in this context doesn't necessarily mean favouring subversive action, but – very generally – refers to positions with contradictive particular interests to other societal stakeholders and stakeholder groups, which are then involved in the process.

sociology' (1997: 23). Besides the pretended invention of environmental sociology, which was a concepts re-invention in a weaker and more aligned to (political) mainstream theory as discussed, focussing in publications on effects of resource constraints rather than impacts of society on environment (Morrison 1976) was “very much in tune with the *Weltanschauung* of the mid- to late 1970s” (Dunlap 1997: 23, original emphasis), highlighted by President Carter's energy policy and his sponsorship of The Global 2000 Report (Barney 1980). The term of 'ecological limits' was already controversial at these times, as questioned by leading American sociologists (Bell 1977; Lipset 1979; Nisbet 1980). Their counterargument was that if limits exist, they are surely rather social than physical, which was in congruence with the sociologicistic scheme. Consequently, first 'renewed'<sup>199</sup> environmental sociological critique had very little impact on the discipline at large. Even more, influencing side discourses of the environmental debate about development theories at begin of the 1970s were recognised as the beginning of a new paradigm (see below). The SD institutionalisation process will be analysed in line of the discourses development, in the 'boost' (b) period, and discourses' assimilation, in the 'assimilation' period (d), whilst the 'transition' period (c) is scrutinised with reference to EJ (movement and research) emergence in selected nations and in general, insofar as possible. The result will bare most relevant distinguishing discourses, so the ways, to see the environmental question, theoretically and in praxis. The necessarily drawn overall map of SD opinions aside, EJ placement and opinion emphasis within the frame shall be clearly presented at the end in order to frame the following case study.

### 3.1.2 Theoretical considerations

The discussion will begin by shortly defining the two involved notions. In this regard 'sustainability' means ecological sustainability and the claim to both protection of the atmosphere in consideration of future generations and promotion of ecological conservation. On the contrary, 'development' is used for all kinds of human development but mainly matches economy regarding the continuing progress in production and consumption. Other parts such as cultural, political and ethical development are seen as dependent from economic development. For theoretical considerations, two aspects have been involved in the debate about SD all time: On the one hand, the 'environmental complex of problems' as it has been characterised by gradual and various attempts of its institutionalisation. On the other hand, the goal was to put the

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<sup>199</sup> This word is used to consider the original origin of environmental sociology as source, not its 'pretended-to-be-new-but-renewed' use of the concept, sailing now under foreign flag.

environmental question on top of the international political agenda<sup>200</sup>. In consequence, three aspects can be outlined to distinguish discourses<sup>201</sup> in contemporary debate about SD. These are:

- ♣ The cardinal relationship between sustainability and development
- ♣ The definition of development
- ♣ The emphasis of either sustainability or development

The cardinal relationship of the concept is determined by uniting two extremes: human economy and nature. In consideration of the introduced term of 'social nature', on the extreme poles focused perspective on human development faces environmentalist's worldview. By introducing this concept, combination of incompatible positions became possible. Therefore a phrase had to be found which suits all that are willing to trade-off. As Timothy O'Riordan points out, the formulation is "deliberadamente vaga e inerentemente contraditória" [deliberately vague and inherently contradictory]. (Nobre 2002: 10) So, the discourses about the Sustainable Development (SD) concept will include the manifoldness of political views on the given problem set as will be outlined when speaking about the emphasis problem set in the debate (see below). The following review seeks to complete the 'emergence' period (1960s to 1972) from both environmental social scientific and political-institutional perspective.

### 3.1.3 Sustainability and Development. A review of the debate's genesis

First, principles of the SD concept have been defined by the named German 'inter-parliamentarian commission for natural way of economical management' (IPA) in 1952. Policy statements included some eco-political guidelines such as „u.a. den Verweis auf die Endlichkeit des menschlichen Lebensraumes und seiner Ressourcen“ [the link to the finiteness of lebensraum and its resources among others]. (Weiland 2006: 135). According to Nobre, since 1960 the source of environmental problem set is based on three principles: (1) “A idéia de que, no caso da utilização dos recursos naturais, perseguir egoisticamente os próprios interesses” [To persecute the environmental protection as an egoistic self-interest], (2) “não conduz à utopia do crescimento incessant da riqueza nacional,” [turning away the utopia of incessant growth of the national prosperity] and (3) “mas sim à catastrophe sem volta da destruição do planeta” [acknowledging the 'point of no return' on the path of the planet's destruction] (Nobre 2002: 27). In the 1960s debate, numerous announcements point back to Thomas Malthus's 'The Principle of Population'<sup>202</sup>, well acknowledged in

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<sup>200</sup> This, again, presents the specific construction of the SD concept: Institutionalization, if possible on the global projection was top priority of the SD concept debate ever since, in contrast to EJ.

<sup>201</sup> By the term 'discourse' I am of a certain worldview, a subjective perspective on the notion, finally, the way that the concept is understood BTW how people think of it.

<sup>202</sup> In 1798 anonymously first published, titled 'An Essay on the Principle of Population'. In 1803 published under his name in an enlarged edition entitled 'An essay on the Principle of Population'. Next editions were published in 1806, 1807, 1817, 1826.

Anne<sup>203</sup> and Paul Ehrlich's 'The Population Bomb' (1968) about the danger of the demographic growth and Gamet Hardin's "The tragedy of the commons", presented in December 1967 and published in 1968. The latter was originally given as an address to the Pacific Division of the American Association for the Advancement of Science in December 1967 and was reprinted on 13 December 1968. Dennis and Donella Meadows published 4 (four) years later the "Limits to Growth" in reference to the continuing question in the SD debate: the limits of our planet's resources to economic growth. Malthus' model basically focused on growing population as most the pressing concern for resource scarcity. It has been criticised for its pessimism and lack of trust in the future destiny of mankind in general, in particular from the technical optimistic viewpoint.

The importance of Paul and Anne Ehrlich among the founders of 'renewed' (see above footnote 181) human ecology in that time can hardly be overestimated as they became in the mid 70s the most influential spokespeople. (Enzensberger 1974: 23) In their Positive Program they offered a broad range of opportunities to counteract proclaimed visions in regards to the distinction between sustainability and development. In their final considerations they state at point 3: "A massive campaign must be launched to restore a quality environment in North America and to *de-develop the United States*. De-development means bringing our economic system (especially patterns of consumption) into line with the realities of ecology and the world resource situation. (...) Marxists claim that capitalism is intrinsically expansionist and wasteful, and that it automatically produces a monied ruling class. Can our economists prove them wrong?" (Ehrlich 1970: 323, italic in the original) Obviously the Ehrlich's work under the assumption that current economists need to find, and can find, solutions within the given economical framework, for a problem which basically isn't part of their scientific principles. (Ehrlich 1970: 324)

Hardin on the contrary, starts the debate in his work "The tragedy of the common" by noticing that "[t]he pollution problem is a consequence of population." Therefore, "[i]t did not much matter how a lonely American frontiersman disposed of his waste." (Hardin 1968: 29) Referring to Adam Smith's assumption that an individual "intends only his own gain" (Smith 1937<sup>204</sup>: 423), Hardin argues that, if Smith's assumption is correct, "the tendency to assume that decisions reached individually will, in fact, be the best decisions for an entire society." Consequently, it "justifies the continuance of our present policy of *laissez-faire* in reproduction", if not, "we need to re-examine our individual freedoms to see which ones are defensible." (Hardin 1968: 28) Whereas Hardin's presentation is recognised as a disclosure of the debate, Meadows' 'Limits to Growth' (1972) emerged as a theoretical novelty from the Malthusian model. Presented on the first UN Conference on the Human Environment in Stockholm (1972) the book opened "new questions regarding nature and stability of industrial growth" (Moll 1991: 121) in modelling the

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<sup>203</sup> Paul Ehrlich's wife Anne Ehrlich wasn't credited and is therefore not mentioned in the bibliography, but took part in his work.

<sup>204</sup> First published in 1776

consequences of a rapidly growing world population and finite resource supplies. Echoing some concerns and predictions of Thomas Malthus in 'An Essay on the Principle of Population' (1798) and starting upon the computer simulation program 'World2' (later 'World3') model of Forrester, Meadows' team developed an innovation basing on five different variables, (1) world population, (2) industrialisation, (3) pollution, (4) food production, (5) resource depletion population (Meadows 1972: 21). Even mainly working out the danger of demographic development, his work resulted in an assumption, which can be called a paradigm shift for environmental social science. By pointing out that limits will be reached at a certain point within 100 (hundred) years when prompt and uncontrollable decline of population and industrial production capacity will most likely take place (Ibid: 23). Meadows' 'Limits' must be seen as first environment based theory to challenge the economic system (sic!) after the theoretical caesura of World War II and on the international scale. His critiques, formulated on behalf of the Club of Rome, targeted both systems on earth at this time, real socialism and capitalist hemisphere. Nevertheless, they didn't design a stringent economic theory and assumed no automatism between development and economic growth. Furthermore they refused the central argument of market liberal economists who forecast 'zero growth' and stagnation of economic development as a result of including sustainability into economy. Finally, one can conclude that, according to the authors, 'zero growth' or 'global equilibrium' cannot be recognised as economical stagnation. Claus Koch published only seven months later a more detailed critique on Meadows 'Limits':

“[D]ie 'Grenzen des Wachstums' bleiben auf das angenehmste folgenlos. Indem Forrester und Meadows ihre Entwicklungslinien von vornherein weltumspannend anlegen, immer gleich auf das ganze Raumschiff Erde – wer wäre nicht von solcher Weltbrüderlichkeit eingenommen? –, entheben sie sich der Notwendigkeit, die Verteilung von Kosten und Nutzen offenzulegen, ihre strukturellen Bedingungen zu bestimmen und damit die ja recht unterschiedlichen Chancen, mit der Misere fertigzuwerden. Denn wenn die einen es sich leisten können, das Wachstum zu planen und noch aus der Beseitigung des angerichteten Schadens und aus der Vorbeugung profit zu ziehen, können es die anderen noch lange nicht”

[The '*Limits to Growth*' remain most pleasantly without consequence. When Forrester and Meadows define their development lines a-priori on global projection, always the whole spaceship earth – who would not agree to such fraternity? – they avoid the necessity to reveal the cost-benefit distribution and its structural constraints. Consequently, there is no need to show the very varying chances to deal with the misery. Since, if some are able to afford to plan economical growth and to profit from prevention and removal of the damage, it does not mean that others can do the same] (Koch 1973: 82). Their economical modelling is criticised as pure cynicism, since it assumes global stability under condition of no population growth beginning in 1975 and a stop of capital increase in 1985<sup>205</sup>. 'Scientifically', so on the level of accounting rationality, he continues, a dispute with Meadows and Forrester is hardly possible, since their success is based on the reduction of societal development to budget processes and politics of investment decisions. He assumes that “man an Forrester und Meadows vor allem lernen kann, wie sinnfällige Ideologie sich heutzutage in Regelkreis-Modellen und Exponentialkurven darstellt” [one can first of all learn from Forrester

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<sup>205</sup> The time-scale was involved consistently in the debate, with very different calculations, until today. Expected time left to 'catastrophe' “range from the end of the 1980s to the 22nd century.” (Enzensberger 1974: 4)

and Meadows how nowadays obvious ideology is presented in control circuit-models and exponential curves] (Ibid: 83). All post World War II environmental sociological approaches have in common, that when looking for a solution, proposals do not take in consideration means and ends outside the contemporary political and economic system. This is due to the way the SD concept is introduced: From above. All three most considered works have initially been made as political guidelines to address pressing concerns for mankind. “Climaxing, and in a sense terminating the debate of the 1950s and 1960s” as stated by Luten in regards to 'The population bomb' “the book was a call for action.” (1978: 173) The other two named books, the 'Limits' (Meadows) and the 'Tragedy' (Herdin), have been presented first at international conferences. Recognised as initiating events in the debate, critiques on the analysis of the three in the debate haven't fundamentally placed this argument as central as necessary. Therefore, local environmental concerns had – from the very start – difficulties addressing their desires when coming from outside the institutional frameworks. Common critiques came from differing political viewpoints within the scientific community. Paul and Anne Ehrlich have been accused of dramatically popularising the found expression of SD at a particular moment and in quite a particular political context. Their timing has been criticised for its concealed ideological motives in the debate, as Enzensberger states: „They originate almost exclusively from North American sources and can be dated to the late 1950s and early 1960s—a time, that is to say, when the Liberation movements in the Third World<sup>206</sup> began to become a central problem for the leading imperialist power. (On the other hand the rate of increase in population had begun to rise much earlier, in the 1930s and 1940s.)“ (Enzensberger 1974: 13) A prominent example for what he points out in the last sentence (in brackets) is the 'First Solidarity Conference of the People of Africa, Asia and Latin America' [Primera Conferencia de Solidaridad de los Pueblos de África, Asia y América Latina (OSPAAAL)] hold at January 12<sup>th</sup> 1966 in Havanna (Cuba). In response to the upcoming debate about 'overpopulation' and regulation demand of government as proposed by the industrialised nations, they stated: „In certain countries they are saying that only birth control provides a solution to the problem. Only capitalists, the exploiters, can speak like that; for no one who is conscious of what man can achieve with the help of technology and science will wish to set a limit to the number of human beings who can live on the earth (...). That is the deep conviction of all revolutionaries. What characterized Malthus in his time and the neo-Malthusians in our time is their pessimism, their lack of trust in the future destiny of man. That alone is the reason why revolutionaries can never be Malthusians. *We shall never be too numerous* however many of us there are, if only we all together place our efforts and our intelligence at the service of mankind, a mankind which will be freed from the exploitation of man by man.” (IdL 1968: 55-57, original emphasis)

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<sup>206</sup> Just as a remark: Fixed terms such as 'developing country' or 'third world' as an political entity and institutionalized frame has not yet established on the international floor in 1972 AC.

However obviously, even the anti-Malthusianists remain on the ground of technique and progress optimism at least, probably also based on an anthropocentric viewpoint. This confrontation is seen as a footprint of the ideological struggle regarding how to define 'development' properly. As counterpart, P.R.B. press statement of October 1966 points out „Either the birth rates must be lowered or the death rate must rise again if the growth is to be brought under control. (...) The biologists, sociologists and economists (...) have forecast the moment when Malthus' theory will return like a ghost and haunt the nations of the earth.“ (Enzensberger 1974: 14) Due to the Stockholm conference (1972) and oil crisis (1973-74), institutional structure development and public demand in fear of welfare decline and the oil crisis sowed the seeds for “receiving a good deal of attention internationally” in the 1980s (Dunlap 1997: 28).

#### Emphasis and construction of the Sustainable Development concept

Two main opinions are discussed within the concept of Sustainable Development (SD), which are related to emphasis of either one or the other term. First, the belief of a contradiction between these two terms. To this group belong either the exponents of market liberalism such as the International Monetary Fund and World Bank. They pose that an immoderate consideration of ecological sustainability will lead in its final consequence to economic 'zero growth'. Marxian influenced stakeholders<sup>207</sup> also belong to this group arguing the fundamental contradiction of sustainability and development bases upon the development of 'productivities of labour' [Produktivkräfte] and 'productivity relations' [Produktionsverhältnisse] (O'Connor 1988). So, the dialectic antagonism some arrogates a “revolução ecológica” [ecological revolution], or rather, a radical change of energy supply and consumer good production (Altvater 1995: 315). Marxian viewpoints are and have been the most recognised in the debate (cf. Harvey 2009, Buttel 1992, Foster 1999), but all kinds political movements that focus in argumentation on the political-economical system as main cause for environmental misery share basically the same opinion (eco-socialists, radical environmentalists, eco-anarchist youth, animal liberationists, ecofeminists, some social ecologists and so on). Consequently, the two contrary word-views are found in this fundamental understanding, called 'market liberals' and 'social greens'.<sup>208</sup>

The 'zero growth' argument is charged by technical optimism, the belief that science and technical development will find solutions for and resolve all problems in time as it emerged in the Enlightenment century (15th). These critiques apply from different viewpoints, but between the two extremes are those seeking a compromise. These are stakeholders coming from institutions or work within a political institutional framework (such as advocates of permaculture and organic agriculture, religious evangelists, worker-health advocates, environmental health professionals, environmental justice advocates, environmental lawyers, indigenous rights activists, steady-state economists, neo-Malthusians, neo-Luddites,

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<sup>207</sup> This influence little considers ideas such as a 'dialectic of nature-society' based on early writings of Marx in favour of his later writings and common understanding in terms of economical critiques on political economy and blaming of capitalism as source of all (environmental) evil in the world.

<sup>208</sup> The terms used are adopted from Clapp and Dauvergne (2005: 3) as will be outlined further on in more detail.

neo-Hobbesians, ecological technology promoters among others) and those, basing on a nature focus like romantic preservationists, efficient conservationists, public-health advocates, environmental illness victims, deep ecologists, greens, conservation biologists, nature writers.<sup>209</sup> Both stakeholder groups, or rather, idealised types of opinion regarding the emphasis question between the two inherent terms, believe that a compromise is possible by regulation, the former are named 'institutionalists' and the latter 'bioenvironmentalists'.<sup>210</sup> However, it is often criticised that agents of this understanding avoid answers to the main pressing question of how to realise the requested 'change' within 'productivity relations' at this time. This critique comes from system critical viewpoints in the scientific debate. In answer this accusation – in particular Marxian – 'institutionalists' and 'bioenvironmentalists' argue that they use ideological arguments in the same manner as their opponents do. The result is disqualification of the problem itself as well as failure of orientation towards problem solving. Lines between these ideal type opinions cannot clearly be drawn. Prominent neo-Malthusians clearly analyze the mentioned antagonism too, but don't include the possibility of a system collapse in their theory. They rather reason an end of the productivity, which they call a 'catastrophy', such as Moll (1991: 130 et seq.). Environmental preoccupation was considered as disparate contemporary understanding of the development concept. Even though Malthus himself has considered other forms of development as important<sup>211</sup>. During the 'transition' period (c) from 1982/3 to 1990/2, Lélé argues a dramatic transformation in the debate about (social) nature and (human) development. The question was not anymore, whether environmental concerns and development are a contradiction between each other, but how to achieve Sustainable Development. As he concludes, sustainable development (SD)

“passou a ser a palavra-chave para agencias internacionais de fomento, o jargão ao do planejador de desenvolvimento, o tema de conferencias e papers eruditos e o slogan de ativistas do desenvolvimento e do meio ambiente. Parece ter ganho o apoio amplo que faltou a conceitos de desenvolvimento anteriores como 'ecodesenvolvimento', e está fadado a se tornar o paradigma de desenvolvimento dos anos 1990”

[became the key-word for international funding agencies, the jargon of development planners, the topic of conferences and sophisticated papers and the slogan of development and environment activists. It seems to have beneficial use, that there were no development concepts like 'ecodevelopment' before and that it is predestined to turn to the development paradigm of the 1990s]. (Lélé 1991: 607) This transmission process was accompanied by political emphasis in the same direction and against the Carter direction of the Global 2000 Report. Ronald Reagan (president from 1981 to 1989) promised in his election campaign against Carter to 'make America great again' in rejection of the ecological limits' reality. The dismissal of Carter's 'Report'

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<sup>209</sup> The named exemplary groups are taken from the mentioned incomplete list provided by Schlosberg (2002: 3-4).

<sup>210</sup> The terms used, to which must be also added the 'social greens' and 'market liberals', are adopted from Clapp and Dauvergne (2005: 3) as will be outlined further on in more detail.

<sup>211</sup> Meadows' definition of development is based on socio-cultural standards rather than just on economics. Meadows however argues that his definition will give man the possibility to enrich, as well activities such as education, art, music, religion, fundamental research of science, sport and social interaction. These aspects are in Meadows view underestimated in the current, clear economically based definition of development. Therefore he considers them as being developed in deficit. (Meadows 1972: 175)



by the new administration was also supported by respective citations of Kahn's and Simon's publication (1981) as Boggs states (1985). (Dunlap 1997: 24)

Concluding the 'transmission' period was also a turn in or to mainstream environmental sociology with focus on impacts of environmental condition on humans as mediated by perceptions, collective definitions and community networks than with impacts of humans on the environment. Topical opposition or variation to the 1970s emphasis on social impacts of scarcity, led to spread out of researches inflamed by major environmental accidents at Three-Mile-Island in the US (1979), Bophal (1984) in India and Chernobyl (1986) in the Soviet Union. Whilst mainstream environmental sociology<sup>212</sup> organisations grew in number (Dunlap 1997: 24), some countervailing trends regarding unevenly distributed hazards across social strata (Schnaidberg et al 1986) by stimulating research on a new form of environmentalism on local grassroots environmental action (Bullard 1983) and more generally increased attention to the nature and role of risk in modern societies (Short 1984) as could be seen in the debate about Ulrich Beck's risk society approach. This countertrend will not be discussed in more detail at this point, since researchers of this direction like Bullard recognise themselves also as environmental justice researcher, and though belong to the second concept of Environmental Justice emerging at this time, which is discussed in subchapter 3.2. Others, also concerned about growing environmental threats due to increasing technical risks – like risk sociologist tradition –, but also – like Environmental Justice researchers – focussing on communities, or rather problems afflicting resource-dependent communities, have been growing number of rural sociologists like Freudenburg and Gramling (1994).

Generally, one can see a process from problem perspective by which the perception of the environmental problem changed: Whilst in the 1960s and 1970s the environmental problem and nature degradation was considered as mainly an aesthetic issue, in the 1980s the viewpoint broadened, that direct threat to human well-being (and their future generations) must be seen as part of two levels, local and global. Localised problems occur to be seen as generalised problems due to media recognition and spread out. This emphasis change of the leading environmental discourse was driven by pervasive recognition of “often having origins that are poorly understood and consequences that are difficult to detect and predict, with the result that they appear 'riskier' than earlier predecessors” (Dunlap 1997: 27) as the environmental impacts were realised as being irreversible due to increasing frequency, scale and seriousness (Dunlap 1993). The early 1990s have been characterised by institutional led struggles for finding a solution for growing awareness. Buttel (1987) analyses environmental sociology failure to properly contribute to the discerned political economy of environmental problems and the sociological contribution to risk analysis as emerging areas at this time. Fast growing literature output (Nobre (2002); Barry/Proops (1997); Faber/Manstetten/Proops (1996); Gowdy (1991); Daly (1990b); Proops (1989) among others) framed construction of the institutional paradigm

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<sup>212</sup> Here is to stress, that the 'mainstream' term is used differently. Dunlap (1997: 24) for example, uses this term to describe the sociologicistic tradition of sociology, whilst in the present work the definition as described in the past chapters follows the critique of Mathias Groß (2001).

environmental sociology in particular in the field of Environmental Economics, seen as key issue of environmental social scientific research. Particular problems of this environmental studies contribution within the institutional nutshell will be discussed in the next section, where ideal type discourses on the environmental issue are about to be discussed. What is about to be discussed in the following is the consequent follow-up of the path to its unsatisfying results in 2012. The more environmental sociology became a hype on the political agenda, the more it became part of an interest's struggle about discourse hegemony. Here, when facing the fact, that continuation on the contemporary basis will lead to the 'point of no return'<sup>213</sup>, balancing contrary interests became a major concern. Even by looking at emphasis and construction of the Sustainable Development concept, competitive discourses can be found in the academic system. Concluding, the process of institutionalisation is linked to the process of how to define the concept as will be done in the next sequence. Revealing environmental discourse mainstream and discourse variances the character of environmental problem's dealing can clearly be demonstrated.

### 3.1.3.2 The definition of Sustainable Development

As could be seen in the examination above, the “Trennung von wissenschaftlicher und politischer Ebene der Debatte (...) ist künstlich. Real sind beide eng mit einander verwoben.” [division of scientific and political level in the debate is artificial. In reality, both are closely entangled.] (Eblinghaus/Stickler 1996: 17) This has been so from the very beginning. Looking for definitions, the literature of the 'assimilation' phase uses terms such as “Leerformel” [empty formula] (Jänicke 1993: 149), “Alleskleber” [universal adhesive] (Sachs 1995: 14), “intellektueller Mix” [intellectual mix] (Marglin/Mishra 1994: 213) or “Containerbegriff” [container concept] (Arts 1994: 6). This unclear definition is based on the included “metamix', that will unite everybody from the profit-minded industrialist and risk-minimizing subsistence farmer to the equity-seeking social worker, the pollution-concerned or wildlife-loving First Worlder, the growth-maximizing policy maker, the goal-oriented bureaucrat, and therefore, the vote-counting politician” (Lélé 1991: 613). Consequently, the unclear concept definition is what Pearce called a “fashionable catchwork” in the 1980s (1988: 598) for opposed opinions. The question has more say in the process of fashioning the concept refers well-analysed misbalance in power and influence by different stakeholders.

According to Lélé, SD is a “powerful tool for consensus”. (1991: 607) The question is, under which conditions? In favour of whom? Who can rather enforce his demands? As Redclift analysed already at the end of the 1980s, that political boundaries create a range of operational objectives for the prize of a partnership ideology, which doesn't address power and domination relationships (1987: 202). This applies to projections, first on the global one, where the concept emerged. As consequence of the partnership, no form of global social inequality can be properly thematized in the context of 'saving planet Earth'. The named

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<sup>213</sup> This means finally the moment on which an irreversible process leading inevitably to the elimination of all living on the planet.

'spaceship earth' ideology must be seen in this context. As Eblinghaus and Stickler stress, the "Debatte um globale Umweltprobleme schafft ein Klima, welches es als unverantwortlich erscheinen läßt, wenn man sich nicht 'konstruktiv' an der Lösung der Probleme beteiligt. Alle ideologischen und politischen Differenzen erscheinen unter der Maßgabe (...) als Nichtigkeiten" [debate about global environmental problems creates a climate where non-constructive participation in problem solving appears to be reckless] (1996: 39). The permanent reference to a greater, more important good, survival of all mankind, created finally a concept in which global differences could be neglected, various forms of global domination, historically predetermined inequality as result of colonialism and other forms of exploitation could and can be enforced pointing to the 'practical constraints'. The second aspect is in its application on local projection. The sustainability discourse can be seen as an offer 'from above' to social movements at the bottom. The underlying assumption that harmonisation of all conflicts is possible if all stakeholders act 'constructively' and responsibly. Finally, at this inherent part of the concept, a fundamental reason for the occurrence of the Environmental Justice (EJ) concept in the 'transition' time (1980s) of the SD concept can be found. Since those struggles that denied compromising the harmonising approach at the price of accepting given domination structures in general, refusing co-working with the institutions provided by SD in their specific case to cover their interests in particular, have been key-defining for the EJ concept at its beginning. As Marcos Nobre ironically points out, in placing 'sustainability' to an adjective semantically below the dominant 'development' noun, it shows the conceptual genesis of the concept in historical retrospective. (2002: 25) Considering the underlying domination structure, one can say, that economical concerns trump ecological once even by looking at the semantic. For its harmonising purpose, not intended but inherently present, SD must be seen as a success, even in 'assimilation' and further consequences. Obviously predominant concepts such as anthropocentrism, technique optimism and occidental rationalism could have been placed in a workable frame, handling the environmental challenge along all catastrophes (such as Chernobyl, Gulf of Mexico or Fukushima) without challenging the underlying structure. The all-combining part has been the understanding of its main term by those 'from above'. Therefore, stakeholders in favour of economic growth succeeded even though the environmental costs for future and present generations, and the environmental risks in particular, couldn't be reduced.

A deeper look at the history of the modernisation debate demonstrates development along the phases of SD from 'emergence' (1960-1972) to 'boost' (1973-1982/83) to 'transition' (1982/83-1990/92) to 'assimilation' (1990/92-2000) one can also find competing concepts. The three main approaches have been 'modernisation theory' (1950s to 1960s), 'dependency theory' (second part of 1960s) and 'world system approach' (begin of the 1970s). Basically, the three approaches can be politically distinguished. Modernisation theory based upon two concepts of 'rationality' and 'traditionality' as introduced by Max Weber. This 'rationality' was replaced by the term of 'modernity', defined by various authors in accordance to their European-Northamerican background. Terms of 'developed' and 'underdeveloped' have been defined within a simple ethnocentric

frame, in which their own society is the objective for all societies in the world whilst the rest is all the same, 'traditional' societies without history. Furthermore, as Hauck adds, “[a]n der eigenen Gesellschaft werden nur die positiven Seiten wahrgenommen (...); alles Negative wird auf die 'traditionelle Gesellschaft' projiziert. Schließlich erscheint die Modernisierung auch noch als ausschließlich eigene Leistung. Das ethnozentrische Syndrom ist komplett” [only positive aspects are perceived in your own society; all what is negative will be projected to 'traditional societies'. Finally, modernisation appears to be a result of exclusively efforts of your own society, which completes the ethnocentrist syndrome] (1992: 165). Besides the hegemonic approach which favours the more industrialised countries, the ideology behind it is of greater importance for the problem set for understanding what kind of problems, emerged from what kind of development understanding, are harmonised by SD. Characteristic for the theory are the indicators to distinguish societies which already reached 'modernity' and those which stay in 'traditionality'. According to Zapf, these are low investment rates, low economic growth, flawed development of science in general, their utilization in the production process in particular, particularism, flawed social mobilization, low liberal education and political participation. (1977: 8) 'Modern' societies on the contrary stand out due to rationalism, universalism, democratisation, permanent growth, social differentiation, mass consumption and complex institutions. As the SD concept was not created to dominate the world, so didn't 'modernisation theory'. Its development based on the assumption that all societies of the world will pass through the same process of development. (Menzel 1993: 21) The first critique on this theory came from Latin America, spreading out worldwide then and became the alternative paradigm for the next 15 to 20 years. Whilst 'modernisation theory' focused on endogenous roots of underdevelopment, 'Dependency theory' insisted on exogenous factors. Therefore, existing underdevelopment was understood as consequence of centuries of long dependency from the capitalist world system. (Eblinghaus/Stickler 1996: 21) In praxis, the various approaches within this theory proposed to disconnect underdeveloped countries from dominating world economic system by focusing on the state as central actor (for concrete proposals see Bohnet 1988: 60). Critiques emerge to both 'modernization theory' and 'dependency theory' at two points. As Hurtienne states, both based on the same questionable paradigm of continuity of principle driving forces, forms and structural conditions of modernisation and development. (Hurtienne 1986: 65). The second point is an assumed linear development model, in which 'dependency theory' criticism-deserving path of industrialisation (Becker 1992: 48) and nature exploitation (Mármora 1992: 35) as 'modernisation theory' does. The opposing positions of the two big development theories resulted finally in their failure, their impossibility to respond to growing critique on the unsophisticated use of both the concept of development and of progress, modernisation and growth (Becker 1992: 51). Instead of theoretically capturing the problem, they rather focused on empirical studies. The newest approach can be called groundbreaking and arises from the debate about the named 'dependency' approaches at the beginning of the 1970s, called 'world system theory'. This theory claims to be based on profound historiography, analysing accumulation on a global projection to deliver a theory about structure

and dynamics of development for the whole international system. As Hopkins and Wallerstein remarked, the theory is based on economic processes and meshings, not legal, political, cultural, and geological categories (among others) (1979: 187). The theory's historiography looks rather for the history of secular expansion of the economic world system (Wallerstein 1995: 144) than for the development path of some national states. 'World system theory' is seen as a globalisation of problem view or, as Menzel states, a new paradigm (1993: 33) in terms of a broader capitalism conception in which the periphery and centre as categories are considered as intrinsically necessary for the capitalist world system. This approach rather centres on households as economical categories by refusing the development. Even though 'world system theory' was earlier considered as crucial for the debate about 'social nature' and development, it is less considered in the debate, "was wohl – neben einer gewissen Grobschlächtigkeit in der Analyse – auch mit seiner Unbrauchbarkeit für konkrete entwicklungspolitische und industrialisierungsmotivierte Vorschläge, seiner mangelnden Verwertbarkeit, zu tun hat." [which is also linked, beside the provided coarse analysis, to its impracticality for concrete development policy and industrialisation motivated proposals] (Eblinghaus et al. 1996: 24, note 6). Concluding one may say, that Grundmann's (1997) proposed 'dialectic of nature-society', emphasised indirectly by Groß's reference (2001) to the early Marx in consideration of critiques on this dialectic (Göhler 1980), but eventual perspectives too (Kaufmann 2003), might have its completing part in adding 'world system theory' contribution to the named environmental problem set to the construction of a 'sociology of things' [Soziologie der Dinge].<sup>214</sup>

In the following, preparation of 'defining' discourses in the field of environmental change will be outlined. These 'worldviews' represent ideal type discourses<sup>215</sup> on the topic (sic!) and are of particular interest for the discussion about the institutionalisation of the SD concept and the case study in the following. Within the following distinction will be partly referred to relevant<sup>216</sup> economical theories in considerations of ecology (Herman Daly, Pareto to Hicks, Ecological Economics) to both better classify the discourses and complete the theoretical frame in which SD discourses take place.

#### 3.1.4 Four Worldviews on global environmental change

According to Nobre (2002: 141 et seq) the general balance within the notion of 'sustainability' consists in two open aspects:

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<sup>214</sup> For the sake of focus in this piece, this opportunity must be left open as a question for further research.

<sup>215</sup> Therefore, the following discourses do not represent the or all existing discourses in the field, but rather structure the area of existing views in the world about the Sustainable Development concept.

<sup>216</sup> Qualifying must be added that there is no possibility to name all contemporary debates about economic attempts to consider ecological constraints in development or welfare strategies. The given selection rather points to the logic of conclusions by different subjective assumptions to better distinguish the different viewpoints. For further reading to that matter cf. Cypher et al. 2010 (beside of a weak tract about Marxian economic theory a very good introduction) and Nobre 2002 (for different discourses).

1. The relationship of 'sustainability'.
2. The conditions for 'sustainability'.

The former aspect asks for the necessity of sustainability as a result of rational ethics, or rather for the relationship between the 'idea of sustainability' and an 'ethic of perpetuation'. This aspect finally includes all different perspectives on how 'nature' is constructed and which role is played in this relationship to mankind. Different opinions regarding significance of either human development or sustainable concerns result in understandings of two mentioned terms: anthropocentrism and technique or progress optimism. In consideration of humans uncertainty, or rather impossibility, to know the future, the significance is due to the perspective of what is assumed for future development. The two problems base on the lack of non-renewable resources and non-proportionate growth of population in relation to existence of non-renewable resources. For instance, if one assumes future development of proper new technologies in time, so to say, before non-renewable resources are exhausted, there wouldn't be an environmental problem. Consequently, if the substitution of non-renewable resources by renewable resources is possible because of technological progress, the frame is given whether a solution of the environmental challenge can be found within the existing societal constraints and without any fundamental change. If external circumstances are seen as too pressing, that this development can be achieved at all, or in time, another perspective would rather turn towards change of consumption behaviour, more institutional action in the process, direct action in terms of protests or even a social, environmental revolution. The latter aspect refers to the how to define 'sustainability' within the chosen frameworks. Depending by the used concept, criteria or guidelines, theories or approaches are outlined in consequence to the former viewpoint. Both aspects shall be discussed in the context of the four 'ideal types': In accordance to Clapp and Dauvergne (2005), four worldviews on the environment can be gathered from political science, economics, development studies, environmental studies, political geography and sociology: market liberals, institutionalists, bioenvironmentalists and social greens. These 'ideal' categories, exaggerated to help differentiating between them, will help to distinguish and classify the main theoretical approaches. As well as the named 'ideal' categories one has to see the following examined 'pure' theories as ideals, as perfections, in which one may find various mixed modes or approaches which take – for example – as well from the market liberals as well as the social greens.

Furthermore, the categories may be used for afterwards interpretation of stakeholder groups behaviour. The evaluated anticipation of what is 'environmental change', in particular on the glocal scale, implies practical and theoretical understandings of what is the value of their partial terms (sustainability, development, environment, justice). One can see, that even social justice concerns have played a role in the process of the constitution of Sustainable Development, but mainstream discourse highlighted, in particular later on, rather modernisation aspects. The four world views represent perfectly the four foci, on which theories are based.

Market liberals focus on neoclassic economics, methodology and theory, institutionalists focus on institutional frame works, bioenvironmentalists base their theories on the ecosystem and biophysical laws, whilst the social greens refer first and foremost to justice. The following table may give an overview to the different positions. The point is not to show the complete ray of possibilities or existing interpretations of the environmental problem set which is faced by different disciplines in science, but in political decision-making too. As can be seen from the following overview (Table 4), market liberals usually come from the field of economics, practically and theoretically. They assume that economic development, individual preferences and high income per capita are essential for human welfare and the maintenance of sustainable development. Based on individual preferences, expressed by monetary terms, supported by neoclassic theory, they assume that the market will regulate itself with these preferences by considering the needs of current and future generations, because of the rationality in decision making processes. Negative impacts are seen as market failures resulting from 'wrong' or 'weak' governmental directives. Publications of the World Bank, the World Trade Organization and the World Business Council for Sustainable Development (WBSCSD) are part of this category. (Clapp et al 2005: 4-5) Institutionalists have a lot more in common than it would seem at first look. Since coming from the scientific field of political science and international relations, they stress stronger institutional frames and norms, sufficient governmental capacity to regulate and direct the global market and political economy. Even sharing traditional opinions about the value of economic growth, investment, technology, and the notion of sustainable development with the market liberals, they care much more about the accompanying impacts of economic development in regards to population growth, increasing inequality and environmental costs. International organisations, such as the World Bank<sup>217</sup> or the UN Environment Programme, belong to this category. (Ibid: 9) Bioenvironmentalists are based on natural science assumptions about nature. Considering biological and physical laws, they emphasise the ecological limits of the planet and the underestimation of nonhuman animals as well as the ecosystems within the given system of economic development. They criticise the anthropocentrism and self-interested priority listing of mankind and focus on the population growth as the most pressing problem, since humans are using the naturally given resources too fast, which can – finally – just end in the degradation of human life standard. Thomas Malthus and Neomalthusians like Paul and Anna Ehrlich have been representatives of scientists belonging to this category. A solution is given by a cut-down of economic development and population growth in favour of saving the long-term existence of humans on earth. By sharing the theoretical and logical intersection of the first, ecological economists such as Herman Daly provide a broad range of attempts to internalise environmental values and future needs considerations into economic formulas by combining ideas from physical science and economics. (Ibid: 11) Finally, social greens stress rather the social and environmental problems resulting from contemporary economic development. Inequality and present domination structure belong together in avoiding equal access to the environmental goods as well as

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<sup>217</sup> There is an interesting correlation between the publications of the World Bank, which belong to the market liberal category, and the 'political' position as an institution, which belongs to the institutionalists.

appropriate payment for the environmental bads. This category is as broad and wide-spread in theoretical considerations, from anti-capitalistic, anarchistic, Marxian, feminist approaches to radical ecologists, including eco-fascist groups that follow back-to-the-nature ideologies. But these cover almost all grassroots movements in the environmental fields too, such as environmental justice movements and environmental NGOs. Characteristic for this attitude is the claim of more influence, the critiques on whole global structure and the call for a return of power to local authority autonomy and empowering those who have no voice. For them, the various problems of the political and economic system are bound to each other and a solution based on a rethink of the whole. Representatives are groups such as the International Forum on Globalization (IFG), the Third World Network (TWN) or the Rede Brasileira de Justiça Ambiental (RBJA) [Brazilian Network of Environmental Justice] but also various activist groups. (Ibid: 16) As expressed above, these four 'clear' distinguished categories can just be seen as models, since, in reference to the table above, even between these categories one can find congruent assumptions and/or attitudes, such as the agreement of market liberals and institutionalists on the positive implications of economic growth for the environment, the disagreement of social greens and bioenvironmentalists to the same token, population growth as a problem for the world's resources as stated by both institutionalists and bioenvironmentalists, and rather the opposite according to market liberals and social greens. In the following the general balance within the notion of 'sustainability' will be outlined considering the defined categories as parameters in order to scrutinize the predominant understanding of institutionalists and market liberals which hold “the upper hand in the global community.” (Clapp et al 2005: 81)

Table 4: The four (4) ideal typed discourses on Sustainable Development

	<b>Market liberals</b>	<b>Institutionalists</b>	<b>Bioenvironmentalists</b>	<b>Social greens</b>
<b>Focus on</b>	Neoclassic economics	Institutionalism	Ecosystems	Environmental Justice
<b>Is there an environmental problem?</b>	No. Just some inevitable problems, resolvable by human genius, modern science, technique progress	Not yet. Potential for crises but possibility to improve effectiveness of regimes and global institutions	Yes. Earth's carrying capacity is shortly achieved or crossed.	Yes. Local and global injustice advance the problem.
<b>What are the causes of problems?</b>	Poverty, weak economic growth, market failures, poor governmental policies	Weak institutions/regimes, inadequate global cooperation, underdevelopment, perverse effects of state sovereignty	Human instinct, overpopulation, excessive economic growth, overconsumption	Large-scale industrial life (some say global capitalism), social and environmental exploitation, unequal patterns of consumption
<b>Forecast proposals</b>	Promote economic growth, enhance efficiency, correct market and policy failure,	Strong global institutions, norms, regimes, technology distribution, increased state	New global economy within limits to growth, limit population growth, reduce consumption,	Reject industrialism, restore local community autonomy, empower



	market based incentives, promote voluntary corporate greening	capacity, precautionary principle	internalize non-human life, coexistence with nature	marginalized, promote justice and indigenous knowledge systems
<b>General attitude</b>	optimistic	semi-optimistic	semi-pessimistic	Pessimistic

Source: Clapp et al 2005: 14-15

### Market Liberals

Whereas development theories as 'dependency theory' and 'world system theory' are shared by 'institutionalists', 'bioenvironmentalists', and 'social greens', 'modernization theory' is strongly connected to the worldview of market liberals.

For the purpose of the first question, three basic neoclassic assumptions are named in constituting a central unity of rational individuals, who promote a better allocation and social utility of natural resources. These are:

- a) methodological individualism
- b) utilitarianism
- c) equilibrium

The link between these three terms is based upon 'individual preferences' [a]), that can be translated in monetary terms [b)], which finally result in a preferences determined optimal solution within an equilibrium [c)]. The neoclassic classification of the market liberals emerges by the assumed positive impact of self-interest for societal processes and the betterment of all. It is best expressed by Adam Smith's most famous quotation: "It is not from the benevolence of the butcher, the brewer, or the baker, that we expect our dinner, but from their regards to their own interest. We address ourselves, not to their humanity, but to their self-love, and never talk to them of our own necessities but of their advantages." (Smith 1973: 14) In the following, the two initially named aspects [1,2] have to be applied to the term of sustainability in consideration of their interconnectivity to the interconnections between the two assumptions [b,c] surrounding the assumed 'individual preferences' [a]. Sustainability is reckoned as the 'optimum' and an utilitarian result of an individual ethic, which can be reflected in monetary terms with some ethical considerations in regards to the environment. On the basis of the same rationality, as if an individual decides about its 'willingness-to-pay', this assumption yields inherently the 'utilitarian dilemma'. Given the assumption that individuals are completely free in deciding which preferences to follow, the main criterion would be fulfilled in regards to the freedom of ends by ignoring the means. If this problem doesn't exist, individual preferences would be able to display environmental concerns within monetary terms, thus, the given display could be included in a holistic equilibrium consisting of the economic and environmental sphere. On the other hand, some means have to be considered, such as Maslow's 'pyramid of needs', which

shows a hierarchy of needs which bottom-up have to be fulfilled in order to be able to consider further, higher ranked needs. The individual – utilitarian assumption would imply, that rational considerations of possible impacts to future generations, or just some day in the future, as a result of environmental burdens, for example, are bared in mind and ranked on an appropriate level to maintain the world's resources. The question of inasmuch ethics matter for the individual preferences may be discussed in psychological terms, as Maslow did, but since those aren't expressible in monetary terms, they are a-priori quasi excluded. As Nobre states, altruistic motivation cannot be guaranteed (2002: 143), in fact there is no evidence that some kind of altruism would take place, even if the world's economic expansion rate would have matched the factor of 5 to 10 and at the same time respecting ecological limits, as proposed, but subdued as aimed later on, by the 'Brundtland Commission Report' of the 'World Commission on Environment and Development' in 1987 (Daly 1991a: 6). Furthermore, plausibility such as complete consideration of environmental items, especially to the fact of certain impacts will just be taken into account after a life-time or decades later, in which lots of conditions could have been changed. Therefore, the possible (and realised) valuation doesn't match the environmental requirements. So, sustainability is defined as 'optimality' and must be seen as part of the economical debate about how to define development and progress. Economics of pollution and economics of resource use are consisting parts of welfare economics for considering 'sustainability'. The two base on the differentiation between social costs and benefits on the one hand and private costs and benefits on the other. Private economic activity generates different benefits and costs. There are private costs, such as risk or investment costs, as well as benefits, such as profit. On the other hand, it consists of the public sphere. This is the societal part, where costs apply and benefits are in demand too. Hegemonic expression in welfare economics as a basis to define development in consideration of environmental costs based on works of Pareto, Hicks, and Kaldor. To understand the two models of treating these externalities given by nature, market liberal understanding of those as either pollution (cost) or resource (benefit) will be discussed further. In the following the theoretical switch from Pareto's definition of the development term to the one of Kaldor-Hicks will top the principles on which market liberal behaviour off.<sup>218</sup> Economics of resource use understand property rights as considerable to all questions regarding cost and benefit distribution. Randall considers public goods as defined by attributes of 'non exclusiveness' and 'non rivalry' (1987: 164). Whilst 'non exclusiveness' refers to the impossibility of exclusive utility of a good for an individual or for private use, 'non rivalry' corresponds to the possibility of commodity's usage by an individual without affecting usage opportunity of another individual. Regarding the environmental question, there is to reckon, that validation of environment's usage is 'non exclusiveness', but therefore rival. Since they are not used exclusively, the usage of public goods for private benefit by individuals can generate costs and/or benefits for a third party. In

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<sup>218</sup> To both aspects must be added, that a complete outline of the debate is neither required nor possible for the purpose of this study. The basic understanding on which different further discussions are based on shall be described to better understand influence of the market liberal SD stakeholders for the institutionalization process.

particular, these costs and benefits are socially externalised. This is it, what neoclassic economy defines as negative and positive 'externalities'. Economics of pollution on the other hand bases upon the conception of 'negative externalities'. 'Externalities' are understood as violation of marginal conditions (Baumol/Oates 1988: 7), in which real, non monetary values of an individual's utility and production are chosen by others without considering the effects on the well-being of the formers. Furthermore, the decision-maker, whose activity affects the utility levels or production functions of other individuals, doesn't pay for the caused loss or benefit. This definition is called a "Pareto-relevant externality" (Ibid), that turns attention to the problem of 'violation' of his conditions that define the 'Pareto optimum'<sup>219</sup> (or Pareto efficiency). The 'optimum' situation is one, in which it is impossible to make one individual better off than another without lowering the status of someone else.<sup>220</sup> A 'violation' applies possibly to Pareto's three (3) 'crucial conditions'<sup>221</sup>. All three have to be fulfilled in order to achieve a 'Pareto optimum' after a technically possible transformation of economic variables (technological progress). The three conditions are similar to the equilibrium of the 'two fundamental theorems of welfare economics'<sup>222</sup>, in fact, they are (almost) identical. Thus, if you can make

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<sup>219</sup> Named after the economist and sociologist Vilfredo Pareto (1848-1923)

<sup>220</sup> In Pareto's own words: "We will say that the members of a collectivity enjoy *maximum ophelimity* in a certain position when it is impossible to find a way of moving from that position very slightly in such a manner that the ophelimity enjoyed by each of the individuals of that collectivity increases or decreases. That is to say, any small displacement in departing from that position necessarily has the effect of increasing the ophelimity which certain individuals enjoy, and decreasing that which others enjoy, of being agreeable to some, and disagreeable to others." (1906: 261) The 'Pareto optimum' bases on a given set allocative commodities and outcomes for a certain set of individuals respectively, requiring the 'Pareto improvement' (or 'Pareto optimal move'). This 'improvement' pushes forward the unbalanced differentiation to the state of the 'optimum' or at least as long as an individual can be made better off without making another worse off. The balanced situation, the 'optimum', is an equilibrium at a certain point, allocable as long the required variables are know. These variables are the four: First given individual preferences, given factor endowment, then given income distribution and last but not least a given state of technology. "As a result, economies in which there are incomplete markets and imperfect information are not, in general, constrained Pareto efficient ." (Greenwald/Stiglitz 1986: 230)

<sup>221</sup> The three 'crucial conditions' are mathematical reckonings and don't have to be considered for the given purpose. Basically the three are the condition of (i) consumption efficiency, (ii) production efficiency, and (iii) product mix efficiency as explicitly described by Abba Lerner (1934, 1944) and Harold Hotelling (1938). In short, consumption efficiency (i) bases on the formula of  $MRS^A_{XY} = MRS^B_{XY}$  for any pair of households (A, B) and any two goods (X, Y). It is defined by the second of Gossen's laws, that proofs household equilibrium for all households since the 'marginal rate of substitution' between two commodities for all households is identical based on equal commodity prizes on the homogeneous market. This is also named 'household optimum'. Consequently the named 'marginal rate of substitution' is equal to the inverse of the corresponding marginal benefit relationship. Production efficiency (ii) on the other hand is expressed by the formula of  $MRTS^X_{KL} = MRTS^Y_{KL}$  for any pair of outputs (X, Y), and any two factors (K, L) All enterprises achieve this optimum in accordance to the least cost combination. The marginal rate of technical substitution between two production factors are identical for all enterprises due to the indiscrimination of the factor prizes, also named 'enterprises optimum'. The marginal rate of technical substitution is deduced as inverse of the corresponding marginal productivity relations of these factors. The last 'crucial condition' (iii) is defined by  $MRS^A_{XY} = MRPT_{XY}$  for any household (A) and any pair of outputs (X, Y) and called product mix efficiency. This condition just means, that equivalent marginal rates of technical and indifferent substitution are equal. (Gabler Verlag 2011) Fulfilling of all three is required to achieve a 'Pareto optimum'.

<sup>222</sup> The two 'Fundamental Theorems of Welfare Economics' are explained as follows: (i) First Fundamental Welfare Theorem "says that every competitive equilibrium is an optimum." (ii) Second Fundamental Welfare Theorem establishes that every 'Pareto optimum' is an equilibrium. "Hence if we select an efficient allocation as a socially desirable outcome, there is a redistribution of initial endowments and a price vector, that yield this particular

someone better off without making anyone else worse off or if one (or more) of the crucial conditions isn't matched, a situation is *not* Pareto-optimal. Two tests have been invented to check whether an activity is moving the economic system towards 'Pareto efficiency'. First, the Hicks compensation test, second the Kaldor compensation test, whilst the former is from the losers' point of view, the latter starts from the gainers' point of view. Crucial proof is the satisfaction of both gainers and losers. If they will agree, proposed activity will move economy toward Pareto optimality. The double check is called as well 'Kaldor-Hicks efficiency' or 'Scitovsky criterion'. John Richard Hicks (1904 – 1989) was one of the most famous representatives who increased the widespread of these theories enormously. In 1939 he developed co-working with Nicholas Kaldor (1908 – 1986) the Kaldor–Hicks efficiency (or 'Kaldor-Hicks criterion') for welfare comparisons of alternative public policies or economic states. This criterion was a modification of Pareto's efficiency, starting at the point, that Pareto's claim of no one has to be worse-off afterwards in order to achieve improvement and – consequently an 'optimum' of economic efficiency, is most unlikely. Based on that taking any action is just impossible without making anyone worse-off. 'Kaldor-Hicks efficiency' modifies the criterion so that an outcome can be more efficient if those that are made better off could in theory compensate those who are made worse off. This gave option to achieve a Pareto improving outcome result without guaranteeing that the discount rate is really payed. Truly, all Pareto improvements are Kaldor-Hicks improvements, but just a few Kaldor-Hicks improvements are Pareto improvements. A theoretical problem in Pareto's consideration of all theories, applications and schools based upon it, is in the assumed infinite consumer and assumed production equilibria of Pareto (see above). Consequently, different income distribution produces certain, traceable income differences. The question remains, how do we know, which Pareto optimum is the most desired? Therefore, the Pareto approach didn't support market liberal assumptions but gave now way out of the market constraints too. Kaldor-Hicks modelling did resolve a problem of applicability in the given economic framework, but still bumps against two limits as all clear mathematical calculations: Limited knowledge of the 'desired', in welfare economic terms the 'preferences', on the one hand, and ethics as moral barrier (development, in which for instance the majority is worse off afterwards), which hardly can be considered within the mathematical frame, on the other hand. Such moral consideration target the problem of justice and equality, and theories around it as well as the impossibility of

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allocation as a competitive equilibrium.” This has a double meaning: First, “Equity and efficiency are not incompatible aspirations in a competitive economy” and second, “The desired outcome can be obtained by a suitable modification of property rights, without having to impose particular actions on individual agents.” (Villar 2008: 180) Taking in consideration the famous quotation of Hicks who wrote in "The Scope and Status of Welfare Economics": "The Pareto optimum has gone into the textbooks. Because of the opportunities it offers for mathematical manipulation, great castles of theory have been built upon it." (1975: 310) over time various proofs of the Welfare Theorems have been presented. A graphical argumentation is provided by Abba Lerner's "The Concept of Monopoly and the Measurement of Monopoly Power" (1934). The 'Theorems' have been mathematically proofed by Harold Hotelling in published article "The General Welfare in Relation to Problems of Taxation and of Railway and Utility Rates" (1938), Oskar Lange's "The Foundations of Welfare Economics" (1942) and in “a highly simplified scenario” (Ibid. 181) Villar in his chapter “Mathematics and markets: Existence and efficiency of competitive equilibrium” (Villar 2008: 180 et seq).

consideration by focussing on just on empirical studies (like 'modernisation theory') or looking just from global projection (like 'world system theory') without being only morally judging (like many postcolonial and 'dependency theory' applications). Pareto himself never applied this principle to the behavior of people. Named uncertainty of non-calculability of future knowledge and the lack of local knowledge (subjective behaviour of what is desired and what is not), so absence of natural externalities (opportunity to gain future environmental benefits or necessity to pay future environmental costs) in mathematical calculation, creates necessity to perfectly express all relevant environmental aspects by prizes of the current market. Doing this, necessarily required as 'assumed criteria', such as perfect altruism, to create a model which is able to include environmental values. This model would suggest a possibility that all current market prizes and individual preferences would be perfectly internalised (Nobre 2002: 129). Finally, there is no guarantee that maximisation of contemporary generation utility will result in a 'social optimum', in particular, since the different clear economic modellings neglect Smith's remark to regulate market inefficiency. Smith argued, that, if people are acting in open markets, production of the right quantities of commodities would be provided, resulting in division of labor, increasing wages, and an upward spiral of economic growth. A long term run of the system would certainly – he argued further – lead to disturbing influences such as population growth, which pushes down the wages or natural resources that become increasingly scarce. (cf. Smith 1963: 122, 470) It is a conscious neglect, re-expressed by neoclassic theorists and in particular by applied politics such as neo-liberal models in particular, that pushes the argument of a natural best order of self-interest for mankind's best. But the truth is, that Adam Smith, like Karl Marx and John Stuart Mill, had concerns regarding how to reduce those living in poverty. In opposite to the classics, neoclassics such as the growth model of Solow became extremely influential in concentrating the attention from theorists and decision makers in the political sphere in particular “to critical variable and tools for accelerating economic development” (Cypher and Dietz 2010: 110) based on assumed self-regulation forces of the market. Even assuming, the named maximisation would obtain such 'optimum', implicitly assumes utility of future generations to be maintained sustainable. So, suing individual preferences and internalising the externalities in the model of utility optimisation is insufficient like the attempted sustainable usages determination of environmental resources. Another strategy of neoclassic theory consists in the adoption of the exogenous criteria in the model of optimisation, named as 'sustainability criteria'. An open question is, whether imposition of 'sustainability criteria' affords an opportunity to make them compatible to the principles of utilitarian optimality. Basically it all turns back to the basic strong assumption or belief that all society is better off in time when some are better off: “As every individual, therefore, endeavours as much as he can both to employ his capital in the support of domestic industry, and so to direct that industry that its produce may be of the greatest value; every individual necessarily labours to render the annual revenue of society as great as he can. He generally, indeed, neither intends to promote the public interest, nor knows how much he is promoting it (...) he intends only his own gain, and he is in this, as in many other cases, led by an

'invisible hand' to promote an end which was no part of his intention.” (Smith 1973: 423) Two problems are argued to challenge market liberal assumptions<sup>223</sup>, first the normative problem<sup>224</sup> and second the ecological problem<sup>225</sup>. From a normative point of view, the substance of social well-beings ultimate objective is the maximisation of advantages for individuals. So, to find these advantages is socially the most desired, called the *first-best*. In case of existing limits or legal restrictions which – due to imperfections of different natures – make the 'first option' not possible, the possible approximation is considered as *second-best*. “É comum na economia neoclássica o uso de procedimentos de otimização sujeitos a restrições de diversas naturezas” [The use of optimisation, subjected to restrictions of diverse natures, is common in neoclassic economy] (Nobre 2002: 144). Consequently, neoclassic theory uses optimisation as *first-best*, but formally optimisation would have to be subordinated under the criterion of well-being. The concept of 'individual preferences' usage for the methodological approach manifests the insufficiency of the 'methodological individualism', since it doesn't provide a better social result and lacks in non-consideration of ethical, social, institutional criteria. The criterion of pure optimality had to be configured as *second-best*. Consequently, problems of capital accumulation in the development process are mainly seen as institutional failures, in which institutions have wrongly disturbed the natural progress process.

### Institutionalists

In opposition to 'institutional failure', institutionalists see 'market failure' as the main concern. The reduction of both, individualism and neoclassic utilitarian hedonism, is the key goal for all approaches of this field. Relevant values are gathered as results of social options and conflict institutionalization. In reference to one of the most famous institutionalist scientists, Meyer's term of the 'isomorphism problem' and 'isomorphic change' is necessary to consider. By 'isomorphic developments' he means that since “[g]iven other perspectives’ emphases on the heterogeneity of economic and political resources (realist theories) or on local cultural origins (microphenomenological theories), most lines of thought anticipate striking diversity in political units around the world and in these units’ trajectories of change. Our argument accounts for the similarities researchers often are surprised to find. It explains why our island society, despite all the possible configurations of local economic forces, power relationships, and forms of traditional culture it might contain, would promptly take on standardized forms and soon appear to be similar to a hundred other nation-states around the world.” (Meyer et al. 1997: 150) Three classifications of this perspective are outlined,

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<sup>223</sup> Beside of all 'blaming capitalism' theories, which come from 'social green' theorists. These theories are indeed challenging and worth to discuss, but singularly to different to be considered in an overview like this. Nevertheless, even though not considered here, strongest critique on neoclassic theories of all kind is, at the end, their output in praxis, and their impossibility to give answers to the asked questions. Instead of providing answers, day-by-day experience in the newspapers bares the gap between proposed better-off of society by enforced individualism and a reality in which a majority of people in the world isn't better-off, but pays the costs. As Algeria's former President Bouteflika has stated: "The Have-nots are funding the haves." (Greisberger 2004: 3)

<sup>224</sup> insufficient treatment of institutionality

<sup>225</sup> insufficient treatment of the biophysical constraints

which assume (1) that institutions as analytical centers are not subordinated to individual preferences, (2) an analytical role, played by state-social conflict correlation, and (3) an analytical role, played by the scientific-technical dynamic. (Amazonas 2002: 154-155) Institutionalism focuses mainly on more microeconomic approaches. Other approaches in this field, such as post-keynesianism approach and regulationism<sup>226</sup>, stronger connected to the macroeconomic level, won't be discussed here in detail for the reason of space and focus. Reason is, that 'institutionalism' theories and approaches are more widespread in all disciplines, in particular in disciplines (such as political science) that deal with the environmental question from a social scientific viewpoint. Therefore, to understand the principles of institutionalists' perspective, the outline of 'institutionalism' is sufficient. The contribution of 'institutionalism' can be marked with three points: First, recognition of limitations given by rational choice approaches and, in consequence, the claim to include cultural considerations for individuals' will evaluation beside economic reasoning. Second, the understanding of social society as not just dynamically structured, but as an organic organism too. In fact, 'institutionalism' assumes static categorization as (possibly) incomplete to drawing an all-embracing picture of human desires. Therefore, preferences of individuals have a hierarchy. In reference to Maslow for instance, life is more desired and important than money, but cannot be represented in monetary terms. Critiques are representatively expressed on the theoretical level by Swaney for instance. The author points out, that non-economic values cannot be considered to provide effective political orders (1992: 624). Consequently, the evaluation of individual values is worthless except the fact that it defends the status quo (Swaney 1987: 1740). Since institutional approaches define economic growth as the solution to the environmental question, constant (or increasing) economic output must base on constant (or increasing) technological progress. Knowledge (understood as 'invention of new technology') and the application of knowledge (understood as 'applied new technology') are seen as key to progress. According to this view, ignorance<sup>227</sup> in regards to cause-effect relations is the primary component if the environmental problem (Swaney 1987: 1746) and the assumed definition of progress can create more problems than it resolves (Ibid: 1770). Therefore, the assumption of a benefiting, autonomous, and universal technological progress must be questioned. Generally, because of the intermediate character, clear theory is less provided than by the other three 'ideal types'. Institutionalists emphasise strong institutions and norms to protect the common good and to balance the different interests. So, institutional analysis is done by "many academics who focus their analysis on 'regimes' (...) in the fields of political science and law." (Clapp/Dauvergne 2005: 7). Since they see

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<sup>226</sup> Regulationism, basically, sees institution's function in analytical integration of different perspectives, here perspectives of an acting market, of capitalist accumulation, of natural environment concerns and the social. This approach asks for clear significant in terms of stability and continuance to properly regulate the system. The three approaches are basically: (1) Rejection of individualistic utilitarianism by centering institutional structures and dynamics in an analytical framework in order to build a more organic structure, (2) emphasis of both capability correlation role and (3) role of scientific-technological knowledge.

<sup>227</sup> Especially towards future costs, but also in regards to contemporary risks by applying new technologies. (In consideration of present environmental catastrophes for 'social nature', such as the core melt accidents in Fukushima's reactors (2011) or the oil spills close to China (2011) or in the Gulf of Mexico (2010-2011), it is reasonable to extent this view to contemporary technologies in use too.)

environmental degradation as a result of communication and cooperation failure, social inequalities in the context of the capitalist system as market failures, main rather base on the frame in which institutionalists in general (have to) work: To look for solution only within the given institutional framework by observing “the creation of, and changes within, these organizations as evidence of progress.” (Ibid: 9)

### Bioenvironmentalists

Since 'bioenvironmentalists' always concern earth's doom by overusing the ecological capacity, approaches from this area are more radical in their thoughts than those of 'market liberals' and 'institutionalists' are. They demand immediate action of 'intelligent leaders' for a new global political economy to set limits on the growth of both the worlds population and global economy. Approaches like this are also called 'co-evolutionary'. 'Sustainability' in bioenvironmentalist economic terms is understood as coercion, such as withholding food aid to 'less industrialized'<sup>228</sup> countries, unless they bring their population growth under control. Forced sterilization among other initiatives are seen as “coercion in a good cause” to relentless pushing population control around the world. (Ehrlich 1968: 166). The neo-Malthusian ideas of Paul and Anne Ehrlich are close to Herman Daly's 'transferable birth licenses' which is adopted from Kenneth Boulding. Boulding's plan to simply deliver 2.1 (two.one) licenses to each woman, that would be divisible in units of tenth parts, so called 'deci-child'. These are treatable by gift or sale (cf. Daly 1977: 56-61; Daly/Townsend 1996: 335-340), similar to Garret Hardin's mutual coercion. These strategies are on the very extreme end of the bioevolutionary classification. Nevertheless, all those have in common, that approaches require strong institutions, norms and/or legislation in order to proceed. On the other hand, the main goal is to achieve an economy that considers the environments' capacity. As said, economic consideration is based on individual preferences, accounted in monetary terms, which generally refer to the gross national product (GNP) and gross domestic product (GDP) (among few exceptions). Contemporary, approaches focus on doing away the typically used measures of 'progress' and 'well-being', turning away GNP and GDP focus in particular. One part rather tends more towards market liberal position, trying to readjust GNP and GDP figures. The other part tends more to perceptions of the 'social greens' (see below), but update the invention of environmental indicators. These are indicators such as the 'index of sustainable economic welfare' (ISEW), first presented in 1989 by Daly and Cobb (1994: 443-507). ISEW measures real per capita personal consumption expenditure adjusting the index to factors not counted by GNP and GDP.<sup>229</sup> Another index is the 'genuine progress indicator' (GPI). Proposed by the US non-governmental-organization 'Redefining Progress', it measures the financial transactions from well-being related part of GDP to adjust them for factors similar to those incorporated into the ISEW. In their measurement, the NGO assumed a stop of economical growth in 1973. Considering the so called three E's (environment, economy and equity), Michel

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<sup>228</sup> In order to avoid the term of 'underdevelopment'

<sup>229</sup> Such as income inequality, pollution, loss of natural capital, value of household labour



Gelobter, the executive director of Redefining Progress in that time, said, questioned by Scott Burns of the 'The Dallas Morning News', as quoted by Nellis and Parker: “ 'It's a great encapsulation of the three E's. It's the GNP (...) - but with the prison time, heart attacks and clear-cut forests taken out.' ”<sup>230</sup> (2004: 34) In theory, most famously Herman Daly's 'Steady State Economy' (SSE) must be counted to the theoretical field of bioenvironmentalist theory. After the Second World War, two phenomena took place, the explosion of both natural resources consumption (extraction of matter, demand on energy) and population growth. Referring to these, Daly (\*1938) proposed conception of a 'Steady State Economy' (SSE). Daly, a student of Georgescu-Roegen, built upon his mentor's work. A model including the arguments of Meadows 'Limits to growth' (cf. Meadows 1972; 2002), the theories of welfare economics and development (see above), ecological principles, and thoughts of a sustainable development. When criticising 'circular flux', the assumed principle of conventional economy in general, or of New Welfare Economy in particular, he points out, that physically the nature-society system bases in an unidirectional flux. This critique made him to one of the pioneers of the 'zero growth' proponents of the 20<sup>th</sup> century. The idea of a stable economy wasn't new at all, but has been considered by many classical economists beginning with Adam Smith (1723-1790). John Stuart Mill<sup>231</sup> (1806-1873) anticipates this concept in his *magnus opus* 'Principles of Political Economy', in which he anticipated the transition from economic growth to a “stationary state” (Ashley 1909: 66) basing on the assumption of constant capital and population in order to achieve a constant economic status. In difference to Georgescu-Roegen, Daly characterised his model as a 'living system', in which economy has to be treated as a 'science of life', which consists (like biology) of a proper metabolism as it consumes resources excluding the residues. Like a living organism, Daly distinguishes in *anabolism* (the consumption of matter and energy) and *catabolism* (the production of residues of matter and energy). Whilst the anabolism of the economic system is realised by production chain and the catabolism by value-realising consumption. The purpose of an economic system is – like for all living organisms – maintenance of life, which is displayed by maintenance of life pleasure of the participating individuals. Furthermore, economy and biology as systems aren't just analogous, but entangled too, since human organism is integrated in the economical system, whilst the economical system is recognised as a subsystem of the ecological system. While biology works internal of the skin and studies the life processes, economy researches life processes, which focuses on the external of the skin. It is this kind of connection and differentiation regarding nature science (biology) and social science (economy), understood in terms of a division of labour, that can be seen as one of the theoretical principles

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<sup>230</sup> Starting with a broad statistical measure, the GPI subtracted net foreign lending or borrowing, an amount when distribution of income has become more unequal (or added if distribution of income has become more equal), social costs such as the cost of crime, automobile accidents, commuting, family breakdown, lost leisure time, and unemployment. (Ibid.)

<sup>231</sup> Beside of Karl Marx, John Stuart Mill is recognised as classics being „concerned not only how economic growth took place but also how to reduce the numbers living in poverty“ whilst the others (David Ricardo, Adam Smith, Thomas Malthus among others, and the following neoclassics which built their theory after 1870 upon the classics) assumed „that the capitalist order was a 'natural order' that represented the highest achievement of human development.“ (Cypher and Dietz 2010: 110)

of bioenvironmentalist theories. Three key variables are used by Daly: 'throughput', 'stock of capital' ('stock')<sup>232</sup> and 'service' (Georgescu-Roegen called this the 'psychological flux'). The equation is based on a sufficient level of stock to promote well-being, the maximization of the service and the minimization of the throughput. This leads to the following presumption:

$$\text{services} = \text{services} \times \text{stock}$$

$$\text{throughput} = \text{stock} \times \text{throughput}$$

To maximise the relation between services/throughput, more efficiency in generating services of a stock, and more efficiency in maintaining the same stock by the throughput is required. This is just possible if there is no physical maximum of service growth. So, the more of well-being with the minor usage of capital respectively results in a best proceeding by bettering the relation of service/capital or capital/throughput. Thus, SSE just grows qualitatively, not quantitatively and further is just designed for a media time frame, but never for long-term time frame or forever. The given argument is, that no type of economical construction or system can last forever, which is as well an answer to his mentor's critique of long-term existence impossibility of a stable state. Daly assumed two stable variants: First, a stable stock of population and second, a stable stock of capital. In order to achieve the former stability requirement for running SSE, Daly promoted the idea of governmental birth control policies. For achieving the second, he proposed an institutional control of throughput volume by quoting the extraction rate of resources. Consequently, SSE only proclaims a quasi-stable state, not a vision of a permanent solution. (Daly 1989: 831-832)<sup>233</sup> Concluding

<sup>232</sup> Regarding the 'stock' variable, the flux between benefits and costs is central.

<sup>233</sup> According to Amazonas, Daly (1989) refers in his later writings to the early Marx, “para quem o sistema economico é o 'corpo inorganico' do homem” [for whom the economical system is the inorganic body of men] (2002: 212). Since Nobre doesn't provide any evidence for this statement, one must add here that according to the early Marx (the 'Grundrisse der Kritik der politischen Ökonomie' and 'Ökonomisch-Philosophische Manuskripte'), the 'inorganic body' (in German 'der unorganische Leib') is defined as the following: “Wie das arbeitende Subjekt als natürliches Individuum (...) erscheint, so erscheint die erste objektive Bedingung seiner Arbeit als Natur, Erde, als sein unorganischer Leib” [As the working subject appears as natural individual, its first objective condition appears as nature, land, as its inorganic body] (Marx 1953: 388); or, “Die Natur ist der unorganische Leib des Menschen, nämlich die Natur, soweit sie nicht selbst menschlicher Körper ist. Der Mensch lebt von der Natur, heißt: Die Natur ist sein Leib, mit dem er in beständigem Prozess bleiben muss, um nicht zu sterben. Dass das physische und geistige Leben des Menschen mit der Natur zusammenhängt, hat keinen anderen Sinn, als dass die Natur mit sich selbst zusammenhängt, denn der Mensch ist ein Teil der Natur” [nature is the inorganic body of men, *id est* nature, as far it itself is not the human body. Humans live on nature: The nature is his body, with which he has to stay in continuing process to not dying. This physical and spiritual connection to nature has no other sense than that nature is interrelated with itself, since men are part of nature] (Karl Marx 2007). In the words of Manfred Riedel: “Daraus, daß der Mensch in der Weise aller Lebendigen von der Natur lebt, ergibt sich für Marx das grundsätzliche Verhältnis zwischen Mensch und Natur (...). Für den Mensch in seiner Lebendigkeit ist die Natur nicht 'die Natur aller Dinge', sonder primär sein unorganischer Leib, die Verlängerung seiner selbst und die Voraussetzung seiner Lebendigkeit. Wie bei Hegel das Lebendige die Natur aus sich 'entläßt' zur 'un-organischen' Natur, so hat auch bei Marx der Ausdruck 'Natur' in erster Linie einen anthropologischen Sinn: die Natur ist schon immer ein Sein-für-den-Menschen” [The grounding relationship of men and nature results from the fact that men are living on nature like all what lives. Nature is not 'the nature of all things' due to liveliness of men, but primarily his inorganic body, an extension of himself and the requirement for his liveliness. As liveliness is 'released' nature out of itself to 'inorganic nature' according to Hegel, according to Marx the expression of 'nature' has first of all an anthropological meaning: Nature has always being a being-for-men] (Riedel 1965: 593). Here one may see another roots 'social nature'.

there is to say, basically, the approach bases on just slowing down contemporary processes to a manageable level. Environmental questions, such as of social or generation justice<sup>234</sup>, are – according to this theory – placed in the realm of ethics, that – by implication – cannot be determined by economic criteria. According to this theory, Daly advocates a reduction of demographic growth in the countries of the so denoted 3<sup>rd</sup> World as well as demographic and economical growth in rich countries. Within his formula, the maximisation of 'services', so the maximisation of useful flux or 'psychological flux' (see above), would lead to a smallest possible 'throughput'. Therefore, beside of the conception of maintaining the two stocks (capital and population) on a constant level, as assumed, two processing conditions are central: (1) Exhaustible resources are substituted with renewable resources by (2) increasing efficiency in the usage of resources and technological progress. According to Daly's calculation, “[s]endo esta relação serviços/throughput dada pela multiplicação de serviços/capital por capital/throughput, tal objetivo deve ser alcançado mantendo-se o estoque de capital em um nível constante suficiente para atingir-se os requisitos de sustentabilidade. Isto implica que o crescimento económico deve manter-se constante em termos físicos” (Amazonas 2002: 240). Concluding one can state that according to the SSE theory, material growth may be stable, whilst the 'services' counted for 'well-being' increase. So, growth has a quantitative character, while development has a qualitative one. The quantity relates to the material area and quality to the non-material attributes of 'well-being'. “In short, growth is quantitative increase in physical scale, while development is qualitative improvement or unfolding of potentialities.” (Daly 1990b: 1)

The above arguments are often used in favour of substitution and technological progress, to defend and promote further economic growth and use of natural resources. However Daly points to “o usa para defender um menor.” [the use to defend a lesser and an as much as possible reduced growth] (Amazonas 2002: 249). Critiques of Daly's concept come from different directions. Principally he cannot make clear, how this steady-state can be politically achieved. His thoughts are based on either moral impetus (“The Earth will not tolerate ”) or on insight of necessity to break market and power related constraints. Due to physical dimensions of human's subsystems, Earth is “beyond its optimal scale relative to the biosphere, it makes us poorer, in fact, by increasing costs faster than benefits.” (Daly 1990a: 403) As Amazonas points out, Daly's approach is characterised by Proops (1989) and Faber et al. (1996) as a utopia. The given requirements are just not to match, since the “expectativa é que é improvável antigirmos uma economia em 'steady-state' por políticas racionais e benéficas” [expectation is that it is unlikely to achieve a Steady-State Economy by rational and benefiting policies] (2002: 217). Another critique arises from Daly's self-proposition. As he emphasised, the term of “'sustainable growth' should be rejected as an unacceptable oxymoron -- poetically uninvocative, as well as literally contradictory. The term 'sustainable development' is much more apt, but in critical need of operational clarification if it is to live beyond the short life expectancy of the average buzz word.” (Daly 1990a: 402) Even though the presented attributes are clearly defined, they are probably not

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<sup>234</sup> Central questions of Environmental Justice (procedural, distribution and perceived justice) and Sustainable Development (distributive generation justice)

sufficient for defining sustainability. Since the substitution of  $K_{N (exh.)}$  (exhaustible resources) by  $K_{N (ren.)}$  (renewable resources) requires inherently a permanent increasing of efficiency by technological progress, according to his determination of placing ethics outside of the theoretical frame, the belief that technological progress will be both increasing in efficiency in future and will provide adequate technology in time (before the 'point of no return' is achieved) can hardly be assumed.

Finally, further critiques are introduced by two questions: First, what would be the necessary measurement for the condition of 'constant capital' to verify a maximisation in the relation of service – throughout? Second, would it be possible to use a distinguishing definition between growth and development? Is it possible to have qualitative bettering without having a more of quantity? (Amazonas 2002: 241) The first question relates to a clearly open problem of the SSE concept, as the measurement would refer to neoliberal assumptions such as WTP (willingness-to-pay) and WTA (willingness-to-accept).<sup>235</sup> The second question is not really an open question as such, as Daly stresses, “An economy can grow without developing, or develop without growing, or do both or neither.” (Daly 1991b: 6) Even Amazonas considers that the distinction between the neoclassic view on 'growth' and 'development' concept of SSE “encontra-se, a rigor, nao em ser uma 'qualitativa' e a outra 'quantitativa' pois ambas sao qualitativas e quantitativas” [it isn't that one is qualitative and another is quantitative, but both are qualitative and quantitative] (2002: 250). Furthermore, he critically states, that neoclassic theory as well as Daly's SSE concept assume development as finally possible, with and without economic growth. In particular the latter doesn't seem plausible, since qualitative well-being is based (at present) mainly on a more of material goods, but shall increase whilst the economical (material) growth doesn't. (Ibid: 249)

### Social Green

The 'social greens' base on the assumption that even risking economic 'zero growth' is acceptable due to conservation and priority has to be given to conservation, hence all other activities will lead at the end to the end of civilisation as we know it. This view includes a countless variety of radical views, scholars and schools. In some ways, the social greens are similar to the 'institutionalists', but are just the opposite. What is meant by that, is that – like the institutionalists – one can rather classify specific, a more political consensus, a certain perspective of how to see the environmental problem set, than overwhelming theoretical constructions and critiques. The opposing character comes from the grassroots perspective of the social greens, which can be seen as base versus superstructure, including all the viewpoints against institutional solutions and critiques on capitalism. Most academic social greens draw on Marxist thought (McMurtry 1999; Korten 1999) or go from Marx further to neo-Gramscianism (cf. Paterson 1996; Levy/Newell 2002) with focus on how those in power frame and influence ecological problems. Stakeholder samples for the

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<sup>235</sup> WTP and WTA are the base to measure behaviour on the global projection and in economic terms. It basically assumes that the relevant range of priorities of men is expressed by their decisions to pay (as prize of the product) for certain goods and acceptance of negative impacts as consequence (pollution for instance).

analysis mainly refer to primarily hegemonic blocs consisting of large corporations and industrial country governments. Ecofeminist views are also well-recognised, infamously in name of Vandana Shiva (1989, 1992, 2000; Mies/Shiva 1993). Whilst neo-Malthusian thoughts point to regulation of overpopulation in the non-industrial countries, accelerating over proportional consumption in the industrial countries is the great strain according social green scientists such as Wolfgang Sachs (1993, 1999) and Edward Goldsmith (1992, 1997). Furthermore they reveal a somehow “magic character” of the word 'sustainable' as Altvater (1995: 283 et seq.) points out. Emphasising the 'environmental' or 'sustainable' aspect more than development, 'social greens' are close to 'bioenvironmentalists' and against 'market liberal' positions. Obviously Environmental Justice concerns belong into this diversified field of opinions, which – on the other side, are not simply NGOs, but those who question the establishment. As can be seen, theoretical considerations about 'social green' objectives, or ways of dealing with the problem, in general are unlikely to be completed, all the more when considering the differences in between. Some theories, which would belong in this area, such as the ecofeminist approach for instance, have been discussed in the last chapter, but the critiques cannot be applied to all others. In reality, none of the theories ever achieved importance than one of the other three ideal type discourses, in particular due to its anti-capitalist, anti-mainstream character. In the second main subchapter (3.2) about Environmental Justice, one theoretical frame within the 'social green' will be analysed in more detail, even though even at this point rudimentary state and inconsistency even at the existing state (between critical approach and mainstream within this 'social green' approach) must be considered as given due to this fact.

### Conclusion

In consideration of what was shown in table 4, ideal type simplification cannot consider the whole range of views and subtle debates. In outlining these ideal types, attention should be awakened to the principle discourses in the field, and the conflict lines in between. Moreover, alliances between these types are the most interesting part for the final theoretical analysis. Even though a clear definition of the SD concept couldn't be provided and many critiques have been mentioned from academic community, this piece assumes a definition of the concept by not defining it clearly. In the following chapter, the institutionalisation of SD, in particular in its beginnings, will be outlined in detail until a defining structure becomes obvious. The subject of the chapter is not to tell the whole story of the concept, but to outline the defining and constraining aspects of the concept. The end will refer back to the four worldviews in order to see which 'ideal type discourse' could come on top.

### 3.1.5 Construction of Sustainable Development

Today's definition of the notion 'sustainable development' based on certain historical data: The results of the German Interparliamentarian consortium of subsistence strategy by nature<sup>236</sup> [1952], the United Nations Conference on the Human Environment (UNCHE) in Stockholm [1972], also known as 'Stockholm Conference', the 10<sup>th</sup> Governing Council Session of the United Nations Development Program (UNEP) in Nairobi [1982], the report of the United Nations World Commission on Environment and Development (WCED) 'Our Common Future' or the 'Brundtland Report' [published 1987], the United Nations Conference on Environment and Development (UNCED), as well called 'Earth Summit', [1992], the United Nations World Summit on Sustainable Development (WSSD) held in Johannesburg in 2002, called as well 'Rio plus 10 (Rio+10) Conference', the United Nations Climate Change Conference (UNCCC) in Cancún [2010] and, most recently, the UNCCC in Durban 2011.

After the Second World War, three principles became dominant for the intergovernmental struggle for environmental preservation: (a) To persecute the environmental protection as an egoistic self-interest, (b) turning away the utopia of incessant growth of the national prosperity, and (c) acknowledging a 'point of no return' on the path of the planet's destruction. (Nobre 2002: 27) So, in the beginning there have been three moral claims to the egoism in selfish environmental treatment of mankind (a) and the wish to refuse the belief in permanent economic growth, in national constraints in particular, (b) in consideration of a moment in which a turnover isn't possible anymore. Basically, moral desires faced market reality and existing political power structure in a world distinguished in to competing systems, both selfish and political powerful: The (upcoming) Cold War. In 1968 Garret Hardin presented "The Tragedy of the Commons", originally given as an address to the Pacific Division of the American Association for the Advancement of Science in December 1967, reprinted at December 13, 1968. Inspired by the growing debate, the 'population bomb' (Ehrlich 1968) offered in its Positive Program a broad range of opportunities to counteract the proclaimed vision. The following passage in their book is enlightening in regards to understanding and emphasis of either sustainability or development, and regarding the side they took: "A massive campaign must be launched to restore a quality environment in North America and to *de-develop the United States*. De-development means bringing our economic system (especially patterns of consumption) into line with the realities of ecology and the world resource situation. (...) Marxists claim that capitalism is intrinsically expansionist and wasteful, and that it automatically produces a monied ruling class. Can our economists prove them wrong?" (Ehrlich 1970: 323, italic in the original) They ascertain clearly that they see themselves as specialists in a specific field. In this part of the work as well they make the demand of necessity to organise a new political party with an ecological outlook. (Ibid: 324) In Germany, incidentally, their claim became true, 10 (ten) years later, when the Green Party was founded. In consideration of the above named

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<sup>236</sup> Interparlamentarische Arbeitsgemeinschaft für naturgemäße Wirtschaftsweise (IPA)

worldviews, Ehrlich's initial work comes from the institutionalist and bioenvironmentalist field, which was powerfully enriched by Hardin's 'tragedy'. There starts the debate by noticing "The pollution problem is a consequence of population." Therefore "It did not much matter how a lonely American frontiersman disposed of his waste." (Hardin 1968: 29) Referring to Adam Smith an individual "intends only his own gain" (Smith 1937<sup>237</sup>: 423) he argues further, that, if Smith's assumption is correct, "the tendency to assume that decisions reached individually will, in fact, be the best decisions for an entire society." Based on this thought, he continues, it "justifies the continuance of our present policy of laissez-fair in reproduction", if not, "we need to re-examine our individual freedoms to see which ones are defensible." (Hardin 1968: 28) In his conclusion, Hardin outlines the major problem then and until today of the whole institutionalisation process of Sustainable Development (SD): Each man is „locked into a system that compels him to increase his herd without limit — in a world that is limited." (Ibid. 30; cf. Nobre 2002: 28)

Furthermore the outlined major problem leads immediately to Meadows' important work about the 'Limits to Growth'<sup>238</sup>. As Groh states, the time before Meadows's 'Limits' have been published by the 'Club of Rome' in 1972 has been like the final point of a long term debate when "allenfalls wenige Fachleute von der drohenden oder bereits vorhandenen Umweltkrise [sprachen]" [at best a few experts spoke of a threatening or existing environmental crisis] (1991: 12). Meadows's team used computer modelling to predict the consequences of a rapidly growing world population and finite resource supplies. The World3 model was used to simulate the consequence of interactions between the Earth's and human systems. One key assumption was, that, if the rate of resource use increases, the amount of reserves cannot be calculated by simply taking contemporary known reserves into account. When dividing this amount by the yearly usage, as is typically done to obtain a static index, the result would be biased since experience shows that growth tends to be exponential. This refers to the named problem of future knowledge failure. In their main concern has been the people's behavior, as they mention at the very begin, when pointing out that "[v]ery few people are thinking about the future from a global point of view." (Meadows 1972: 13; Enzensberger 1974: 16) Critiques came from the eastern bloc, namely Fjodorow, member of the Sowjet council of minister, who compares the member of the 'Club' by using a Lenin quotation with the utopian socialists, "die der Meinung waren, es genüge, die Machthaber und die herrschenden Klassen von der Ungerechtigkeit der modernen Gesellschaftsordnung zu überzeugen" [who holds the opinion, that it be sufficient to convince authorities and the ruling class of injustice of modern social system] (Harich 1975: 112). The process of environmental institutionalisation is usually divided into 'pre-Stockholm', 'Stockholm to Rio', and 'Rio to present'<sup>239</sup> with Stockholm as the main caesura like the starting point where all began. (Hunter et al. 1998; Beyerlin 2000), This categorisation will be used to analyse contemporary definition and institutionalisation of the Sustainable Development concept.

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<sup>237</sup> First published in 1776

<sup>238</sup> The book was updated in 2004 as 'Limits to Growth: The 30-Year Update' (Meadows et al. 2009).

<sup>239</sup> By which the Stockholm Conference in 1972 and the Rio Conference in 1992 is meant

## Stockholm Conference 1972

In response to expressions of scientific alarm and increasing public awareness of dangers threatening the biosphere, several governments and international institutions recognised in a short time the emergency to act: First the Council of Europe, then the Organisation of African Unity, finally the United Nations. “The General Assembly proposed the convocation of a conference on the human environment. Based on the work of twenty-seven states advising the United Nations Secretary-General, the meeting took place in Stockholm at June, 3-16 1972. The Declaration adopted at the issue of the Conference constitutes a landmark in the history of environmental protection, contributing in particular to the development of its legal aspects.” (Kiss 2003: 53) For the question of this piece, there is to consider that up to that conference, the United Nations Conference on the Human Environment (UNCHE), no general term or written (sic!) definition of the Sustainable Development notion had been established. Three aims have been outlined as drawn from the upcoming scientific debate according to Nobre: (1) To create an applicable vehicle to apply the various attempts of institutionalisation of environmental measures. (2) To place the more and more pestering global question of the environment on top of the political agenda. (3) To penetrate the political and public space with the idea of environmental protection. (2002: 25 et seq) 'Bioenvironmentalist' concerns urged on the national and international level the debate as can be reasoned by looking at the third aim in particular. Based on these circumstances, Meadows 'Limits' led to a broad discussion about the future of economic growth with special concerns to “The natural growth of population continuously presents problems on the preservation of the environment”. But the conference stated in the same proclamation also, that “[a]long with social progress and the advance of production, science and technology, the capability of man to improve the environment increases with each passing day.” (United Nations (Ed.) 1972, proclaim 5)

On the international level the UNCHE is recognised as the first attempt to institutionalise environmental measures. So, different stakeholder groups, in detail “representatives of 113 countries, 19 inter-governmental agencies, and more than 400 inter-governmental and non-governmental organizations” (Bailys 1997: 454-455) came to the conference which was opened and addressed by the Swedish Prime Minister Olof Palme and secretary general Kurt Waldheim to discuss regulation opportunities if the above named aims. The result of the meeting has been a Declaration containing 26 principles, an Action Plan with 109 recommendations, and a Resolution. (Ibid) Since it is recognised as the beginning of modern political and public awareness of global environmental problems, the three results will be looked up in the following. Of what can be said in advance, institutional stakeholders, ranging from powerful country representatives to grassroots NGOs, faced each other to find a frame for further proceedings. Within the most powerful stakeholders, two groups must be named specifically, since the interests of these two groups<sup>240</sup> couldn't be more different at all. Focusing on

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<sup>240</sup> To oppose rightful remarks, why here is no distinction made between the 'socialist' and the 'capitalist' bloc, I want to add that the real socialist view on economy is not very different from pro-capitalist economists as they share an 'economy first' point of view. Even proposing necessity to rethink traditional concepts of basic purposes to growth



the current and prospective development policy (see above development theories in the 1950s and 60s), developing countries initiated deliberations with the industrial nations on behalf of environmental protection measures. Measures to limit industrial pollution and protection of the ecosystems have been the main interest of industrial nations. The priority of developing countries has formally been the struggle against poverty, the needs to building up of education systems, the guarantee of health care and the supply of drinkable water. In short, the antagonism was between those, aiming for the institutionalisation of an environmental regulation in politics (the industrial nations rather close to the bioenvironmentalist view) and those who wanted to overcome their state of economic underdevelopment with a catch-up industrialisation (the developing countries as rather market liberals). Even though the developing nations recognised the environmental problems, the within their priority list these are earmarked as being less important than economic development. These countries mainly argued that the resulting destruction could be resolved later (after the industrialisation). Particularly Brazilian scientists made a trade-off more difficult. Stating that industrial nations pushed the environmental protection issue just to establish development constraints for their advantage, even though certainly not completely wrong in impact, the whole debate turned out to be extraordinarily polemic. The position of the non-industrial countries is not to be mixed up with the pure technical optimism, such as believing in technical development as solution for all environmental problems, now and in future. Quoting in this connection the remark of a Brazilian Minister of Economics to the effect that his country could not have enough pollution of the environment if that was the cost of giving its population sufficient work and bread, as Koch states (1973: 82), their main concern, as spokesman of the underdeveloped countries, must be considered as rather a lack of options concerning the populations basic needs and the countries debts than ignorance or ideologism. Nevertheless, a consensus could, obviously, be achieved since industrial nations convinced the others. They pointed out that even drought, flooding and insufficient hygienic constraints are part of the environmental problem set as well because of the deprivation's economic development.

In the end, the formula in the declaration states in section D (Working Group on the Declaration on the Human Environment) recognising the third world's viewpoint, that "poverty was the worst polluter" (United Nations V 1972) basing on the famous quotation of Indira Ghandi at the conference on environment in Stockholm 1972: "Poverty is the greatest polluter" (Swedish Government Offices 2008). In this framework, the developing countries have been able to admit environmental problems such as tropical deforestation, maritime pollution, forest decline, ozone hole and the greenhouse effect without forbearing from their

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does not speak against it. Political goals of either 'capitalist' or 'real socialist' governments may differ, concerning the environmental problem set both based on the assumption that economic development is of bigger importance than the protection of the environment. For sure, the 'real socialist' bloc, in that time, demonstrated more concerns about the 'ecological catastrophe' in their announcements, since this be "unavoidable within the capitalist system." (Enzensberger 1974: 19) But like critiques of ideology, such as regarding spaceship earth, the supposed progressive blame on capitalism is defended here at credibility cost, since the fact of pollution and destruction of the environment, ruthless exploitation of the natural resources and the growing debate about an environmental inter-, and intergenerational justice had been "merely ignored" in the 'socialist bloc'(Ibid.: 20).

development objectives. Hence both groups determined, that there is no contradiction between environmental protection and (economic) development. At this point, 'market liberal' and 'environmentalist' positions seem to agree upon the compromise. Yet the group of environmentalists had not only been represented just by the industrial nations but also by grassroots movements, such as Non-Governmental-Organizations (NGOs), and individuals (as for example scientists like the Meadows team). Furthermore, it can be seen that the debate about the development term has not been carried out. One has to ask whether and inasmuch as the conference's results have been sufficient as well as satisfying in comparison the three aims, which have been expressed *ex ante* (see above). In detail, looking at the declaration's proclaims and principles, have they been able to create an applicable vehicle to apply the various attempts of institutionalization of environmental measures, to place the more and more pestering global question of the environment on top of the political agenda, and to penetrate the political and public space with the idea of environmental protection?

The results of the Stockholm conference can be structured in three parts: The Declaration, two institutions (Action Plan and Environment Fund), and the Earthwatch Program. The question isn't just, whether and inasmuch as the given aims are reached but as well – following the research question of this work – to what kind of decision did the stakeholder of the conference come? What is the final understanding of the SD concept, to which has been agreed upon, in terms of the created institutions? Proclaims in the Stockholm declaration define the problem set as it was agreed at this point. First, „[m]an is both creature and moulder of his environment“ as well as „man has acquired the power to transform his environment in countless ways and on an unprecedented scale.“ (Proclaim 1) Since the natural growth was recognised as the problem to the environment (see above, Proclaim 5) in consideration of justice for the present and future generations (Proclaim 6) the „acceptance of responsibility by citizens and communities and by enterprises and institutions at every level“ are „all sharing equitably in common efforts“ in order to achieve the environmental goal. (Proclaim 7)

The first principles express the man's rights as they had been stated in the Universal Declaration of Human Rights at December 10, 1948 by the United Nations, such as freedom, equality, oppression, racial segregation, and the statement, that discriminations in any form „stand condemned and must be eliminated“. Mankind further „bears a solemn responsibility to protect and improve the environment for present and future generations“ (Principle 1), especially the natural resources (Principle 2). Regarding the institutionalisation aim (1) of the conference, the General Assembly agreed to establish the Governing Council for United Nations Environment Programme, the Environment Secretariat and – of exceptional importance – the Environment Fund. Whilst the first two organisations are established to „promote international co-operation“<sup>241</sup>, „policy guidance“<sup>242</sup> and „[t]o review and approve annually the programme of

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<sup>241</sup> Governing Council for united Nations Environment Programme (2. a.)

<sup>242</sup> Governing Council for united Nations Environment Programme (2. b.)

utilization of resources of the Environment Fund<sup>243</sup>, one can say, that an 'applicable vehicle' was raised by these two co-working institutions. (United Nations 1972 VI) Regarding the special concerns of the developing countries, many speakers stated at the conference the need for a regional cooperation among them, which was the starting shot alike for the Nairobi Conference in 1982 (see below). Last but not least, the Governing Council was declared responsible for progress, guidance, co-ordination, reporting, and management of the Environmental Programmes within the United Nations system. The Council is supported by the Environment Secretariat, which administers the Environment Fund guided by and on behalf of the Council. Whilst the Council was the executing institution to “formulate such general procedures as are necessary to govern the operations of the Environment Fund” (United Nations III 1972: Environment Fund 7.), the Environment Fund itself “shall be used for financing such programmes of general interest as regional and global monitoring, assessment and data-collecting systems, including, as appropriate, costs for national counterparts; the improvement of environmental quality management; environmental research; information exchange and dissemination; public education and training; assistance for national, regional and global environmental institutions; the promotion of environmental research and studies for the development of industrial and other technologies best suited to a policy of economic growth compatible with adequate environmental safeguards; and such other programmes as the Governing Council may decide upon, and that in the implementation of such programmes due account should be taken of the special needs of the developing countries” (Ibid., 3.) emphasising by many speakers that 'the polluter must pay' (United Nations II 1972: Environment Fund 55.). Principles 13-17 emphasise the importance of planning procedures to ensure both a more effective way of using natural resources and the development of the underdeveloped countries. (Kiss 2002: 54) Furthermore an important number of international instruments are based on Principle 6 and 7 concerning pollution control. In regards to the second aim (2) of the conference – placing the 'global question of the environment on top of the political agenda' – central facts have been declared true. In the Brief Summary of the General Debate, published by the United Nations the conference, stated decision was, that “the real challenge was the fact that so large a number of the people of the world had such a small expectation for a fruitful, happy and long life” (Population 57.), that preservation of all life on the planet is the crucial part for now and the future (Conservation 58.) and that pollution of water and air is “affecting peoples many thousands of miles away from the source” (Marine Pollution 59.). The assembly also defined certain priorities in article 40 such as water supplies, ocean and sea pollution, and the urban crisis. In addition, further areas for priority action have been the need for understanding and controlling the changes the mankind produced in the major ecological systems, the need for accelerating the dissemination of environmentally sound technologies and for developing alternatives to existing harmful technologies, the need to avoid commitment to new technologies before adequately assessing their environmental consequences, the need to encourage broader international distribution of industrial capacity, and the need to

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<sup>243</sup> Governing Council for united Nations Environment Programme (2. g.)

assist developing countries to minimise environmental risks in their development strategies. Finally the Secretary-General of the Conference, Maurice F. Strong, stressed the need for new concepts of sovereignty<sup>244</sup> (41. (a)), new codes of international environmental law (41. (b)), new international means for better world's resource management (41. (c)), and „[n]ew approaches to more automatic means of financing programmes of international cooperation“ (41. (d)) in order to realise the penetration of the political and public space (3). These concepts, codes, and means, in terms of the declaration described as 'recommendations', have been flanked by the Action Plan<sup>245</sup> that was set up based on the 'Framework for environmental action' and the 'Recommendations for action at the international level'. As many speakers at the conference stated „that the value of the preparatory process and of the Conference would be completely negated unless they resulted in positive action by individual nations, regional organizations, intergovernmental organizations, non-governmental organizations, and the United Nations“. The „necessity for public involvement, particularly that of youth, and the support of public interest, in environmental matters“ was given since „action would not be taken unless there was public demand for it, and it would not be effective unless it had public support.“ (United Nations II 1972: Action Plan 52.) Getting public involvement and, consequently, public support for the themes, even not named as an intergenerational justice problem, would require deliberations of how to reconcile the legitimate immediate needs for food, shelter, work, education and health care with the interests of generations yet unborn (Ibid.: 36.). The intergenerational justice problem was a powerful argument especially to reach the youth. As could be shown, the undertaken aims have been achieved in a certain ways. Since at the time, ex ante, no kind of institutionalization existed as well as the environmental problem as a matter of fact wasn't recognized neither in public nor on the political agenda, the statement of the Secretary-General of the Conference claims success when stating „that the high level of participation in the Conference was most encouraging;“ (Ibid.: 33.). Furthermore, even without any legally binding force, the conference's Declaration „recognized and articulated new global values emerging from growing environmental awareness“ without committing participating states to immediately go through the whole legislation process, which made the acceptance of that terms much easier. (Kiss 2003: 53)

This procedure gave opportunity to all countries to agree to the third world's claims<sup>246</sup> without direct legal impacts. As Kiss points out, the founded instruments „can trigger (...) joint action outside a formal framework, whether at the global or regional level.“ (Ibid.: 54) Indeed, they 'can', but 'do' they trigger joint action? This question is to be considered for the final conclusion. The basis of the compromise has been agreement to some principles. First of all recognition of air, water, land, flora, fauna and the natural ecosystem as qualified resources, which have to be protected as such since they have economic value (Principle 2) and the world's capacity limits to produce vital resources (Principle 3) as concluding results in

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<sup>244</sup> Without cutting down national sovereignties but better exercising them collectively and greater sense for responsibility for the common good

<sup>245</sup> Outlined in document A/CONF. 48/5

<sup>246</sup> Such as their demand for development as stated in the Principles 5 and 8-12

Meadows 'Limits'. In that way it was possible to agree to the responsibility for safeguarding and the wise management of wildlife and its habitat (Principle 4). In many international environmental laws<sup>247</sup> „drafted during the following twenty years“ the influence of this statements can be found. (Ibid.) All this Principles result in the 'Declaration's philosophy' (Principles 24 and 25): All international matters in regards to the environment „should be handled in a cooperative spirit by all countries, big and small, on an equal footing.“ (United Nations 1972: Principle 24) By the same token, in Principle 24 it is stressed that „activities conducted in all spheres“ (Ibid.) had been the signal for „most recent trends in international environmental law“ with the „aim at regulating all human activities which may have a negative impact on the environment.“ (Kiss 2003: 55)

In order to evaluate both consequences and importance of the Stockholm Declaration, it is useful to carry out inasmuch the agreed proclaims and principles got access to the international law and in particular the jurisdiction. In the following most relevant results will be outlined, then most relevant conventions and agreements, which came to force, will be sketched. Finally, a deeper look into some representative international jurisdiction will provide a theoretical conclusion. As one of the main results of the conference, the United Nations Environment Programme (UNEP) based in Nairobi, Kenia, was founded in the same year. As agreed in the Action Plan (Principle 52 see above) the monitoring system Earthwatch was established in 1972 too. (Bundesbehörden der Schweizerischen Eidgenossenschaft 2007) Nevertheless, the institutionalisation impact of the Conference was even bigger than just being the starting point of an international institutionalisation, but the nativity of a 'spirit'. Some speak of a 'sectoral approach' for the years after Stockholm, one can say as well it was the 'spirit of Stockholm'. Some environmental conventions have been planned before UNCHE in Stockholm was held but these conventions were adopted in the early 1970's. The rather free possibility (without hard obligations from the beginning) to join the conventions in a cooperative manner made various legislations possible, inside the program (as UNEP) as well as initiated and performed by both regional organisations, such as the United Nations Economic Commission for Europe or the Council of Europe, and world-wide international ones, such as the International Maritime Organization or the Food and Agriculture Organization. Those conventions have even been modified or complemented by protocols. As can be seen, basic attempt to achieve the predefined goals has been an institutional frame with possibility to include all (institutionally) relevant actors, even though particular interest didn't seem to be too different to be consistent to each other. Furthermore, specific concerns of different stakeholder groups (considering the initially named 'ideal types') in certain concept definition require a deeper look at the ideology behind the most important results. As the examination of the Stockholm Declaration could show, there is a tendency to stress 'development' a bit more than 'sustainability'. Referring to the three aims of the conference, all have been achieved successfully. Otherwise, in addition the 'spaceship earth' ideology, there had been many principles, which have not been questioned.

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<sup>247</sup> On both the global and the regional projection

In the 37<sup>th</sup> statement of the Brief Summary, the members agreed that “[t]he concept of 'no growth' could not be a viable policy for any society” (United Nations II: statement 34) and “[t]here was also general agreement that a philosophy of 'no growth' was absolutely unacceptable” (Ibid: 44). This fact has already been a basic assumption of the Club of Rome report, as Stickler and Eblinghaus stress: “Es sind dies die rhetorische Figur der Gesamtmenschheit, die Verknüpfung der Ökologie- mit der Bevölkerungsproblematik und ein gewisser Technizismus. Andererseits tauchen im Bericht Vorstellungen auf, die in der darauffolgenden Umweltdiskussion immer weiter ausgehöhlt werden und an Gewicht verlieren, etwa die Forderung nach Nullwachstum” [It is this the rhetoric figure of mankind, the linkage of ecological and population problem and a permanent technicism. On the other hand, the report also reflects ideas which have been eroded in the following debate and therefore lost leverage, for instance the claim for zero-growth] (1996: 30). Consequently, Enzensberger concludes an 'ideological purpose' in “[t]he aim (...) to deny once and for all that little difference between first class and steerage, between the bridge and the engine room. One of the oldest ways of giving legitimacy to class domination and exploitation is resurrected in the new garb of ecology.” (Enzensberger 1974: 15) The term of 'no growth' finally is the concept of 'zero growth' as named by the market liberal ideal type perspective. The second fraction, named as environmentalist, mainly scientists, seemed to be to unrealistic to provide any coherent concept. Even though scientific facts have been recognised, such as Ehrlich's emphasis (as mentioned) on de-developing the US in order to bring the economy in line with the ecologic requirements, the Ehrlich couple stressed that their suggestions have to seem unrealistic, since “only relatively idealistic programs offer any hope of salvation.” (Ehrlich 1968: 322-323) As problem appears, that, within the institutional frame, important decision-makers have been needed in order to get political progress of the agenda. Therefore, they offer, in a spirit of enlightenment and moral common sense, a rational solution: Such as pointing to the “greatest crises the United States and the world has ever faced” meaning that “many Americans (...) have given up hope that the government can be modernized and changed in direction through the functioning of elective process” whilst stating that we have no time to think about other options as we are running out of time”. (Ehrlich 1968: 324) These ideas are carried out in a way to not harm any interest or privileges of current decision makers. The offered solution is to refer the audience with an open question to the considerable economists of present time that remain unconvinced. On the one hand, it is ruled out that if there is no immediate direct action the end of humanity will be the result. On the other hand, they claim, that a solution can be found with light terms without compromising anyone's interests. For these reasons they came up with a harmless spaceship earth ideology to which all governmental stakeholders could easily agree, and all private stakeholders from a moral point of view as well. Herein may lay the total inefficacy of the bioenvironmentalists to get their priorities more greatly considered in this context. When looking at the Meadows team position, one can say, that, besides all varying variables and all lessening of certainty in concrete results (Meadows 2009: 134-35, 143), they succeeded in stressing especially the tendency they mark on (Ibid. 144), but, by no means (sic!), they overlap

the aims stated by Ehrlich. They finally proposed a theory of protecting the environment to promote production, evolved from utilitarianist Benthamites, about 200 years ago, tested and failed (cf. Alison 1842: 68). The neglect of any serious consideration of what are the costs and who pays the environmental detriments of such a 'development first' approach have been widely ignored, although recognized by the Council on Environmental Quality. This was ignorance even facing the facts: In 1973 the economic profit in the world's leading economies damaged 'social nature' about three times as much as the occurred gain.<sup>248</sup>

### Conclusion

As the main result, the environmentalist perspective has lost its influence in the debate in a very short time. Whilst they have been opinion leaders in creating general awareness, be it regarding population growth in poorer countries or non-sustainable usage of natural resources as threat for human society, after the Stockholm Conference their argumentative influence was reduced to a helpless complaint as part of the spaceship earth ideology. "The depoliticization of the ecological question is now complete. Its social components and consequences have been entirely eliminated." (Enzensberger 1974: 26) However, the achieved compromise went along borders of economical power. As said, ideological thoughts on the governmental, institutional level, such as 'real socialist' versus 'capitalist', have not played any role in the debates during the United Nations Conference on the Human Environment in Stockholm, therefore, the agreement gave answer to the main question on the conference: Can a 'economic development first' approach give sufficient answer to pressing environmental concern and bring together arguments of both sides – market liberals and environmentalists? Obviously, it could, but at what cost? Since the discussion about a proper definition of the development part in the Sustainable Development (SD) concept was finished before it began, by defining economic development as most relevant factor to be attained, already in 1972 'sustainability', as the second notion of the concept, has lost its equal significance. Obviously, Nobre's ironic remark regarding the semantic of the SD concept was right (cf. p. 123; 2002: 25). One can finally conclude that according to this predefinition, sustainability concerns have been desired if, and just if, economic development is possible, which finally reduces the importance of environmentalist's (moral) concern for defining the concept to zero.

In the following, the Stockholm Declaration was based and referred to respectively for most of relevant legislation until the Rio Conference in 1992. As will be shown in the following chapter about the so-called 'Earth Summit', a broad band of topics and re-regulations came up during Agenda 21. The Stockholm Conference still has its standing for the process of concept building and institutionalization.

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<sup>248</sup> "According to the calculations of the American Council of Environmental Quality at least a million dollars is pocketed in the course of the elimination of three million dollars worth of damage to the environment." (Der Spiegel 1973: 38)

### From Stockholm to Rio 1992

Hereinafter, the three principles of the Stockholm Declaration will be referred, as to show future connection of the growing 'environmental regime' on global projection. According to Kiss, these three have been developed into customary rules<sup>249</sup> (Principle 1 and 21) or led to a certain normative clarification without resulting in precise new rules of international environmental law (Principle 22). (2003: 59) The focus will be on two questions, first, whether the proposed crucial role of UNCHE as a theoretical (defining) and political (institutionalising) paradigm also applies to the creation of the global regime, created above. This is of particular importance in consideration of the 'prime hypothesis', which assumed a connection between institutionalisation and definition on the one hand, and policy and law making, so 'environmental law' set up, on the other.

The "Right to Environment" or Principle 1 declares man's fundamental right to freedom, equality and adequate conditions of life in an environment of quality in dignity and wellbeing, claiming "responsibility to protect and improve the environment for present and future generations." (United Nations I 1972). Two interesting aspects can be found in this principle: First, the terms of 'freedom', 'equality', and 'adequate conditions of life' are already well-known from the Declaration of Human Rights, and second, as a consequence of the former, such have never been transformed in concrete, internationally binding regulation. This includes also the problem of defining the terms, which could rather be called 'concepts'. Obviously, to define these terms would require general standards for all people on Earth on the one hand, on the other, this would open a discussion about the unequal distribution as mentioned in critiques above, which so strongly was struggled to avoid. Nevertheless, the principle was adopted on the national projection many times, at "the end of the 1980s, more than fifty States<sup>250</sup> introduced such right in their constitution and practically none of the new constitutions and constitutional modifications ignored such a right" as Kiss points out (2003: 60). As can be seen, considerations of future generations right to distributive justice has been considered already in the Stockholm Declaration and implemented in some national and international judicial practice. The general problem of the named claims – like all human right claims in general – is not their legal adaptation, but in their practical usage. Who is to decide, what rights have to be applied when and where? These are questions that arise continuously in contemporary debate (cf. Costa 2011b).

The problem of morally incited agreements is in monitoring and controlling instruments, that don't serve only for the particular interests of some stakeholders, be they national governments or entities of the private/societal field. The second principle of particular importance is Principle 21, which either declares the right of the states to exploit their own resources and the responsibility, in accordance with the United

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<sup>249</sup> An 'international custom' is defined by Art. 38 of the Statute of the International Court of Justice „as evidence of a general practice accepted as law“ (D'Amato 1987: 1), which basically means the development of practice of State on a certain point and correspondence to a legally binding rule.

<sup>250</sup> Such as the African Charter of Human and Peoples' Rights in 1981 and the Protocol of San Salvador (or the Additional Protocol to the American Convention on Human Rights in the Area of Economic, Social and Cultural Rights) adopted by the Organization of American States in 1988.



Nations' Charter and principles of international law, to avoid transboundary harm to „the environment of other States or of areas beyond the limits of national jurisdiction.“ (United Nations 1972: Principle 21) The meaning of the principle grasps a bigger scope than 'just' the transboundary damage but as well that what is produced beyond the limits of national jurisdiction and on the high sea such as ocean dumping. “That innovation” as Kiss states “stresses the importance of Stockholm Principle 21, which not only concerns the interstate character of transfrontier pollution but also obligations that States assume towards the international community.” (2003: 61) Prominent examples for the translation of this principle into environmental law are the trail Smelter arbitration, the judgement of the International Court of Justice in the Corfu Channel case and the Lake Lanoux arbitral decision. The reaffirmation of this principle was adopted by the UN Charter of Economic Rights and Duties of States and the World Charter for Nature.

The Geneva Convention on long Range Transboundary Air Pollution<sup>251</sup> was the first international legally binding instrument to deal with problems of air pollution on a broad regional basis. Besides laying down the general principles of international cooperation for air pollution abatement, the Convention has set up an institutional framework bringing together research and policy. This Convention, agreed in November 1979, considered assertively „the Declaration of the United Nations Conference on the Human Environment<sup>252</sup>, and in particular Principle 21, which expresses the common conviction that States have“. (United Nations 1979: 1) Used in the following, the exact wording of the Declaration's Principle 21 (see above). The latter (the responsibility part of the Declaration's Principle) is inserted in the Convention on the Law of the Sea and reaffirmed in Article 20 (1) of the Association of Southeast Asian Nations (ASEAN) in the Agreement on the Conservation of Nature and Natural Resources<sup>253</sup>. One can find the important Principle 21 in both the United Nations Framework Convention on Climate Change (UNFCCC or FCCC) (Kiss 2003: 62), which opened for signature after an Intergovernmental Negotiating Committee Meeting from April 30 to May 9, 1992 and in Article 3 of the Convention on Biological Diversity (United Nations 1993: 6). In total, the translation of Stockholm principles into international treaty law led to 27 international agreements (2 of Air Pollution Control<sup>254</sup>, 4 regarding the Protection of Inland Waters<sup>255</sup>, 7 with regards to the Protection of Wild Fauna and Flora<sup>256</sup> and – last but not least – 14 arrangements concerning the Marine Pollution<sup>257</sup> to just name some)

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<sup>251</sup> cf. International Law Commission (2001), Art. 48

<sup>252</sup> The Stockholm Conference of 1972

<sup>253</sup> Agreed at July 9, 1985 in Kuala Lumpur

<sup>254</sup> Convention on Long-Range Transboundary Air Pollution Control, Geneva, 13 November 1979 / Convention for the Protection of the Ozone Layer, Vienna, 22 March 1985

<sup>255</sup> Convention for the Protection of the Rhine against Chemical Pollution, Bonn, 3 December 1976 / Convention for the Protection of the Rhine from Pollution by Chlorides, Bonn, 3 December 1976 / Agreement on the Action Plan for the Environmentally Sound Management of the Common Zambezi River System, Harare, 28 May 1987 / Convention on the Protection and Use of Transboundary Watercourses and International Lakes, Helsinki, 17 March 1992

<sup>256</sup> Convention on International Trade in Endangered Species of Wild Fauna and Flora, Washington, 2 March 1976 / Agreement on the Conservation of Polar Bears, Oslo, 15 November 1973 / Convention on Conservation of Nature in the South Pacific, Apia, 12 June 1976 / Convention on the Conservation of Migratory Species of Wild Animals, Bonn, 23 June 1979 / Convention on the Conservation of European Wildlife and Natural Habitats, Berne, 19

within the two decades after the Conference. Even in the process of creating related regimes, such as the nuclear regime on the international scale, the UNCHE had fundamental influence. The International Court of Justice<sup>258</sup> (ICJ) – for instance – refers in its advisory opinion on the Legality of the Threat or Use of Nuclear Weapons particularly to „the general principles of customary international law“ which contain as a „fundamental rule of customary law, incorporated in Principle 21 of the 1972 Stockholm Declaration, (...) the obligation of States not to damage or endanger significantly the environment beyond their jurisdiction.“(International Court of Justice 1995: 35) The ICJ recognised in its advisory opinion the “existence of the general obligation of States to ensure that activities within their jurisdiction and control respect the environment of other States or of areas beyond national control is now part of the corpus of international law relating to the environment.“ (International Court of Justice 1996)<sup>259</sup> These statements of the „highest judicial authority of the world“ prove, according to Kiss, that frequent repetition of a principle by both international treaties and international 'soft law' instruments are sufficient as such to create customary law rules. (2003: 62)

The significance and particular importance of the Declaration's principles are in the specific timing of the published acknowledgements by science (such as Meadow's 'Limits' or Hardin's 'Our Common Future') and its presentation and acceptance by the Conference. The „most important result“ of the Stockholm Convention was „a new social value: the safeguarding of the global environment, in the whole “Spaceship Earth” (...)

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September 1979 / Convention on the Conservation of Antarctic Marine Living Resources, Canberra, 20 May 1980 / Convention for the Protection of the Natural Resources and Environment of the South Pacific Region, Nouméa, 24 November 1996

<sup>257</sup> Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter, London, 29 December 1972 / International Convention for the Prevention of Pollution from Ships (MARPOL), the original MARPOL Convention was signed on 17 February 1973, but did not come into force. The 1978 Protocol complemented the given one. The convention came into force on 2 October 1983 / Convention on the Protection of the Marine Environment of Baltic Sea Area, Helsinki, 22 March 1974 / Convention for the Prevention of Marine Pollution from land-Based Sources, Paris, 4 June 1974 / Convention for the Protection of the Mediterranean Sea Against Pollution, Barcelona, 16 February 1976 / Kuwait Regional Convention for Cooperation on the Protection of the Marine Environment from Pollution, Kuwait, 24 April 1978 / Convention for Cooperation in the Protection and Development of the Marine and Coastal Environment of the West and Central African Region, Abidjan, 23 March 1981 / Convention for the Protection of Marine Environment and Coastal Area of South-East Pacific, Lima, 20 November 1981 / Regional Convention for the Conservation of the Red Sea and of the Gulf of Aden Environment, Jeddah, 14 February 1982 / Convention for the Protection and Development of the Environment of the Wider Caribbean Region, Cartagena de Indias, 24 March 1983 / Convention for the protection, Management and Development of the Marine and Coastal Environment of the Eastern African Region, Nairobi, 21 June 1985 / International Convention on Oil Pollution, Preparedness, Response and Cooperation, London, 30 November 1990 / Convention on the Protection of the Marine Environment in the Baltic Sea Area, Helsinki, 9 April 1992 / Convention on the Protection of the Black Sea against Pollution, Bucharest, 21 April 1992

<sup>258</sup> In opposite to the International Crime Court (ICC or ICt) which came into being on July 1, 2002 as a permanent tribunal to prosecute individuals for genocide, crimes against humanity, war crimes and crime of aggression the main function of the International Court of Justice (currently referred as World Court or ICJ) is to settle legal disputes handed in by states and give advisory opinions on legal questions submitted by the UN General Assembly. The ICJ was established in 1945 after the Second World War.

<sup>259</sup> In the 1990s – after the 'Earth Summit' in 1992 – the judges repeated this statement in their judgement regarding the case concerning the Gabčíkovo-Nagymaros Project by stressing „the great significance that it attaches to respect for the environment, not only for States but also for the whole of mankind.“ (International Court of Justice 1997: 72)

which” is “the only place in the universe where the present forms of life will be able to continue to exist for an undetermined future.” (Kiss 2003: 64) In addition to the already alleged critiques, is to say that this 'new social value' hid the important insight that generally the terms of all principles included, only provides recommendations or agreements of what is to do and no strong instruments of command and control. In the debate, conference members a-priori agreed that they “could not deal with all the ills of the world, (...) but making knowledge available to decision-makers and to those who would be affected by decisions (...) would establish a new and more hopeful basis for resolving the seemingly intractable problems that divided mankind”. (United Nations II 1972: 35) This can be seen as one milestone for excluding the 'environmentalist' concerns from the problem set. Besides legal considerations, the institutional frame emerged along these agreements.

In 1982, two important events took place. First, the proclamation of the World Charter for Nature by the United Nations General Assembly on October 28. The second, the 10th Governing Council session of the UNEP (see above) in Nairobi from 10 to 18 May, with the goal to commemorate the tenth anniversary of the United Nations Conference on the Human Environment (UNCHE). In commemoration of the 'spirit of Stockholm', further processes had been discussed in Nairobi, which became well recognized since the non-industrial countries established the term of the 'Third World'. As a result of the term struggles after UNCHE, the Third World defined themselves as not being enough developed for the demands of the 'First World'. (cf. United Nations Environmental Programme 1982) Despite acclamations for the 'spirit of Stockholm', the 15 years after the UNCHE are strongly criticised for their lack in sustainability (Moll 1991: 94-107), in particular because of the non-consideration of differences between North and South in general, regions, countries, and urban versus countryside in particular. Furthermore, Moll criticises that the model, established at UNCHE assumes no required change in social, political, technical, and economic development, especially since the whole debate concentrated on the premise of 'zero growth' as sole solution for the environmental problem set. (Moll 1991: 108)

Due to above-mentioned unfulfilled expectations, further definition was undertaken in the World Commission on Environment and Development (WCED) report 'Our Common Future', published in 1987. In recognition of the former Norwegian Prime Minister Gro Harlem Brundtland as Chair of the WCED, the report is known as 'Brundtland Report'. Brundtland himself has characterised SD in a speech at general assembly of the UN as a „conceito ,político‘, um ,conceito amplo para o progresso econômico e social“ [political notion, a notion for economic and social progress] (Nobre 2002: 30). The Brundtland Report mentioned two key definitions to understand and implement SD as a concept: First SD is seen as a progress, „die die Bedürfnisse der Gegenwart befriedigt, ohne zu riskieren, dass zukünftige Generationen ihre eigenen Bedürfnisse nicht befriedigen können“ [that meets the needs of the present without compromising the ability of future generations to meet their own needs] (Hauff 1987: 46). This definition drawn from Principle 1 of the Stockholm Declaration, as discussed (see above). Second, SD as mainly a “Wandlungsprozeß, in dem die

Nutzung von Ressourcen, das Ziel von Investitionen, die Richtung technologischer Entwicklung und institutioneller Wandel miteinander harmonisieren und das derzeitige und künftige Potential vergrößern, menschliche Bedürfnisse und Wünsche zu erfüllen“ [process of change, in which the utilisation of resources, the direction of technological development and the institutional change are harmonised with each other and the future potential to supply human needs and wishes is enlarged.] (Ibid: 49). There are reasons to believe that the second definition didn't find an equal approval, as it is less cited than the first, since this definition includes a postulate for a holistic change of behaviour.

According to Hauff, Sustainable Development furthermore contains two key concepts within the named defining phrases: (1) The concept of *needs*, in particular the essential needs of the world's poor, to which overriding priority should be given and (2) the idea of limitations imposed by the state of technology and social organisation on the environment's ability to meet present and future needs. (Ibid: 46) Especially the latter is of high importance, since it shows that one of the main concerns of 'Our Common Future' was to emphasise thoughts of not only justice between different generations, but distribution and procedural justice within a generation too. The postulate to replace economic concerns as top priority by social needs faced today and in the future can be seen as the claim to change from the uncertain status of 'Stockholm' ('improving the environment') to a clearer focus, dealing more with the current social concerns (besides resource concerns of 'Stockholm', concentration on investment goals, direction of technological development and institutional change to enlarge potential to fulfil human needs). Plenty of literature refers to Brundtland's problem set definition. Also critiques are announced, depending on the reviewer's point of view. However, all critiques have in common, that the commission's definition (again<sup>260</sup>) focused too much on the broadest consensus to ensure the necessary acceptance of nearly all politically powerful stakeholders. Success with this objective had been achieved through a trade-off, resulting in an imprecise and fragmentary definition. However, the process of drawing together twenty-two potentially diverse opinions from within the Commission into a unified document in itself represents a significant achievement. In the foreword to the Report, Chairperson Brundtland outlined some of the pressures this created and the importance of communication, tolerance of viewpoints, and shared perceptions in enabling a unanimous report to be produced. As Daly states, “[t]o achieve this remarkable consensus, the Commission had to be less than rigorous in avoiding self-contradiction. (Daly 1990b: 1; Daly 1991b: 6) The compromise of a 'strong'<sup>261</sup> concept' with a 'weak definition' led to a cut off within the stakeholder field, in particular active participation and support of various stakeholders from 'social greens' and 'bioenvironmentalists' perspective have been excluded from influencing positions of the institutionalisation process. As Clapp and Dauvergne conclude, “[f]or now, however, the dominance of the 'Brundtland compromise' of 'sustainable development' gives institutionalists and market liberals the upper hand in the global community.” (Clapp et al 2005: 81)

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<sup>260</sup> Like critiques on the UNCHE in Stockholm.

<sup>261</sup> In the meaning of 'influential'

## Rio 92

As initially said, the second caesura has been the 'Earth Summit' in Rio de Janeiro in 1992. Still now, many people speak about the so-called "spirit of Rio", meaning there was something similar to an atmosphere of departure, like a wind of change, that an ecological change seemed to make possible and reachable. At the Rio-92 Conference, 172 governmental representatives were participating, 108 of them at level of heads of State or Government, some 2,400 representatives of non-governmental organisations (NGOs) attended and about 17,000 people participated at the parallel NGO forum. Based on the above-named UN Conference on the Human Environment, Stockholm (1972), the resulting documents have been the 'Agenda 21', the 'Rio Declaration on Environment and Development', the 'Statement of Forest Principles, the United Nations Framework Convention on Climate Change' and the 'United Nations Convention on Biological Diversity'. (United Nations 2011)

Since the United Nations Conference on Environment and Development (UNCED) took place in Rio de Janeiro on June 3-14, 1992, "alçou a sustentabilidade (*sustainability*) o padrão de medida da política de desenvolvimento e de meio ambiente, o conceito e os objetivos do desenvolvimento sustentável circunscrevem 'uma carreira quase sem similar.'" [sustainability is praised as a benchmark of the greatness of development and environment, concept and objectives of SD paraphrase 'a criterion without precedence] (Nobre 2002: 24). Rio 92 enforced another push in building institutions around the defined SD concept: Soon after the event, the United Nations established the Commission on Sustainable Development, the Inter-agency Committee on Sustainable Development, and the high-level Advisory Board on Sustainable Development. The European Community signed its Fifth Environmental Action Programme, the "Programme of policy and action in relation to environment and sustainable development" on February 1, 1993 (European Community 1993). In the United States, a President's Council on Sustainable Development (PCSD) was established under the leadership of President Clinton in June 1993. In order to advise him on sustainable development and to develop "bold, new approaches to achieve our economic, environmental, and equity goals." (President's Council on Sustainable Development 1993) Formally established by Executive Order 12852, the PCSD was administered as a federal advisory committee under the Federal Advisory Committee Act. In May 1994 the new president of Costa Rica José María Figueres announced a Sustainable Development pilot project in order to implement the Rio results (Schröder 1996: 157).

Consequently, the success of Rio-92 isn't in a re-definition of the Sustainable Development (SD) concept, but in qualified determination within the discussion about strategies of the environmental problem's institutionalisation. As Nobre mentions, the result of the 'Earth Summit's debates established "vencedores e perdedores" [winners and losers] (Nobre 2002: 10), but didn't name them openly. Further determination within the given institutional and defining theme is done by focusing on technological and scientific rationality in order to build a clear defined concept, which enables determination of the first key success criteria. Dingler pleads that thereby the *social* elements in comparison with the 'Brundtland Report' had been

less prioritized. (Dingler 2003: 221-226). Nevertheless, Rio-92 is characterised to be the culminated point of both the project of institutionalisation and the origin of the theoretical and political debate about the environment. (Nobre 2002: 25) In recognition of 'Stockholm', “[d]as Prinzip 3 der unverbindlichen Rio-Deklaration von 1992 verlangt eine Entwicklung, die dem generationenübergreifenden Schutz in gerechter Weise entspricht” [[t]he right to development must be fulfilled so as to equitably meet developmental and environmental needs of present and future generations<sup>262</sup>] (Sanden 2008: 435-436). Obviously, questions of 'procedural justice' have been favoured whilst discussions about 'distributive justice' didn't play an important role anymore (if any). This is not surprising in consideration of the debate's focus.

Thereafter, the clearest outcome of the procedural justice approach and at the time the most influential attempt to answer, even insufficiently as it was, the environmental question in the frame as created since 1972, was the 'Kyoto Protocol', adopted in Kyoto, Japan, on 11 December 1997 and entered into force on 16 February 2005. The detailed rules for the implementation of the Protocol were adopted at COP 7 in Marrakesh in 2001, and are called the 'Marrakesh Accords'. The Kyoto Protocol is an international agreement linked to the United Nations Framework Convention on Climate Change, setting binding<sup>263</sup> targets for thirty-seven industrialised countries and the members of the European Union to reduce CO<sup>2</sup> emissions. This amount was to be achieved by an average of five per cent against 1990, levelling over a five-year period, from 2008-2012. Major success of the Protocol was in recognition of developed countries' principal responsibility for current high levels of the emissions due to more than 150 years of industrial activity. In consequence, the Protocol considered in Article 10 to take “into account their common but differentiated responsibilities and their specific national and regional development priorities, objectives and circumstances” (United Nations 1998: 9) and put higher burdens on the named industrialised nations (cf. UNFCCC 2011). Another good example for the 'procedural justice' focus of Rio 92 can be found in Principle 10 of the UNCED Declaration, which has been adopted of the named Principle 1 in the UNCHE in Stockholm, allowing sanctions against those who offend those rights, and universal access to judicial and administrative procedures: “Environmental issues are best handled with the participation of all concerned citizens, at the relevant level. At the national level, each individual shall have appropriate access to information concerning the environment that is held by public authorities, including information on hazardous materials and activities in their communities, and the opportunity to participate in decision-making processes. States shall facilitate and encourage public awareness and participation by making information widely available. Effective access to judicial and administrative proceedings, including redress and remedy, shall be provided.” (United Nations 1992) As Kiss adds, Rio 92 “also reproduces Stockholm Principle 21, adding just one word concerning developmental policies“ (2003: 61-62). At this point it may be

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<sup>262</sup> United Nations (1992): Principle 3

<sup>263</sup> The improvement from Convention to the Protocol was to create a more binding contract than Convention's encouragement could guarantee. To stabilise GHG emissions of industrialised countries, the Kyoto Protocol was chosen to commit them to do so. (cf. UNFCCC 2011)

considered that influence of the 'Stockholm' Declaration didn't stop with the UNCED, but continued<sup>264</sup>, most prominently by re-emphasising the named Principle 1 (UNCHE) and Principle 10 (UNCED) by the adoption of the Convention on Access to Information, Public Participation in Decision-making and Access to Justice in Environmental Matters on June 25, 1998 in Aarhus. Drafted by the European Ministers for Environment, the 'Aarhus Convention' stresses the right of every person “to live in an environment adequate to his or her health and well-being, and the duty, both individually and in association with others, to protect and improve the environment for the benefit of present and future generations.” (Aarhus Convention 1998)

#### From Post-Rio 92 to contemporary debate and conclusion

After the 'Spirit of Rio' 1992 followed sobering or disillusion at the United Nation's World Summit on Sustainable Development (WSSD) in 2002 assembled in Johannesburg. Five years after the Kyoto Procol and ten years after the 'Earth Summit', which is why it was called Rio plus 10 „[S]tatt einer nachhaltigen Lösung der Umwelt- und Entwicklungsproblematik' ließ sich 'eher ein Scheitern auf breiter Front' konstatieren” [they found rather a failure all along the line instead of a sustainable solution of the environmental and developmental challenge] as Weiland states (2006: 13). After COP 15 in Copenhagen (2009) and COP 16 in Cancún (2010) it was clear that the targets as agreed in the 'committing' Kyoto Protocol had finally failed. The conferences had been envisaged since 2002 to reverse trends by declaring clear provable targets as following sequence to the Kyoto Protocol. As can be seen in international press reviews, the conference faced the same problems as Rio plus 10. In recognition of target failures and impossibility to agree to any clearly defined terms in the time after the 'Earth Summit', namely the Kyoto Protocol of 1997, valuations of COP 16 ranged from “Stille Beisetzung für das Kyoto-Protokoll” [quiet funeral for the Kyoto protocol] (Telepolis 2011) and the statement former UN-climate general secretary Yvo de Boer, “Kioto ist tot” [Kyoto is dead] (taz 2011), to more optimistic views, such as a “Kleiner Erfolg in Cancún” [small successes in Cancún] (n-tv 2011) since a compromise was found. The optimism seems to be without limits, when considering the scandal, which happened between the Bolivian representative, Pablo Solon, and Mexican conduct of negotiations, foreign minister Patricia Espinosa. Bolivia's refusal of the proposed 'compromise', referencing to the unanimity rule of such conferences, was responded to by the statement: "Ich habe natürlich Ihre Position zur Kenntnis genommen, aber wenn es keine anderen Einwände gibt, ist das Dokument angenommen" [Certainly I have recognised your position, but if there are no other objections, the document is accepted](Ibid). Equality claims of these conferences and agreed terms in the Kyoto Protocol finally faced real power relationships held highly by each country for their own good.

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<sup>264</sup> Convention on the Non-Navigational Uses of International Watercourses (New York, May 21, 1997 AC), Joint Convention on the Safety of Spent Fuel Management and on the Safety of Radioactive Waste Management (Vienna, September 5, 1997 AC), Convention on the Prior Informed Consent Procedure for Certain Hazardous Chemicals and Pesticides in International Trade (Rotterdam, September 10, 1998 AC), Convention on Persistent Organic Pollutants (Stockholm, May 22, 2001 AC) among others.

Even the last efforts at United Nations Climate Change Conference (UNCCC) in Durban (2011) to revitalise the process have been recognised as failure. Here, one can conclude that the path of Sustainable Development has missed its negative break-even-point finally, since not only the 'Kyoto' targets, agreed by committing contracts, couldn't be reached, but also the main consensus idea of the institutional frame was aborted in favour of singular economical concerns, revealing the real power structure regarding the environmental cost and benefit hierarchy. Those, which are developed, are not finally willing to share their benefits with those paying the price. In consideration of global economic structure as understood in the mentioned World-System-Theory, this is reasonable, since it would mean to trade valuable good in a system, which is based on competition and short term profit, where access to resources can cause war and the decline of power, for something without direct monetary value (by more greatly considering the biological environment than the other competitors) with result of decline in economic and consequently political and cultural power. Even more important in face of such a scenario, and not to lapse to search into the closed nutshell, consideration of 'social nature' is more important than ever. The question is, who pays the costs and who gets the benefits? This is starting point of Environmental Justice concern, which will be presented as opposing concept in the following sub-chapter.

### 3.2 Environmental Justice

First and foremost, one must denote that even the basic definition of the Environmental Justice concept is stiffly controversial. Since it cannot be spoken of with a coherent history of the concept's definition and institutionalisation, preliminary exclusion of existing and relevant discourse shall be avoided as far as possible. Environmental sociology itself still struggles as to whether and how to deal (inclusively or exclusively) with the concept.

The following examination will remain as abstract as possible and become concrete when speaking about its national characteristics. Almost all scientific publications that deal with Environmental Justice refer to its US American origin and the racial roots of the struggle, since these aspects have been and are predominant for self-constitution of the concept. Often forgotten in this context is that relevance of the topic is not limited to the US anymore, but also part of Europe's discussion (Schultz 2009). Quasi no recognition of environmental movements and a proper classification of countries out of EU and USA-Canada is found in literature of international relevance so far. In the following, current theoretical considerations will briefly introduced, followed by looking at the historical background of the concept as such. After detailed analysis of the history, the national case of Brazil is chosen to bare distinguishing elements of international discourses in the environmental social scientific field. Besides the obvious relevance of the examination to the final field study in Brazil and outlining discourse differences, three arguments have been given: First, Environmental Justice became a central issue in Brazil's environmental sociology (Acselrad 2009), second, a non-European and



non-US American reference point can give useful hints to adoption of the new concept beside the transatlantic information flow, and third, since Brazil has a long term environmental sociological tradition in researching racially influenced environmental impacts to communities and urban inhabitants as will be outlined in the last chapter of this piece. In Environmental Justice's context, mankind is centred as legally protected good, instead of fauna, flora or water (Köckler 2006). Opposite to mainstream environmental conception in health and social sciences and with reference to constructed and social environment<sup>265</sup> (Keul 1995), Environmental Justice quarrels substantially with different environmental situations (Kruize 2007; Walker 2009). Environmental Justice contains two key terms, Environmental Justice (EJ) and Environmental Racism (ERA). As general theorem for the former issue, the concept of 'environmental quality' [Umweltgüte] is developed to frame Environmental Justice conception. It is described as measurable by natural science and containing

- “a) *Umweltgüter*, die für den Menschen nutzbare Bestandteile der natürlichen Umwelt sind wie Boden, Wasser, Luft und Rohstoffe;
- b) *Umweltbelastungen*, also anthropogen verursachte negative Einflüsse auf die Umwelt – einschließlich der menschlichen Gesundheit – wie Luftschadstoffe, klimarelevante Emissionen oder Lärm;
- c) *Naturkatastrophen*, die für selten auftretende Extremereignisse in der Natur mit gravierenden akuten Auswirkungen auf den Menschen stehen”

[a) environmental quality, which are the useful components of natural environment for men like soil, water, air and resources; b) environmental burdens, so, anthropogenically caused negative impacts to the environment – inclusively human health – like air pollutants, climate relevant emissions or noise; c) natural catastrophe, that stands for rarely happening extreme events in nature with heavy and acute impacts to men] (Köckler 2011: 96, also Köckler 2008). Environmental Justice is furthermore broken down to several partial conceptions (Schlosberg 2007; Schultz 2009; Maschewsky 2001; Walker 2009). These are Environmental Goods (EG), Environmental Bads (EB), and Environmental Risks (ER). Environmental Goods are understood in terms of environmental benefits as well as of how and inasmuch certain groups can access the goods appropriate to their needs. Environmental Bads on the other hand describe environmental costs. These are mainly the costs of development, for instance, environmental degradation, the chance to suffer from noise or pollution and the chance to be sickening for something. Environmental Risks are highly connected to the second key term of Environmental Racism<sup>266</sup>. Whilst risk assessment rather assumes higher risks for

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<sup>265</sup> As outlined in detail in Chapter 2

<sup>266</sup> As Shrader-Frechette (2002: 3-4) states, EJR asks the following questions: Why do so many environmentalists call for protection of the environment, even as they remained misanthropic and ignored the plight of humans? Why do some people deny EJ problems? Why do critics of the EJ movement tend to reject various solutions to EJ problems? Without any doubt, the intention of research is carried out by pressing concerns at the ground. US based EJM

some population sections, Environmental Racism adds a political-economical claim by which racial classification plays a greater or most important role for environmental costs' distribution. Environmental Justice, therefore, is not just an analytical approach, but also a model, which describes desired future conditions as Kloepfer argues (2006: 19).

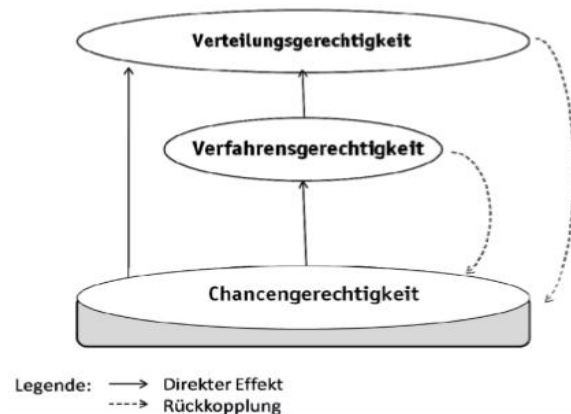
Opposite to the named sustainability model, which also emerged in the 1980s, Environmental Justice has a clear local orientation by turning research towards 'communities' as main subjects of research. In face of further model development in the last decades, it is now also understood as local access to inter generational justice in the meaning of Sustainable Development (Köckler 2011: 96). A useful model for this issue has been established the interconnection model of causal relationship between the partial aspects of procedural justice, distributive justice and equal opportunity justice (see Graphic 2 below). Traditionally, Environmental Justice Research, as grounded in Environmental Justice Movements' struggle, focuses clearly on distribution justice. This does not apply only when approaching local environmental issues, but applies also on global projection. The necessity to redistribute Environmental Bads (sic!) and Environmental Goods “aufgrund (...) der Tatsache, dass der Wohlstand der reicheren Länder in nicht geringem Maße auf der übermäßigen Umweltnutzung auf Kosten der ärmeren Länder basiert” [due to the fact that welfare of rich countries is based not to a small amount on excessive environmental usage at the cost of the poorer countries], is widely theoretically recognized (Kloepfer 2006: 25), but practically ignored, despite this evidence, “dass die Verteilungseffekte der Kosten der Umweltpolitik (...) regressiv bis höchst regressiv ausfallen” [that distributive effects of environmental policy costs turn out regressive to highly regressive] (Zimmermann 1985: 223). To the same accounts belong debates about the polluter-pays-principle [Verursacherprinzip] versus the principle of the common burden [Gemeinlastprinzip]. These debates are right, but unrewarding, as long you don't face the fact that “different stakeholders struggle for access to scarce resources within the political economy, and the benefits and costs of those resources become distributed unevenly. That is, those stakeholders who are unable to effectively mobilise resources are most likely to suffer from environmental inequality. Conversely, those stakeholders with the greatest access to scarce resources are able to deprive other stakeholders from the same access.” (Pellow 2000: 589) The named model of causal relationship between partial conceptions<sup>267</sup> illustrates this entangled connection:

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activist Dave Foreman proposed that World War III has already begun, without “sidelines, there are no civilians” (Shrader-Frechette 2002: 3). What has been discussed as 'naturalism' heritage in sociology can be seen as “the attitudes and writings of many environmentalists (...) to encourage disrespect for humans even as they call for a greater respect for nature and the Earth. Such writings often are exclusively nature centered (biocentric) rather than also human centered (anthropocentric).” (Ibid: 4) For research purposes, environmental justice researchers seek to look at interdependencies between extern variables, such as infrastructure and access to public goods, intern variables, such as insufficient income and capacity to influence monitoring and regulating authorities, and the given environmental problem set in a particular context.

<sup>267</sup> As it was developed for a German study case and due to the disputability of the Environmental Racism claim (in detail see below), this aspect has not been included in the model.

Graphic 2: Causal relationship between partial conceptions



Source: Köckler 2011: 97

Connected to Elver's research paradigm in Chapter 1, Köckler's model is based on the assumption that an ideal type fair procedure will contribute to a more just distribution justice [Verteilungsgerechtigkeit]. Therefore, the procedural justice [Verfahrensgerechtigkeit] based model aims for an equal treatment [Chancengleichheit], which includes a non-discriminatory procedure and at this point considers the Environmental Racism concern of social groups by planning and legal approval of environmental changes regardless of which origin as well as when contesting decisions. (Köckler 2006: 53) Hereto, 'perceived justice' as a worthwhile contribution to and entanglement with the amply discussed 'social nature' concept is considered as an approach to research procedural justice as partial conception of Environmental Justice. 'Perceived justice' describes, according to Maguire and Lind (2003), from a socio-psychological perspective whether a certain procedure is seen as fair, which betters both acceptance and legitimacy of the outcome (Amerasinghe/Farrell/Jin/Shin/Stelljes 2008). Interconnection of subjective justice judgement and their highly complex impact to political action are broadly researched in justice psychological works, showing that “[n]icht nur die Ergebnisse, sondern insbesondere auch das Prozedere der Ergebnisfindung (...) von den Beteiligten als mehr oder weniger gerecht beurteilt werden [kann]” [not only the results but especially the procedure of resulting can be rated as more or less fair] (Ittner/Montada 2009: 43; also: Blader/Tyler 2003; Bos/Bruins/Wilke/Dronkert 1999). The problem for Environmental Justice research emerges from sociopsychological perspective of these studies, that are focused on the means (the procedure), but not – as sociological perspective requires – also on the ends (whether the final outcome is just or unjust. A procedure, which is considered by the participants as fair but does not contribute to the distributive justice aspect cannot be understood as a fair procedure according to the Environmental Justice model, as Köckler argues (2011: 98). There is to add, whether the research focus of procedural justice therefore, can be the right vehicle to analyse environmental matters in this regards, where distributive justice is recognised as central aspect for

the outcome, whilst procedural justice just regulates formal and informal civic participation in relevant decision-making processes.

Besides the theoretical thoughts, definition of Environmental Justice (EJ) as a concept mainly comes from its grassroots' origins, which determines (yet) both institutionalisation and definition. As a chance and challenge to environmental sociological researches, EJ seeks to turn the central question from abstract concept and theory debates (such as outlined in the last chapter) to the pressing concern of the social distribution of environmental burdens, “Ou seja” as Acselrad states “à sobreposição de benefícios para o capital, soma-se uma sobreposição de condições de destituição para as populações que residem em áreas periféricas” [or rather, the superposition of benefits for the capital is added to the superposition of dismissal's conditions for the population that lives in the periphery areas] (2009: 78). Therefore, definition and institutionalisation of this concept cannot be analysed separately but only in consideration of its origins.

### 3.2.1 History of Environmental Justice

The genesis of Environmental Justice is based on a US-American movement towards governmental buddies and economy in the 1970s. The Environmental Justice Movement (EJM) accused governmental institutions and entrepreneurs of build disposals, harmful to both 'second nature', such as waste facilities rather close to residential neighbourhood of the social underprivileged population, or people of colour in particular, than in districts of people already having the environmental goods. Respectively the movement claims that government favoured this process through regulatory requirements. (Bullard 1990; 1993; Szasz 1994) The concept was defined at the 1<sup>st</sup> National People of Color Environment Leadership Summit [NPCELS](1991) by Benjamin Chavis<sup>268</sup> (Gosine 2008: 9-11). 17 principles (in the following listed in brackets after the named principle) have been accepted by the participants of the congress (about 500 individuals and grassroots organizations) focusing in their affirmations (4), mandate (1), demands (3), calls (3), protection claim (1), consideration (1), recognition (1), oppositions (2), and requirement (1) on the assumption of a „movement of all people of color“ and re-establishing the „spiritual interdependence of Mother Earth“. (Gosine 2008: 9) As outlined, the starting point of Environmental Justice has been US American black minority anti-superfund protests. As Souza notes rightly: “Female-led, normally, black communities and natives have been fighting for environmental justice for centuries in Brazil even though they have not named their fights as Environmental Justice struggles.” (Souza 2008: 187) This fact doesn't apply not only to Brazil, but world-wide. Since the 'beginning' of the Environmental Justice movement, the history of Environmental Justice was coined by temptations of environmental groups as well by Environmental Justice advocates that

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<sup>268</sup> The same Benjamin Chavis who, in addressing the problem and as a result of the struggles in Warren County (see below), created the expression of Environmental Racism (ERA) in 1981.

„incorporated a civil rights approach of non-violent resistance and mechanisms for lobbying for legal and policy reforms.“ (Gosine/Teelucksingh 2008: 12-13)

Further institutionalisation took place in 2002 at 2nd NPCELS, when 'Principles of Working Together' as well as 'Principles for Alliances with Green Groups' have been defined<sup>269</sup>. Concept institutionalisation and primer definition are historically based and generated in the US based on the incident in Afton, Warren County<sup>270</sup>, North Carolina, in 1978 to 1983 (and further until at least 2003) (Schlüns 2004: 1 et seq; Gosine et al. 2008: 2 et seq), to which many authors refer as a starting point (Gosine and Teelucksingh 2008: 3; Shrader-Frechette 2002: 8; Acselrad et al. 2009: 19). There, a small community of less than 20,000 inhabitants was selected as the location for a 142-acre toxic waste facility (Gosine et al. 2008: 2) and when mass protests against a scheduled waste disposal for highly toxic polychlorinated biphenyl (PBC) in Warren County erupted (Bullard 1993: 3). The protest erupted in particular when it emerged that US Environmental Protection Agency (EPA) defined the place as “an uncontrolled or abandoned place where hazardous waste is located, possibly affecting local ecosystems or people”. (Gosine et al. 2008: 2) The waste site was 60 miles away from the PCB-producer Ward Transfer Company in Raleigh whilst 84% of the nearly 20,000 habitants Aston in Warren County, North Carolina have been people of black colour. This practice of placing is termed as „the PIBBY principle (Place In Black's BackYards)“ (Gouldson/Roberts 2000: 48) and answered by the 'Not in my backyard! Effect' (NIMBY-effect) accusing both government and the company of ERA. The ERA concept came into recognition since the community of Aston explicitly linked its socio-economic status and the placing of toxic waste sites. As Martinez-Alier adds, the EJ concept was a socially extremely potent combination of words, that “shifted the whole discussion about environmentalism (...) away from preservation and conservation of Nature towards social justice, it destroyed the NIMBY image of grassroots environmental protest by turning them into NIABY<sup>271</sup> protests”. (2002: 173) Realising, that this environmental problem wasn't naturally of technical nature but political, the habitants organised regional and nation wide support and started civil disobediences, such as marches and protests, whilst the involved environmental organisations (see above) avoided direct action but concentrated on resolving the problem co-working with the US Environmental Protection Agency (EPA) and present governmental bodies. The difference in strategy between the two environmental organisations<sup>272</sup> that involved themselves in the struggle to offer the officials technical proposals for an environmentally compatible design of a state-owned

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<sup>269</sup> This step will be discussed in more detail where it properly applies: When showing the distinction between 'mainstream' and 'critical' approaches to the EJ matter.

<sup>270</sup> Some authors also refer to another starting event, which is the case of a residential estate called 'Love Channel' in Niagara Falls, state of New York (Bullard 1990; Bullard 1993; Szasz 1994; Elvers 2007: 22). This estate was constructed above a channel which had been filled up in past with waste of a nearby chemistry factory. In 1978 heavy rainfalls adulcorate the chemical and mixed them with the ground water. The fact that the majority of the tenants were black and their low chances to claim their right of compensation or resettlement (Dobsen 1998; Fletcher 2002) made 'Love Channel' to the first distinguished case for EJM activists.

<sup>271</sup> Not In Anyone's Backyard

<sup>272</sup> First, the federal part of the Sierra Club NC chapter (cf. <http://nc.sierraclub.org/>, 07.07.2010), second Conservative Council of North Carolina (<http://www.conservationcouncilnc.org/>, 07.07.2010)

toxic waste site for the burial of the PCB-laced soil, were in turn criticised by people of the community of ERA in terms of who can speak for the community's interest<sup>273</sup>. In succession of a broader attention governmental bodies followed up with several empirical studies of the problem. One result was the study of the U.S. General Accounting Office (GAO) which pointed out that 75% of the toxic waste facilities in the so called 'region IV', including eight US federal states<sup>274</sup>, are built up in areas with a majority of African-American population. Hence in region IV the African-American share of the population had been just 20%. Studies such as this were judged by the movement as proof of ERA. Another investigation made by the Commission for Racial Justice in 1987 reasoned that in specific areas the ethnic affiliation had been of bigger importance than socio-economic indicators as poverty rate, value of the land and percentage of landlords.

In 1992 the United States Environmental Protection Agency verified in its first report the link between ethnic affiliation, poverty and ER. Former president Clinton legislated in 1994 the Executive Order 12898 "Federal Action to Address Environmental Justice in Minority Population and Low-income Populations" in which federal authorities are bound by law to consider EJ as a guideline of action. This order is still in effect as criterion for all governmental acts in regards to environmental references. (Elvers 2007: 23) Since then<sup>275</sup> ERA was inherently part of all discussions about the EJ matter (Gosine et al. 2008: 4). "The language employed" as Martinez-Alier states in this context "is not that of uncompensated externalities but rather the language of race discrimination". (2002: 169) The new Environmental Justice Movement (EJM) challenged then the common environmental movement and organisations in particular by accusing them of not sufficiently considering the Environmental Racism problem set. In response to this accusation, environmental organisations confirmed the existence of 'barriers' such as racism, sexism, heterosexism, ageism and disability in avoidance of debates about capitalism. The debate ran out into 'Chicken-and-Egg-scenario' debates, discussing, what came first, the environmental risks or the marginalised people. Or rather, are marginalised people drawn to particular communities with environmental problems due to their economic constraints? Further, the reliance on free-market arguments, which suggests that it makes sense for poor people to be located close to environmental risks for job opportunity purposes or questions of overplaying the racial factor ignore widely the whole debate about the 'privilege of invisibility' (cf. Amesberger/Halbmayer 2008). On the other hand one has to consider that Kameri-Mbote's argument of Indian's experience with 'positive racism', which makes clear that the Environmental Justice approach of

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<sup>273</sup> This is a fact, that still plays an important role in the debate about the concept of Environmental Justice, in particular in distinction of mainstream Environmental Justice research and critical Environmental Justice research (Gosine et al. 2008: 14).

<sup>274</sup> Alabama, Florida, Georgia, Kentucky, Mississippi, North Carolina, South Carolina, Tennessee

<sup>275</sup> There must be added, as Enzensberger already points out in the beginning of 'globalizing' environmental debate, that racist concepts have always been applied. "One has only to think of the hysterical slogans of the heyday of imperialism—'the Yellow Peril'— and of the period of German Fascism—'the Red Hordes'. The 'politics' of population have never been free of irrational and racist traits;" (Enzensberger 1974: 14)

singling out a community defined by „racial“ traits with the aim of giving them better access to economic resources (...) does not constitute the right answer to a real problem“ as the fight for the redistribution of costs and against waste treatment facilities (waste disposals, wast sites) contributes to solving environmental problems caused in some other part of the economy. (Kameri-Mbote et al. 1996: 6) Conversely, as Wagley points out, the „posição social pode, em muitos casos, sobrepor-se às caraterísticas físicas, aparentes, na classificação da 'raca' dos indivíduos“ [social position can, in many cases, overlap apparent physical characteristics in the racial classification of individuals] (1988: 148). The problem by referring to the developments of Human Rights is in the idea that „the universal is something we can find actualized in the in which we already live – irrespective of the fact that that world is already dehumanized and dehumanizing“ as Khader states according to Irigaray who referred to the universal rights of the sexes. (2008: 51)

Above named major Environmental Justice conception, refers to the Mother Earth philosophy in the named principles. This aspect is in dispute since the amount of researches in the field of Environmental Justice has grown and “much of the research has moved away from meeting the practical needs of environmental justice organizations and activists to placing greater emphasis on academic scholarship” as Pellow and Brulle (2005) note (in: Gosine et al, 2008: 20). This has established a mainstream in Environmental Justice research, which hardly can be distinguished from Sustainable Development debate. This mainstream rather tends to incorporate<sup>276</sup> the EJ concept into the broad SD frame (Hopwood/Mellor/O'Brian 2005: 41), raising a struggle which led to the “call for a critical environmental justice approach that advocates a closer link between research and grassroots politics; and, more specifically, a commitment to those who do not have the power and resources to represent themselves.” (Gosine et al, 2008: 20) So, mainly the Environmental Justice concept is dominated by scientific destination and linkage to the field, but also – as consequence – by definition of inherent terms and priorities in research. The terms are defined by the concept itself: environment and justice. “Unlike many of the mainstream environmental groups more familiar to Euro-American communities, environmental justice groups define *the environment* not as a distant, uninhabited wilderness, but as a place where people 'live, work, play and worship.’” (Gosine et al. 2008: 11-12, original emphasis) This distance precisely appears in Environmental Justice research, when looking at the increasing amount of terms connected to the general concept, such as 'climate justice'. Terms like these point to distribution of costs rather on global projection, defining the environment rather nonspecific like the named 'mainstream environmental groups' than in a cultural context. Whilst such macro approaches must be based on a broader, more common understanding, critical EJR bases on local specifics. This “more inclusive view of human/nature interaction brings environmental issues *home*” as Stein points out (2004: 2). Obviously, the spiritual Mother Earth concept has no theoretical link to any environmental sociological theories that have

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<sup>276</sup> “Many of the campaigns in the ‘South’ around sustainable development, in all their variety, closely link environmental, social, economic and anti-globalization struggles. These are some of the most energetic challenges to status quo and reformist approaches to sustainable development. (...) [I]ndigenous environmental movements are not only challenging the failure of environmental and social justice within global development processes, but also offer a clear alternative environmental rationality. ” (Hoopwood et al. 2005: 46)

been discussed. Rather, rational approaches are criticised by critical Environmental Justice researchers, such as Gosine et al. for their 'western' viewpoint. Economically, socially, culturally, and politically, developments in the United States loom large over the rest of the world. In consideration of both grassroots' origin of EJM and community focus of EJ, "important historical, geographic, and political differences between (...) countries mean that environmental justice frameworks simply cannot be imported from the United States, and need to be differently constructed" (Gosine et al. 2008: 23) in countries of research. In the following, the named reference point, Brazil, will be reviewed.

### 3.2.2 Environmental Justice in Brazil

Environmental Racism was promptly adopted in Brazilian debate too, in particular since the roots of Brazilian environmental justice movements are much younger. Dated back to the late 1990s, the struggle of the central trade union (CUT), the Instituto Brasileiro de Análises Sociais e Econômicas (IBASE) [Brazilian Institute of Social and Economic Analyses], and the Instituto de Pesquisa e Planejamento Urbano e Regional (IPPUR) [Institute of Research and Regional and Urban Planning] at Universidade Federal de Rio de Janeiro (UFRJ) [Federal University of Rio de Janeiro] created a network to achieve a discussion about "environmental hazards in industry and opportunities for better environmental conditions at their workplace." (Souza 2008: 187). Later on, an International Colloquium on Environmental Justice took place in Rio de Janeiro, sponsored by the NGO 'Federação de Órgãos para Assistência Social e Educacional'<sup>277</sup> (FASE) [Federation of Organs of Social and Educational Assistance], CUT and the 'Universidade Federal de Fluminense' (UFF) [Fluminense Federal University] in Niterói on September 2001 resulting in the creation of the Brazilian Network for Environmental Justice (BNEJ). As Souza points out, various communities (such as female-led, black, native) "have been fighting for environmental justice for centuries in Brazil even though they have not named their fights as EJ struggles." (Ibid)<sup>278</sup> Opposite to those, the BNEJ claimed the nomenclature. One can state that BNEJ was the first step of a professionalized institutionalization of the grassroots movements in Brazil. Along this process there were and still are critiques of being a white, mainstream<sup>279</sup>, southeast, eco-Marxist oriented organization and leadership. After election of Brazilian's new president Luiz Inácio Lula da Silva at October 27, 2002, he paved the way for the access to some governmental branches. Brazilian grassroots movements for EJ have been involved in struggles against displacement from key urban areas because of tourism, business interests and gentrification on the one hand.

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<sup>277</sup> <http://www.fase.org.br/>, 16.08.2011

<sup>278</sup> This is true not only in Brazil, but also in Peru „in the 1920s and 1930s“ (Martinez-Alier 2002: 57), in Hueva of Spanish Andalusia in the 1880s (Ibid: 59) and the very well-known case of Minamata and Nigata in Japan at the end of the 1960s and the beginnings of the 1970s (Ibid: 67) among others.

<sup>279</sup> The distinction of 'mainstream' and 'critical' will be outlined in the 'considerations' about this chapter. In short, mainstream EJ rather refers to institutional solution within the given environmental framework whilst critical EJ emphasizes the origins of definition by Benjamin Chavis at first NPCELS in 1991.



On the other hand they fight for juridical recognition<sup>280</sup> as well as to remain on ancestral lands, the so called *quilombos*<sup>281</sup>. Displacement (nolens volens) targets more than the countryside or urban matter but coastline areas too. The different mobilisations around resource use issues in Brazil (especially water, but as well energy production, mining and biodiversity) have broadened racial and class oppression. (Souza 2008: 184) On the theoretical, defining level, the centre of the debate about EJ is the critique on the ideology of Brazil as a 'racial democracy'. Part of this ideology is that Brazil has no racial problem, whereas the contrary is true (Guimarães 2002, Schwarcz 1993, Pena 2001). The Brazilian Constitution, for instance, provides equality to all citizens in forbidding ethnic or race concerned treatment since 1988 by law. By avoiding these concerns, Brazilian legal system ignores racial and ethnic communities themselves. (Souza 2008: 183) The Constitution additionally concedes, the right to an ecological and balanced environment as essential to a healthy quality of life. Further, this right includes the duty of the government and the community to preserve and defend the environment for present and future generations. Besides these constitutional devices, "there are (...) other devices that support the agenda of environmental justice movements". (Souza 2008: 184) But it is criticised in this context that competences are much too general defined to push responsibilities to certain bodies. Rather they push responsibilities to one another that to refuse to act, because some other decision maker could equally do the same.

Acselrad demonstrates in a most recent EJ case study, that inequality in regards to access to water supply is connected to geographic (2009: 53) and class related (Ibid: 57) inequality. He further concludes that "por meio da análise dos dados do censo demográfico, que de fato existe uma associação positiva entre nível (ou concentração) de pobreza e grau de exposição ao risco ambiental no município de São Paulo" [for the purpose of the data analysis of the demographic census, by fact there is a positive association between the level (or concentration) of poverty and the exposition degree for environmental risks in the municipality of São Paulo] (Ibid: 56). His conclusion bares central problems of mainstream Environmental Justice research in Brazil as already mentioned: urban/metropolitan focused, South Brazilian centred, concentrated on global perspective of inequality (north-south divide), and, first of all, lesser consideration of Environmental Racism as influencing and an important factor (cf. Souza 2008). This applies also and in particular to works about the North of Brazil, such as the one of Figueiredo (2010). The mainstream direction of Brazilian Environmental Justice research seems to be broadly influenced by juridical institutions. Theoretical considerations about procedural justice and better law penetration in urban areas are more focused for researching the Environmental Justice problem than social driven analyses of local communities, even though there are countless researches in this field, which are not named as EJ. As Souza confirms, Pesavento (1999) and Cunha (et al. 2007) "along with others have done some work on EJ by analyzing race-based environmental inequality, but they have not given this name to their approach (...) because they have

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<sup>280</sup> This will be of highest importance for the following debate

<sup>281</sup> Quilombos are Brazilian hinterland settlements founded by people of African origin, Quilombolas (residents of another Quilombo) and Maroons (runaway slaves)

no further notice of this perspective, which means that work in this area is welcome in Brazil” (Souza 2008: 187).

### 3.2.3 Conclusion

The critique on an Environmental Justice Research development towards a juridical, lawyer based understanding of the concept, classified as mainstream, applies to both Brazil and USA. It points to the fact that originally, and by character of the environmental problems, Environmental Justice problems are and must be located in the field of the socially disadvantaged. Current Environmental Justice grassroots movements often resulted in or became part of a process of institutionalisation and scientification from above, as they wanted to be distinct when founded bottom-up. In consequence, the Environmental Justice concept includes two means and, consequently, two ends: One is the mentioned mainstream direction, which may end in the same way as the term of SD did. The other is a critical one. Herein, approaches critical to society and approaches that base on nature mysticism are mixed and provide a broad range of opinions and verities. Like the ideal type discourse of 'social greens', misleading anyway since suggesting similarities between principally very different approaches, objectivity cannot be in finding consensus neither with the antagonistic opponents from mainstream Environmental Justice research nor within the 'critical' frame, but by using the continuing conflict as instrument for clarifying the roots, on which particular proposals are based. Important is to consider this approach as part of all research to distinguish between these two times and two fields. In reference to Grundmann's claim for a sociology, that fights reactionary theories (1997: 541), analysis of the reactionaries must be examined and outlined for approximating a more appropriate theory frame. As general critique must be added, that Environmental Justice is not *per se* a progressive concept for research, but a discourse conflict zone. Different political positions of all kinds look for their place in this new field, trying to get opinion leadership. By reproducing existing theoretical conflicts of the Sustainable Development concept, this concept is first of all a chance to re-discuss the environmental problem set outside the existing institutional frame.

After 20 years of failures at least, based on the institutional nutshell, as established after Rio '92, Environmental Justice may give first hints to new paths of progressive environmental sociological research in theory and praxis. Environmental Justice Research should be explorations in the field of “intersections between race and other aspect of social identity that are pertinent to justice, such as class, gender, family, and community relations, sexuality, cultural and ethnic traditions, transnational economics, and geographic location” (Adamson/Evans/Stein 2002: 12; Gosine 2008: 21). In this field, other variables such as ageism, racism, capitalism, sexism, heterosexism, disability, culturalism<sup>282</sup>, locationalism<sup>283</sup>, lookism<sup>284</sup>, heightism,

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<sup>282</sup> Discrimination because of cultural behaviour, habitus, clothing

<sup>283</sup> Countryside vs. metropolitan/urban

<sup>284</sup> Discrimination against or prejudice towards others based on their appearance

and wheigtism<sup>285</sup> must be analysed and theoretically considered to enrich the environmental debate. These conflicts most likely bear potential for both valuable contribution for society demands and steps towards a 'dialectic of nature-society' as a theoretical frame for theory and praxis. In that context, consideration and analysis of the different variables of injustice is required in order to push the term out of the field of just moral standards to practical claims. Moral standards are underlying all conclusions of both mainstream and critical Environmental Justice Research and therefore to both apply the quoted critique of Enzensberger about the "Sunday sermon" (see above p. 80, 1974: 26). Finally, three distinctions within Environmental Justice discourses can be outlined: First, a political distinction such as the difference between mainstream versus critical, but also the question of priority of Environmental Racism for defining the concept. Second, geographic distinction in terms of cultural constraints and broader thinking. This refers to the problem set of non-recognition of subaltern knowledge, Eurocentrism, and the named conception of 'occidental rationalism' as opposed by native perception of cultural and material values. Last but not least, Environmental Justice as a research paradigm reveals the environmental methodological gap in distinction between 'bottom-up' and 'top-down'. Not all micro-sociological case study (bottom up) brings to light a full picture of the environmental problem set, but rather 'just' the 'perceived justice'. Macro-sociological empirical calculation (top-down) on the other hand can reveal global inequality patterns, but might neglect basic and superstructure distinction as source and cause of these patterns. Hereby, the method mix as used in the following case study might be accepted as an intellectual stimulus to that entity.

### 3.3 Concluding Remarks

Sustainable Development and Environmental Justice have more in common than a cursory look at either reveals. As both share the idea of an inter- and intra-generational distribution of costs as well as benefits of development, they consider that the current process of development does not ensure equality. Although this is a key concern of the Environmental Justice Movement it does not mean that debates about Sustainable Development generally ignored the demand of mechanisms for ensuring access for all to the Environmental Goods. Especially regarding rural people, Sustainable Development stresses concerns about unequal access to natural resources. (Kameri-Mbote et al. 1996: 1) Even the Environmental Justice focus on the waste problem in certain communities is emphasised by Sustainable Development proponents too. Finally – and this is of major importance for this work – the advocates of Environmental Justice as well as Sustainable Development share the same concern, and one can assume that similar stakeholder groups are involved in the debate, about the particular notions. Surely the stakeholders *in personae* may differ but jurisdiction of the notion is probably discussed in a comparative manner. One central element of the concept of Sustainable Development, as Kiss states, "the temporal dimension, also appears with the use of the terms 'future generations' (...) and the requirements of maintaining the capacity of the earth to produce vital resources".

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<sup>285</sup> Discrimination because of overweight and other physical disproportion

(Kiss 2003: 54), The Environmental Justice Movement instead focuses on communities. This is named as its “major strength” (Kameri-Mbote 1996: 1) since it goes beyond the recently known limits of most international instruments. Those are mainly the concentration on the role of states and individuals. This means that environmental juridification assuming intentionally good governance perceives mainly inter-state, state to federal state (down to the organizational-administrative bottom) and state to individuals but not communities as relevant stakeholder in the juridical process. Within the imbalances of environmentalism, racial concerns does not occur only on an abstract level, but also on both the international (inter-state) one and the national level where communities are considered as monolithic. Opposite to the egalitarianism of the individuals, as such Environmental Justice turns the view to a new stakeholder group: The community. On the other hand, Sustainable Development is more impartial by analysing the problem, as the debate is more abstract on a higher hierarchical level since it is no longer facing the debate 'on the bottom'. While Environmental Justice as a term is almost synonymous with Environmental Racism, the movement considers to a lesser extent additional issues such as international environmental law, ecological justice and human rights. Oftentimes the qualified claim against Environmental Racism contrasts by looking at some side-effects certain environmental action has. For example if an entrepreneur builds up a waste facility in an area with mainly disadvantaged inhabitants (by race, gender, class) it is complained that especially these suffer as usual from the Environmental Bads. If the waste facility moves somewhere else the environmental justice movement states that the consecutive loss of jobs is as well an expression of Environmental Racism. As a matter of fact, persons of lower class usually have a lower medical condition. (Kloepfer 2006: 22) Furthermore, there is no doubt, that effective efforts to protect the 'social nature' require prosperity (Ibid: 23) and as described all stakeholders in all fields, and on all projections, will use their assets to their individual advantage.

But what are the new contributions of Environmental Justice Research as Elvers (2007) has mentioned by naming it a 'new paradigm for sociology'? First, recognition that the environmental problem set cannot be properly answered within contemporary regulation frame. Second, communities must be considered as important actors to the named question, which would includes consideration of cultural peculiarities. This form of peculiarities' definition, as the third contribution, is involved in the second key term of Environmental Justice Research as emphasised. Environmental Racism is both a scientific term and a political strategy, which expresses best the attempt undertaken by the 'new paradigm'. These include theoretical considerations about how discrimination can be considered within environmental sociology, from a macro, global projection perspective or rather driven by self-definition and self-perception of the local community. Theoretical considerations of Environmental Justice Research about Environmental Racism give an appropriate starting point to look at these images created by powerful stakeholders as kind of a state ideology to colonise the world since the 15th century (Miles 1989: 14). Also, Environmental Justice Research, which refers only to global projection, can be analysed in the framework of Environmental

Racism, such as sociology already does regarding one-sided research with overestimation of the local projection in terms of 'overreport' and 'over-identification' (see above). For the purpose of this study, in particular Eurocentrism in science has to be named. This notion is defined in the context of colonising times as European, capitalist, military, Christian, patriarchal, white, heterosexual and male, based on nine identifiable, entangled hierarchies: 1) By diversity of labour (slavery, semi-serfdom, wage labour, petty-commodity production among others) a profit oriented economy driven by occidental rationalism was established to produce commodities for the world market; 2) periphery and centre for effective international division of labour was created; 3) colonial administration lead by people with the above named features created an inter-state and military frame, in which 4) a global racial/ethnic hierarchy of privileged European people over non-European people could be established; 5) In this process also European gender hierarchy with privileges for males over females and European patriarchy over other forms of gender relations gave later on birth to 6) a sexual hierarchy of heterosexuals over homosexuals and lesbians by kind of new European bourgeois rules basing on prudery<sup>286</sup>; 7) spiritual hierarchies created hand in hand by religious and imperial interests in discovered and colonised countries in the world. The final world-system then privileged Christians over non-Christian in general, non-western spiritualities in particular; and, last but not least, 8) an epistemic hierarchy, privileging western knowledge and cosmology over non-western knowledge and cosmologies, institutionalised in the global university system whilst linguistic hierarchy [9]) between European languages and non-European languages created barriers of knowledge transmission and recognition. Nowadays, the result of all these privileges in communication and knowledge or theoretical production is the recognition of other forms just as producers of folklore or culture. (Grosfoguel 2009: 18-19; Mignolo 2011: 17-19) Considerations of Environmental Justice Research about silenced (open or covered) racist discourses in “circumstances where an explicitly racist content is eliminated, but other words carry the original meaning” (Miles 1989: 84), directly or indirectly, are bound to increasing scientific awareness of Eurocentrism that “emerge alternative, innovative and transforming inputs to anthropology, history, philosophy, political economy and sociology, which aim at contributing not only to the production of knowledge within the academic realm” as Suárez-Krabbe states (2009: 1).

“All too often, the social sciences and the humanities’ focus on intricacies, nuances or indeterminacies of the historical process, contribute to the invisibility of coloniality<sup>287</sup>.”

(Grosfoguel 2009: 12) For analysing purposes, environmental studies of all kind must be analysed considering 'invisibility of coloniality' as a possible interpretation bias in research. Finally, some thoughts about justice as central term for the environmental problem set might be appropriate. “Recht ist, wer das Seinige tut” [Right is who is doing his part] as Platon says, meaning, that to admit each person's right, it's

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<sup>286</sup> One must take into account that indigenous peoples in the Americas (for instance) did not consider sexuality among males a pathological behavior and consequently had no homophobic perception of such a distinction.

<sup>287</sup> In the final field research chapter, this topic will be discussed in more detail, but the 'coloniality' notion of Grosfoguel refers (briefly described) to reproduced colonial structure within a post- or neo-colonial society.

necessary to define 'das Seinige' [his part] (Sanden 2008: 439). In the end however, three aspects towards justice are worth consideration:

1. Justice and injustice are defined by economical and societal constraints.
2. The definition of justice is made by those in charge.
3. Justice and law disappear with the relationships on which the base.

Is it not, that in contemporary society property rights are not only legitimised but also recognised as just? Isn't the division of property at the end the only fair diversification possible, based on present economic relations? Are these relations regulated by law, or rather the product of it? Upcoming scientific question is the following: “Weiß man etwa mehr über den 'Wucher', wenn man sagt, er widerspreche der 'justice éternelle'<sup>288</sup> und der 'équité éternelle'<sup>289</sup> und der 'mutualité éternelle'<sup>290</sup> und andren 'vérités éternelles'<sup>291</sup>, als die Kirchenväter wußten, wenn sie sagten, er widerspreche der 'grâce éternelle'<sup>292</sup>, der 'foi éternelle'<sup>293</sup>, der 'volonté éternelle de dieu'<sup>294</sup>?” [Do you know something new about price gouging when saying it contradicts with the 'eternal justice' and the 'eternal inexpensiveness' and the 'eternal mutuality' and other 'eternal verities' when the Church Fathers knew when they said, it would contradict the 'eternal grace', the 'eternal creed', the 'eternal will of God'?] (Marx/Engels 1968: 99, note 38) What value can we find in considering such a permanency even though 'law and justice' are based on a certain society consensus of what is right and what is wrong? If existing societal constraints are in question, the terms will modify their content and inherent meanings. State authority and state power depend on balance of interests in recognition of power difference and efforts of the stakeholder to articulate them. So, the belief in 'permanent truth' in science<sup>295</sup> is as wrong as assumptions about any 'objective' justice as such. Human Rights and environmental laws cannot be taken for granted without reflecting particular interests and perception (cf. 'perceived justice', see above) of those involved. What we do know – to answer Marx' rhetoric question – about price gouging when speaking of universalities, is the story “from the dream of an *Orbis Universalis Christianus* to Hegel's belief in a universal history that could be narrated from a European (and therefore hegemonic) perspective.” (Mignolo 2000: 17) In direction of breaking “eurocentric hegemony as epistemological perspective” (Quijano 1997: 117), critical environmental sociology research could contribute to enrich environmental debate in terms of a more radical reviewing of the assumed and considered, and in established discussions in favour of a new, more dialectical framework. By requesting terms, to which have been agreed and which

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<sup>288</sup> ewige Gerechtigkeit [eternal justice]

<sup>289</sup> ewigen Billigkeit [eternal inexpensiveness]

<sup>290</sup> ewigen Gegenseitigkeit [eternal mutuality]

<sup>291</sup> ewigen Wahrheiten [eternal verities]

<sup>292</sup> ewigen Gnade [eternal grace]

<sup>293</sup> ewigen Glauben [eternal creed]

<sup>294</sup> ewigen Willen Gottes [eternal will of God]

<sup>295</sup> cf. the Einstein quotation in Schumpeter (1991: 298-99) as cited above

have been defined as relevant or irrelevant for the debate, Environmental Justice as a not yet fully defined concept can moreover open the mind to undiscovered, mistakenly neglected environmental discourses and, by doing so, provide new visions and insights, which seem unresolvable after decades of (finally) fruitless discussion.

Sustainable Development conversely, as a concept and in praxis, is more distinctive than recognised by many. Vagueness of concept definition is intentional and serves interest's enforceability as the example of the Bolivian representative in Cancún (2010) could show. Debates about solutions – even with base on consensus – are based on the given power structures in the world. Economically and politically powerful countries not only define importance of Human Rights concerns (Costa 2011b), but also determine and decide institutional necessities in the environmental field. Therefore, one can hardly agree to Nobre, who stated that it is a “[d]isputa para decidir exatamente 'o que é' o desenvolvimento sustentável. É esta história que pretendo contar a partir de agora” [dispute to exactly decide 'what is' Sustainable Development. It's this history that I pretend to count as part of today's disputes] (2002: 26). The outline could demonstrate the contrary. Evaluated central terms, as emerged in Europe's history of Enlightenment, like anthropocentrism, technique optimism and occidental rationalism with its particular view on nature, exist as unseen but influential in the background. Consequently, Nobre is also mistaken, when saying that it is the vagueness of the SD concept “que permitiu o engajamento por parte dos mais diferentes atores na disputa” [which permitted committed participation of more different actors in the dispute] (Nobre 2002: 66; Orlando 2006: 16). Rather, the vagueness of the concept reveals the contradictory understandings of these actors, not just within the 'official', institutional dispute (sic!). In consequence, the 'non-defined' or unclear defined concept carries the outlined underlying assumptions, which are not the consensual, as the institutional frame pretends to be, but competitive. Rather, stakeholder interests have been decisive from the beginning of environmental debate. Prevailing mainstream definition agreed on the point that 'no growth is not an option'. This finally gave frame to all further debates about different ways to consider environmental concerns in economic theories. Obviously, in present times, 'practical constraints' and 'pragmatism' are the labelled claims against those, criticising the contemporary mainstream. This doesn't only apply to the political sphere, but also to debates in scientific community. As part of these debates, the principle hypothesis of this piece must be recalled: The failure of environmental law on both the global and local scale in dependence to agreement and acceptance of the environmental regime. The exclusion of specific stakeholders, first of all the diversified 'social greens', can be seen as one reason for the failure. Without any doubt, the process of institutionalisation of the Sustainable Development concept and its definition since Stockholm 1972 is finalised. Whether it came to its final end is political not scientific, but the term is clearly defined as an unclear concept due to power interests of influential stakeholders in the process. As long as all representatives could be assembled to discuss Sustainable Development matters, the pressing question of social distribution of environmental burdens and distributive justice could be neglected by referring to procedural justice. Global procedural

justice negotiations, since UNCHED in Stockholm (1972) to UNCCC in Cancún (2010) and Durban (2011) demonstrated how political-economical power trumps environmental concerns and reasoning. Obviously, the Environmental Justice concept takes the place, where the Sustainable Development concept was at its beginnings. Consequently, similarities can be found, particularly in terms of institutionalisation attempts by already existing institutions. This is neither unexpected nor surprising, but, in consideration to the outlined history of Sustainable Development institutionalisation, the crucial and central part for the whole field of environmental social sciences.

In consideration of revealed increasing opportunities, due to the re-discussion option of central environmental issues by researching environmental burdens and conflicts with reference to subjectively perceived impacts, 'social nature', by opposing the Sustainable Development concept with the Environmental Justice concept, the main question will be answered in the following case study: Whether the discourses about the concept of Environmental Justice are more distinguished (qualitative) and distinctive (quantitative) than the discourses about Sustainable Development, using the example of an environmentally protected island in the North of the Amazon federal state of Pará. For this purpose, the characteristics of the environmental regime in the Legal Amazon will be analysed and discussed in order to outline the legal policy situation, in which the 'Area of Environmental Protection' (APA) is located. The mentioned qualitative-quantitative discourse analysis tool, Q Methodology, in combination with the qualitative 'free unstructured participant observation' approach from early environmental sociologist Ezra Park, and operationized by Ronald Girtler (2001), will be applied to reveal both the answer to the main question (see above) and to describe the local environmental problem set in a proper narrative.



#### **4. Field Study**

*But I, being poor, have only my dreams;  
I have spread my dreams under your feet;  
Tread softly because you tread on my dreams.*  
William Butler Yeats

Before the fieldwork, some pre-considerations shall first be mentioned to give the reasons why Brazil as a subject was chosen. Besides Enzensberger's reference to the decisive status of Latin America (1974: 14), as mentioned in the introduction, one circumstance and two works have been responsible for the decision to research the islands Algodual-Maiandeuá. The circumstance came from unanswered questions in my first field research in Brazil. Since underestimation of the waste problem set on Algodual-Maiandeuá was one of the side-results of the 2003 research in which socio-economic, socio-cultural and socio-political considerations have been centred, the interest in re-visiting the area for a more detailed environmental research remained. The works of Maria Araujo (2007) and Richard Linowes (2006) gave the starting point. The former pointed out, that few environmental works generally have focused on isolated areas (2007: 7), whilst the latter presented a work on waste management, stating that the government had done nothing to develop or protect the isolated peripheral regions. (2006: 227) Therefore, I saw reasons given to provide both an academic contribution in an area underestimated in scientific research and the opportunity to study an area of public interest. The case is compiled with the hope to present a case study not just of (academic) relevance, but also of use and interest for all local stakeholders, institutional bodies such as government(s) and NGOs, private enterprises and local inhabitants.

##### 4.1 Pre-assumptions

After having spoken about the theoretical superstructure of the environmental debate, this work surfaces above named considerations and assumptions of local reality. Abstract considerations in order to frame or contextualise the work have been meaningful, but cannot answer the question, inasmuch as the theoretical assumptions can be verified in a local, environmental problem set (as initially alleged in the 'theoretical considerations). The approach here is to enrich already given answers to the leading question, which struggle as more pressing or more contradictory, the one about Sustainable Development or the one about Environmental Justice? Inasmuch as this can be important to be proven in a local, regional setting? Is it, since the main difference in this conflicting area is, that people are using unclearly defined concepts with a different understanding depending on different stakeholders? So, when talking about the involved two concepts in regards to international agreements, different actors, such as the Bolivian and Mexican government<sup>296</sup>, are using their (antagonistic) definitions to enforce their demands by hiding their underlying interests (cf. Bourdieu 1977: 14). The Sustainable Development concept made this very easy. This procedure

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<sup>296</sup> Mexico, and many others, wanted a compromise at all cost, whilst Bolivian government had other top-priorities.

became more difficult when Environmental Justice as an opposing concept appeared, even though it is not (yet) prominently placed on the agenda. Without heading into global projection, it must be stated that these interest-hiding circumstances are assumed to continue on a local level.

As initially outlined, there exists an assumption that law in general, and environmental law in particular, is grounded on the acceptance of the underlying key terms by both sides, population and superstructure. Based on such, this piece assumes that the different understanding of basic concepts by the involved stakeholders is responsible for the fact that environmental law is not achieving success or is not applied as intended. Therefore, the operationalized hypothesis will be tested in the field, which is a 'conservation unit', more specifically, an *Área de Proteção Ambiental (APA)* [Area of Environmental Protection], called islands Algodoal-Maiandeuá, located in the Amazon. Therefore, the specific Brazilian constellation in general, development, constitution, and alterations of the environmental regime and the specifically involved problem set shall be outlined at the beginning in order to evaluate the influencing factors on-site. Within this frame, other regimes with influence and/or connection to the environmental regime will be observed in the historical context, such as colonial heritage, land property, and the cultural regime. Initially the Brazilian situation will be outlined with respect to *Amazônia Legal* [Legal Amazon], so that it can rather be spoken of an Amazon environmental regime. When facing the local level, abstract answers to similar questions (from the Brazilian context too) need to provide concrete solutions to concrete problems.

In this chapter, the prime hypothesis of this piece is to be answered under the assumption, that the abstract concepts (Sustainable Development and Environmental Justice) are basically considered in environmental legislation, or rather, ideas, such as a human development in consideration of the environmental needs or an equal distribution of environmental burdens, equal access to Environmental Goods, and defensibly shared environmental risks, are intentionally considered to perform 'good governance'. The following questions come to mind: Is the 'unclear' definition of the sustainable development concept sufficient to give proper answers to the concrete environmental question at the local level? Which contribution is given by the Environmental Justice concept? Is Brazilian environmental law connected to or influenced by these concepts and what is the outcome? What are the intended results by governmental stakeholders, and what is the perceived justice in the context of 'social nature' by local inhabitants? Are theoretical claims of Environmental Justice movements and research regarding Environmental Racism and Environmental Risk true or false, in the given context? In order to answer these questions, the research sought a different understanding of the concepts Environmental Justice and Sustainable Development of the relevant stakeholders in the given field, which are involved in or relevant for successful implementation of environmental law. This includes governmental and non-governmental organisation as well as representatives of the local population.

The chosen field consists of two island siblings, together called Algodoal-Maiandeuá, located in the northern part of state Pará. Based on research, accomplished in the years 2003 (see Kaufmann 2003) and 2005, long

term and broad knowledge of, and contacts in the field, existed from the beginning. Since the 1970s Algodual-Maiandeuá faced an intensive process of 'touristification' (Corbin 1989) in terms of an increasing change of conditions based on mass tourism and development. This caused changes in living conditions, culture, social life and habitus, along with social and environmental problems such as waste, social disparities, questions of land ownership and change in production and accumulation. Until this period of time, economic activities on the islands had been based on "a pesca artesanal e a coleta de mariscos" [fishing and seafood] (Barros 2010: 56). Since Algodual-Maiandeuá is a state owned area of environmental protection for 20 years, environmental law implementation and local acceptance/knowledge have been supervised by governmental bodies ever since, with a rather weak outcome (Bastos 1996, Quaresma 2000, Kaufmann 2003, Vianna 2008, Barros 2010). Furthermore, the islands are located in the *Amazônia Legal*, so, one of the central locations, where the environmental question is asked, and where it needs to be answered. Theoretically made considerations will be compared with results as found by meeting reality. These include environmental racism (ERA) and critical Environmental Justice Research (EJR), less consideration of the community as an important (local) stakeholder, on the one hand, debates about possible paths of modernisation in terms of the Sustainable Development concept, perception of nature in both scientific community and on the other hand the world of market based organisations. Basing on the theoretical outline, cited 'weakness' of environmental law in Algodual-Maiandeuá is due to antagonistic understanding of the underlying Sustainable Development (SD) and Environmental Justice (EJ) concepts. Consequently, part of the problem of successful environmental law implementation is on consideration and recognition of these differences by the stakeholders considered to be relevant<sup>297</sup>. When using ero-epic conversations (Girtler 2001) and Q Methodology (Barry/Proops 1999) in consideration of Elver's Processual Research Paradigm (2007) to seeking and interpreting SD and EJ discourses in the field, opportunity will arise to get both an inner view to perceived (social, environmental) problems and answers to the question, which discourse about the two concepts is more controversial.

#### 4.2 The Amazon environmental question or who owns the land?

Why inquire about land ownership first? What has this to do with the environmental problem set? It is true that, if looking at the relevant literature in regards to the Environmental Justice question, publications do not provide much evidence for consideration. On the other hand, the EJ field is a rather new field in the academic community of Brazil even though EJ and EJR are historically newer than the conflict and the debates. Environmental conflicts are well documented, especially in the Amazon region, but haven't linked yet to the concept of Environmental Justice. As Bernardes and Ferreira state, "a questão ecológica no Brasil está muito atrelada à justiça social" [the ecological question in Brazil is very much attached to the question

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<sup>297</sup> As will be seen in the methodological considerations of the field research later on, the 'relevance' selection by institutional bodies is not just accepted in this research, but extended in recognition of analysed weaknesses within the given frame.

of social justice] (2003: 37). The truth is, that most of internationally recognised literature about the environmental problem set in Brazil is published in the South, in particular regarding the new concept.<sup>298</sup> Literature about institutional approaches, as well as related scientific research, come mainly from Rio de Janeiro, São Paulo and the capital Brasília. Resource distribution in Brazil is linked to the land question, which therefore determines the constitution of the Brazilian (and Amazon) environmental regime. In the following sub-chapters it will be outlined, inasmuch as the *Lei de Terras* [Law of Lands] interfere with the Environmental Justice question, seeking proof of institutional based claims of Environmental Racism from Brazilian critical Environmental Justice research (Souza 2008: 186). As will be shown, the appropriation of Amazon lands, originally owned by indigenous tribes, looks back to a long history and the question would be, if or to what extent historical treatment of indigenous land ownership has been passed on to present time. This will be followed up as well on the local level in regards to the research field of the indigenous islands Algodal-Maiandeuá.

#### 4.2.1 Social-environmentalism and social spaces

According to Cunha, the management of the environmental question is part of the broader process of managing territory. This connection or entanglement isn't adequately considered in regards to its relevance for the environmental debate, or rather, regarding the resulting consequences of the failure in articulation between actions and strategies of environmental and territorial management, which can be

“creditada a uma série de fatores explicativos, entre os quais a incapacidade de o Estado brasileiro implementar políticas integradas de transformação socioespacial e de regulação dos comportamentos individuais e coletivos”

[accredited for a series of explicative factors, in which the incapacity of the Brazilian state to implement integrated policies of social spatial transformation and regulation of individual and collective conduct] (2003: 44). Since colonial times, the time of Portuguese colonising indigenous lands to explore the natural resources, Amazon lands have served to provide the growing metropolis. As Acselrad stresses,

“[c]om o advento da Lei de Terras em 1850, e a constituição de relações sociais propriamente capitalistas, a propriedade privada sobre o território e seus recursos tornou-se, desde então, condição básica da exploração do trabalho livre”

[by establishment of the Law of Lands in 1850 and the constitution of proper social capital relations, private property over the land and its resources intensified the basic conditions of free work exploitation] (2009: 121). Two processes are characteristic for land ownership in Brazil: extensive and intensive accumulation.

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<sup>298</sup> It would be too simple to just divide Brazil into two parts as a mainstream Environmental Justice research in the South and critical Environmental Justice research in the North. Moreover, even mainstream environmental sociologists (in the given connotation) could show a link of the Environmental Justice problem to the development models and could trace it back from there to the land ownership question (Acselrad 2009: 121). Nevertheless, distinctions persist, as the examination will show.

The former is denoted by the concentration of resources control in the hands of few people, including the incorporation of wide ranging land regions and the substitution of social diversity by typically capitalist sociality. Consequently, this kind of accumulation by land and resources use led finally to the destruction of traditional, non capitalist forms of appropriation and the “desestabilização dos sistemas ecológicos nos espaços crescentemente ocupados pelos grandes empreendimentos” [destabilisation of the ecological systems in increasingly occupied spaces by big enterprises] (Ibid: 122). From a contemporary point of view one can state, that these changes have been realised within an industrial conception of progress and modernisation, which has been adopted by first world theories and approaches basing on occidental rationality. The result is not just the destruction of the environment, but also the disfranchisement of indigenous nations, which culturally and historically were based on “formas sociais de produção não-capitalistas” [social forms of non-capitalist production]. (Ibid: 123) Intensive accumulation on the other hand is characterised by the privatisation of public Environmental Goods such as air and water.

This must be seen in the context of the named Aarhus Convention of 1998 in the meaning of equal access to resources, which are required by all. The intensive growth required a permanent enforcement and acceleration of investment upturn, which runs contrary to the slower process of the biophysical regeneration. The two presented processes are connected by reciprocal development. They are answered by social conflicts, namely conflicts for land ownership, as land for living or agricultural use such as caoutchouc plantation, or for water as contemporary framed in the “questão ambiental” [environmental question] (Ibid). According to Treccani, existing natural richness has been explored based on a dominantly applied economic model of destructive practices, which permanently resorts to violence. At the same time it generates social resistance “de segmentos das populações locais, a exemplo das identificadas como tradicionais” [of local traditional populations' segments] (2006: 21) as considered as well by Almeida (1987/88), Dallari (1997), Hardin (1968) and Surgik (2004). Furthermore, the land ownership question is renewed on the world-wide level in recent decades as a result of different competing visions of how to control the space and how to divide the remaining natural resources. As Ferreira and Bernardes conclude, referring to Becker and Gomes (1993), the answer to the environmental question in the age of globalization is a question of survival. Since *Amazônia Legal* became the major symbol of this desire, the authors confirm the mentioned necessity of the de-naturalization of the contemporary concept of environment, the breakout out of the false separation of technical, scientific development and ecology in order to construct a more just territorial management and a re-design of the contemporary path of development. (2003: 38)

Since the end of the 18<sup>th</sup> century in early Brazilian history, opposing stakeholder groups can be identified. Politicians and intellectuals started protesting against the deforestation and predatory cultivation and “cobravam a adoção de medidas que contivessem a degradação da Mata Atlântica” [requisitioned the adoption of measurement that could count the degradation of the Atlantic Forest] (Cunha et al. 2003: 46). Continuing, the authors classify three periods in the development of Brazilian environmental politics: The

construction phase of a regulatory basis for the use of natural resources from 1930 to 1971, the phase of governmental interventions (1972 to 1987) and the last period beginning from 1988 until contemporary times, marked by processes of democratisation and decisive decentralisation. The first phase was initiated by 1930s revolution and the Constitution of 1934, including a shift of the dominating class of great landowners to Southeastern elites created by urban based industrialisation. The national government started to centralise decisions, often in confrontation with the traditional established power of regional leaders. Actions such as the nationalisation and exploration of petrol as well as the socialisation of the Companhia Vale do Rio Doce, the iron export firm of Brazil, have been significant examples of this transformation. At this time, environmental legislation was just beginning, but was enforced in this period by the US American New Deal, which began in 1933.

One has to consider in this context, that Brazilian policies made by the growing industrial, financial and possessing class has had a strong orientation to US American politics and in addition US interference has been much stronger in the past. When US president Franklin Delano Roosevelt announced the 'New Deal', "acabou por influenciar as políticas de preservação no Brasil" [his influence cancelled existing preservation policies in Brazil] (Cunha et al. 2003: 46). Decree No 23,793 of January 23, 1934 provided creation of national parks and protected forests in the northeast, south and southeast regions. Reason for the creation of the 'unidades da conservação' [conservation units] (Ucs) has been unrestrained population growth in coastline areas and consequentially the necessity to restructure the occupation in order to protect the remaining parts of the Mata Atlântica<sup>299</sup> [Brazilian's coastline rainforest]. In 1937, the first national park of the country, Parque Nacional (PANA) de Itatiaia, located in the federal state of Rio de Janeiro, was established. In the same year, legislation for a regulated resources management and use advanced in the form of the forest code, the code for water and mining. After World War II, the Brazilian debate was enriched by speculations about the threat coming from the nuclear power and destructiveness of atomic bombs as seen by the bombs release in Hiroshima and Nagasaki. During this time, 'system ecology' accrued and was established during the 1950s and 1960s (Odum 1969), to which will be referred to again later on. With change of the political regime in 1964, the new military government executed and articulated fundamental projects, basing these on the doctrine of security and development. Part of the project was a strong intervention in the Amazon area (see below for more detail). In this period national approaches to manage Brazilian environmental policies were preferred, whilst region based actions were less estimated. Within this context the first fishing code was enacted in 1965 (Cunha et al. 2003: 47). This led to a concentration of activity, especially public actions, in the South and Southeast of Brazil, where the process of industrialisation and urbanisation has been more advanced than elsewhere. As will be outlined later on in greater detail, the distinction between Brazil's *Amazônia Legal* and the Northeast on the one hand, and the South-Southeast on the other hand, institutionalized at that time and until now, has been formed in times of the military

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<sup>299</sup> The rainforest at the coastline range from the South and Southeast to the Northeast of Brazil.

government. Hereby, an ideological superstructure of *embranqueamento* ['Whiteness'] was developed, considering less cultural and historical peculiarities of the North-Northeast in favour of stronger European influenced South-Southeastern frameworks. The second phase was labelled by governmental interventionism and the global(ization<sup>300</sup>) of the ecological crisis from 1972 to 1987. It might be more sufficient to talk in this context rather of an increasing global awareness of an ecological crisis. At this time, Brazilian government struggled with two pressures. The demands of environmental movements on one side and of international financial bodies claimed different consideration of the ongoing environmental degradation. The former announced the upcoming catastrophe whilst the latter spoke of an accelerating myth. The environmental regime faced contradictions by modernisation policies and via the integrated national incorporation by the military regime. In this context, Eletronorte was created in 1973 “para por em prática uma visão ideológica e estratégica de um desenvolvimento que tivesse como beneficiário direto o capital estrangeiro” [for practically an ideological vision and strategy of a development with direct benefit for the foreign capital] (MMA/CMBio 2008: 21) as well as by reorganising the Secretaria Especial do Meio Ambiente (SEMA) [Special Secretary of the Environment] “no âmbito do Ministério do Interior” [in the area of the internal affairs ministry] (Cunha et al. 2003: 52). One of the objectives of the SEMA was to appease social conflicts by negotiation and action.

Until the mid-1980s, “o Estado ditou, de forma centralizada, a política ambiental (...) no Brasil” [the centralized State enacted environmental policies in Brazil] (Ibid: 43). Within this period (1975 to 1985), huge activities of construction work, barrages and transmission lines for electric energy, have been executed in accordance to 'Planos Nacionais de Desenvolvimento' (PNDs) [National Plans of Development]. In 1981, the 'Política Nacional do Meio Ambiente' [National Policy of the Environment] has been taken into force in order to ensure, that the agreed 'Polluter pays principle' of the Stockholm Declaration is matched. In this context, the creation of the Sistema de Licenciamento de Atividades Poluidoras (SLAP) was established to regulate pollution costs. Growing studies about environmental impacts, initiated by private and public enterprises, enhanced by pressure of international environmental movements as well as the creation of environmental agencies all over the world, made the military government in Brazil try to adjust its position of 'top-down-development' by strengthening the “skeletal structure destined to care for the environmental problems”. Referring to the above named 'systems ecology', the 'polluter pays' debate must be seen within the frame of the 'biodiversity paradigm', which “has its origins in the field of evolutionary ecology that developed in the 1970s and 1980s and is concerned with maintaining or restoring species composition in natural landscape”. (McGrath 2008: 678) Another institutional characteristic of this period was the multiplication of declared conservation units, independent from the region. On the other hand, the given emphasis of the identified problem set, is specified in the Northeast and the Amazon Region. The Amazon rainforest in particular includes both national and international preoccupations. At the end of the period,

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<sup>300</sup> The modern usage of this notion is not meant at this point.

growing visibility and making appearances of the native and non-native local population, threatened by the called infrastructure projects that proliferated the whole country, was answered in 1986 by the creation of the Estudos de Impacto Ambiental (EIA) [Environmental Impact Studies] and the Relatórios de Impacto Ambiental (RIMA) [Environmental Impact Report].

The last defined phase of democratisation and decisive decentralisation began in 1988. It was initiated by two international events. First, the Brundtland Report in 1987 as outlined *in extenso* in the last chapter and second the new Brazilian Constitution of 1988. The first event was considered in Brazil as the introduction of world-wide echoed final establishment of the specific concept of Sustainable Development. At the same time, the Constitution showed a strong tendency towards decentralisation, initiating a process of re-democratisation and established consideration of the interrelationship between dioxide of carbon in the atmosphere and the velocity of deforestation in the Amazon. First of all, this Constitution considered for the first time the environmental question, containing a separate chapter about the environment and the classification and, most importantly, the declaration of the environmental national heritage: The Atlantic Forest, the Amazon rainforest and the Pantanal<sup>301</sup>. Furthermore, it “[i]nstituiu novas bases de aplicação de multas, a obrigação de recuperação dos ambientes degradados e a lei para compensar (...) à União, aos estados e aos municípios pela exploração de recursos naturais (hídricos, minerais e petrolíferos)” [founded new bases for applied fees, the obligation of environmental degradation recovery and the law for compensating the nation, the federal states and municipalities for exploring natural resources] (Cunha et al. 2003: 53). As a result of the financial crisis in the 1980s and 1990s (Ibid: 54), Brazil faced a growing shift to greater social inequality, as can be seen in the Inter-American Development Bank report (IDB 1998), which states that in “Brazil of the mid-late nineties, the distributive effect of social spending was in fact negative, i.e., adding to an already enormously unequal income distribution” (Therborn 2006: 40), which contributed as well to a more and more involvement of the local society in the environmental question.

The neoliberal conception and alignment of Brazil's economic modernisation path was echoed in traditional politics of natural resources defence. The privatisation of the energy sector and mining enterprises resulted in a transfer of responsibility in the guidance of environmental management. The environmental regime continued to confront the development regime, especially in the infrastructure projects as articulated in the programs *Brasil em Ação* [Brazil in action] (1996-1999) and *Avança Brasil* [Brazil ahead] (2000-2020<sup>302</sup>). This stimulus was accompanied by both more and more organised local resistance and raising importance of the notion of shared and distinguishing responsibility and complementarity between federal government and state and municipality, including the debate about the role of the different social stakeholders in the reformulation of public politics and in the reorder of the sector and region related needs. (Cunha et al. 2003:

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<sup>301</sup> The Pantanal is located in the mid Southwest of Brazil, surfacing ca. 230,000 km<sup>2</sup> in federal states Mato Grosso and Mato Grosso do Sul.

<sup>302</sup> Planned in a four-year plan rhythm, beginning in 2000 (until 2003). For further reading cf. *Avança Brasil 2011*



53) In reaction to these impacts, the Brazilian environmental regime turned to more participatory projects in recognition that past attempts have not shown the expected or positive result in harmonising the modernisation regime with environmental consideration. Besides the fact, that a even stronger consideration of regional aspects could be one reason for environmental failure or less successful outcome of environmental initiatives, scientific input points out that while the biodiversity paradigm has become the unquestioned dominant concept for “conservation and management policy debates for most of the last two decades” (McGrath et al. 2008: 678), put up a strong bias towards terrestrial landscapes. With the shift in focus of the debate from biodiversity to climate (McGrath 1997) in the 1990s, the shift from state centred management to regional participatory management approaches became possible. The requirement for the establishment has been political pressure from grassroots organizations in defence of local community interests against outside commercial interests. (McGrath et al. 2008: 678)

At this point the involvement of a typical Environmental Justice aspect to the field of environmental legislation has to be mentioned. As a matter of fact, instruments of the time of Sustainable Development institutionalisation and the its conceptual definition haven't been able to provide further solutions at this stage, but when community based action forced the government to change direction in order to harmonise diverging interests, a stronger participation aspect started to become part of the institutional frame. As stated, community based approaches have to be seen as the new paradigm in environmental sociology in order to better understand problem set, which lies rather in the question, who is paying the costs and who is earning the benefits, rather than in simply asking for nature conceptions or ecological movements. Examples in scientific literature for these attempts mainly appear in the Amazon context, such as the 'Rubber Tappers' Movement'. Striking back commercial logging and ranging in originally traditional rubber tapping region, superseding local families (Hecht/Cockburn 1989), this movement had co-responsibility for the fundamental shift in government management policy with local people's gaining of an increasingly important role in defining and implementing environmental policies at the local level, as Hall points out (1997). According to Sparks, for Aquatic systems, in consideration of the coastline based field, there is to add, the ecosystem perspective and a concern with the functional integrity of ecological processes have become dominant. (Sparks 1995) All this must be seen in the context of the ECO 92 conference in Rio de Janeiro (Rio 92), which brought together a huge amount of NGOs that “firmiram compromisso com a elaboração das Agendas 21 locais e regionais, num contexto de crescente preocupação com a destruição da camada de ozônio, com a proteção da biodiversidade e dos recursos hídricos” [establish a compromise with the elaboration of the local and regional Agendas 21, in a context of growing preoccupation regarding the destruction the ozone layer, the protection of biodiversity and water resources] (Cunha et al. 2003: 54).

In 1993, the Ministério do Meio Ambiente, Recursos Hídricos e Amazônia Legal [Ministry of the Environment, Water Resources and the Legal Amazon] (MMA) was created in order to put recommendations and agreements of the Earth Summit in Rio de Janeiro into force and construct the Agenda

21 and the institutional and communitarian agendas. Further initiatives have been attempts to better regulate existing management approaches such as of hydrous resources, forest handling, pollution control, prevention and competing slash and burn, qualification for proper planning and land use as well as the promotion of environmental education. As a result of this, a new forest code was arranged in 1996 by extending the area of legal reserves of native forest from 50% to 80% of private property land. In federal Law No 9,433 of January 8, 1997 and federal Law 9,605 of February 12, 1998, sanctions for environmental crimes have been agreed. Still insufficient in monitoring and control, productive activities advanced during this period too. Nevertheless, besides participatory approaches, the regulation of environmental protected areas increased in number and quantity all over Brazil, as listed below, but the “Estado continua a formular e implementar políticas antagonicas” [Brazilian state continues to formulate and implement antagonistic policies] (Cunha et al. 2003: 55). Implementing both norms and rules to protect the environment and - in order to achieve the goal of self-defined modernisation – fiscal incentives in rural properties, which increased the rate of forest exploration and devastating natural resources, resulted in even more degradation and, consequently, was in violation of environmental law. This resulted in case of the Atlantic Forest deforestation of about 93% (Galindo-Leal/Câmara 2003: xi) and is carried forward in the Amazon rainforest now (Ibid: 135).

#### 4.2.2 Triple Oppression: Three regimes create the environmental regime in Amazônia Legal

In the following, the basis for what is established today as the 'environmental regime' in the Legal Amazon will be outlined. This cannot be seen as an over-reaction, but as an act of understanding the underlying concepts, which are used, but less discussed, in the context of the environmental question in Brazil. The three oppressions can be seen as the historical heritage which created today's reality, and the Legal Amazon creates a broad range of problems which will be analysed in advance in order to ask the right questions when analysing the environmental regime. The triple oppression is composed of a territorial, a cultural and a development (or economical) regime<sup>303</sup>, which are to be understood as these regimes will influence environmental policy and so the 'environmental regime' fundamentally. In particular, the decision-making stakeholder in these three oppressing regimes will be found as actors in the environmental context too, which is why it is so important to fully understand the meaning of each and its entanglement with the others. First of all, when talking about the rain forest, a clear defined area is required: Art. 2 of Federal Law No 5,173, placed in October 27, 1966, established the Plano de Valorização Economica da Amazônia [plan of economical valorization for the Amazon] and created the 'Superintendência do Desenvolvimento da

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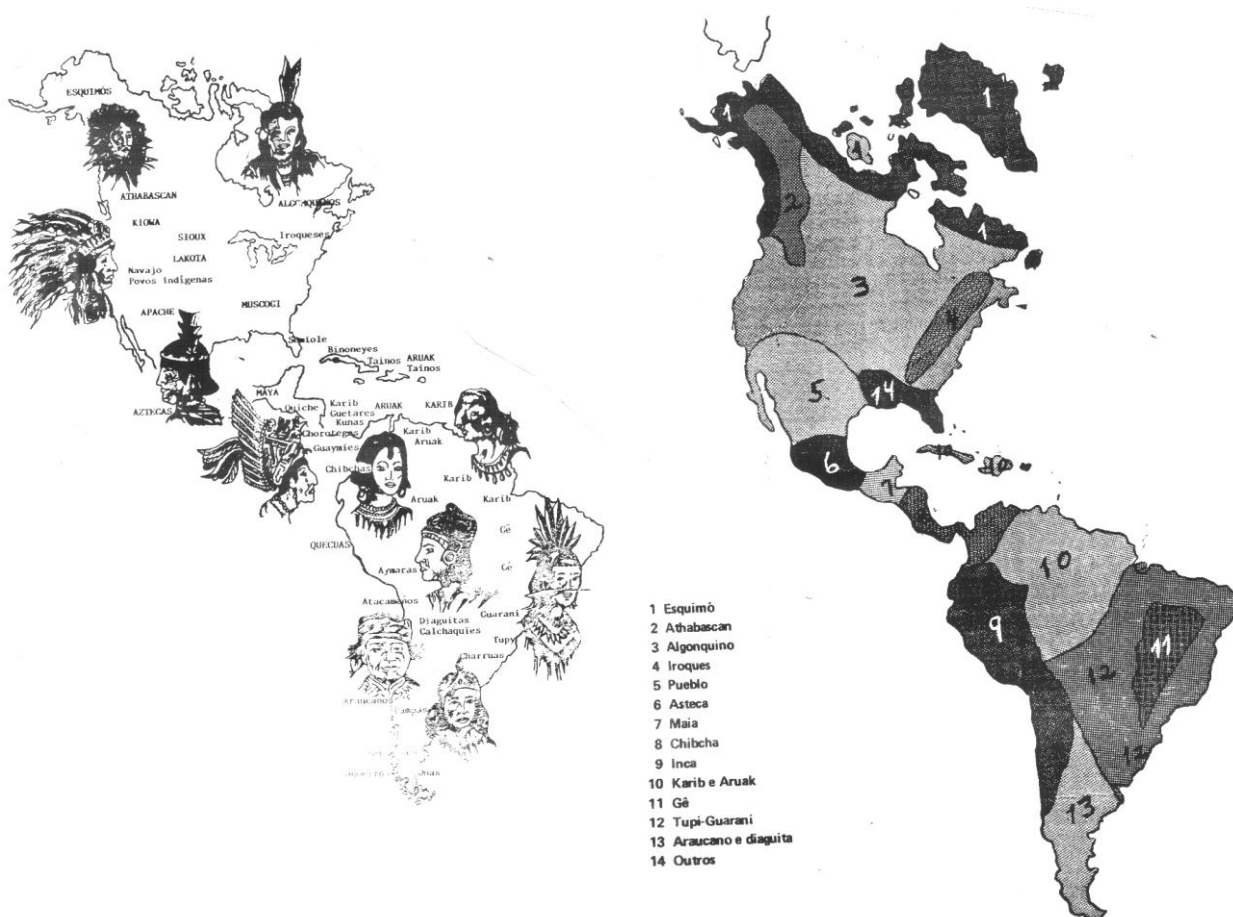
<sup>303</sup> Arguments to outline other oppression relationships in this context, such as gender, localism, ageism etc., would be dislocated for a principle reason. The principle reason is, that all of these are supporting the global system of unequal distribution, but not all in the same manner. Territory, culture and economical development can be seen as predominant since gender discrimination – to take the most famous example –, as named (indirectly) in the part about the 'cultural regime', is principally applied all over the world, but is not a specific 'regime' or oppression in the Legal Amazon.

Amazônia' (SUDAM). Moreover, in accordance with further regulation by completing the Law in 1977 and finally defined by the 1988 Constitution (Art. 13 and 14), Amazônia was defined as a region containing the states of Acre, Amapá, Amazonas, Mato Grosso (northwards until latitude 16°), Pará, Rondônia, Roraima, Tocantins and parts of Maranhão (east of the 44° Meridian). The interest of the international and national environmental regime as well as the scientific community in the Amazon is based on different arguments, different visions and perspectives. The international interest is caused by empirical facts such as “que entre 30 e 40% das florestas tropicais do mundo aí se localizam e que a Amazônia detém o maior banco genético do planeta, participando com um terço do estoque genético global” [that 30 to 40% of the world's tropical plants are located here and that the Amazon contains the major genetic bank of plants with 30% of the global genetic stock] (Bernardes et al. 2003: 38). National interests instead stress, that Amazônia contains “mais da metade do território nacional” [more than half of the territory] (MMA/ICMBio 2008: 21) or 4,871,000 km<sup>2</sup> (Treccani 2006: 21), with high amount of natural resources, but difficult to control and protect. Since this area is the place not just for highest biodiversity but for a broad heterogeneity of social actors too. Some of them have been established centuries ago, others in the more recent time. As could be shown in the last chapter, Brazil's rainforest plays an important role within the problem set of the environmental question. As McGrath points out, “growing Brazilian expertise (...) through the scientific and conservation literature is increasingly influencing policy discussions (...) in the Amazon.” (McGrath 2008: 679) The history of land taking in the Amazon dates a long time back to first indigenous tribes, that arrived in the region about 12,000 (Treccani 2006: 22, Moran 1990: 5) to 15,000 years (Ferreira 2003: 17) ago, and lived there – settling close to the rivers, “porque o rio era o meio natural (...) da população e dava acesso fácil a produtos da flora e da fauna terrestre e aquática” [since the river was natural environment of the people and gave easily access to products of flora and terrestrial and water based fauna] (Silva 1987: 12) – for a long time before the colonists arrived. According to Map 1, in the region of Amazônia Legal have been living indigenous people of many nations as the Karib, Aruak, Gê and Tupi-Guarani (Mensagem 1991: 17, 27), which contained various different tribes such as the paraense tribes of Xavante, Kanela, Kanela Apaniekra and Tempé (Ricardo 1981: 28). The process of the following enslavement and elimination of the indigenous tribes is based upon the opinion that “não é rico que tem muitas terras, mas aquele que tem a maior quantidade de índios. (...) Os jesuitas se tornaram os senhores dos índios e por consequencia senhores de tudo” [no one is rich due to the land he owns, but who owns the major quantity of Indians. The Jesuits turned out to be the lords of the Indians and in consequence became the lords of all] (Freire 1987: 45-46) This process was possible due to three factors:

1. Failure of unity of the indigenous people and tribes.
2. Spatial dispersion, so the low population density which disabled fast communication between the tribes.
3. Colonist strategies to interrupt indigenous endeavours of resistance.

The struggle to control the resource-rich land has involved a broad panel of European nations, first of all, the Spanish and Portuguese crown, but the British Empire, the Netherlands and Ireland have been trying to take possession of the existing prosperity aswell. Besides the inner-colonist struggle, the collective enemy, the indigenous people, never had an equal chance. As Krautler points out, they fought with “arcos e flechas contra armas de fogo” [bows and arrows against fire arms] (1997: 1).

Map 1: Indigenous Nations in America



Source: Mensageiro 1991: 17, 27

Historians are undecided according the question, which European nation arrived first in the area which is called today Amazônia Legal? According to Reis, the French Jean Cousin disembarked in 1488 between the Northeast of Brazil and the Amazon Delta (1993a: 31), whilst Santa Rosa argues for the second Spanish expedition in January 1500 under the command of Vicente Yáñez Pinzón, “que tinha sido o capitão da caravela Niña na expedição de Christóvão Colombo” [who was captain of the caravel Niña during the

expedition of Christopher Columbus] (Rosa 1922: 68). Besides Pinzón, Diego de Leppe and Alonso Ojeda as well arrived in 1499 and 1500 (Reis 1993a: 31). Pinzón gave the river Amazonas its first name: Santa Maria de la Mar Dulce [Holy Mary of the Freshwater Sea]. In 1541, the expedition of Francisco de Orelana, that started searching for the mythic El Dorado<sup>304</sup>, accompanied by Dominican chronicler and Friar Gaspar de Carvajal. The latter told first about the Amazons. These gladiatorial women, Carvajal wrote, “with whom he [Orelana] and his companions had fought”, were along the river. (Heaton 1970: 26) Fighting them on July 24 for more than an hour, in which the chronicler lost one of his eyes, he points to the superior courage of these Indians and the Amazons and their absolute fearlessness to die:

“Obwohl sie [Orelana and his companions] viele töteten, schienen es die Indios gar nicht zu merken, denn trotz des Schadens, der ihnen zugefügt wurde, machten sie unermüdlich weiter. Ich will, daß man erfährt, warum diese Indios sich auf solche Weise verteidigten. Es muß erklärt werden, daß sie tributpflichtige Untertanen der Amazonen sind. Als sie von unserem Kommen erfahren hatten, wandten sich die Indios mit der Bitte um Hilfe an diese, und es kamen so etwa zehn bis zwölf von ihnen, denn wir selbst sahen diese Frauen, die als weibliche Hauptleute in vorderster Front von allen Indios kämpften. Die Frauen sind sehr hellhäutig und groß und tragen langes Haar, das sie geflochten und um den Kopf gewickelt haben. Sie sind sehr kräftig und gehen ganz nackt. In den Händen tragen sie ihre Pfeile und Bogen, und sie leisten im Kampf so viel wie 10 Indios. Es war unter ihnen ungelogen eine Frau, die einen Pfeil eine Spanne tief [etwa 20 cm] in eines unserer Boote schoß”

[Even killing many of them, the Indians seem not to realise the wounds. I want that people know why these Indians defended themselves as such. One must explain, that these have been tributary subjects of the Amazons. When they have heard of our coming, the Indians called on them for help. Ten to twelve of them came. We saw ourselves these women, who fought as officers in the first line. These women are light-skinned, tall and have long hared, which they have wattled around their head. They are very strong and naked. In their hands they have bows and arrows, and they fight like ten Indians. There was honestly a woman, who shot an arrow a span deep [ca. 20 cm] into one of our boats] (Mondfeld 1981: 294-295); Grün quotes Carvajal, telling of “seltsamen Menschen mit Schwänzen, wehrhaften Frauen (wahrscheinlich Amazonen) oder Menschen mit Füßen auf dem Kopf” [strange humans with tails, women on guard (most likely Amazons) or humans with feet on the head] (1973: 69). Nevertheless, “The river”, as Taylor points out, “is usually supposed to have been called the Rio das Amazonas<sup>305</sup> from the female warriors who are said

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<sup>304</sup> “Cavajal verweist auch auf das Zimtland (...). *Man hätte ihm berichtet, daß (sic!) es in dieser Gegend, die vor Gewürzen überfloß (sic!), auch eine Stadt aus Gold gab (...).*” [Cavajal also points to the cinnamon land. He was told, that in this area, with plenty of condiments, be also a city of gold] (Grün 1973: 237, original emphasis). The golden city or the city of gold is known under other names too, such as Manoa and 'Z'. The latter denomination was given in the 20th century by surveyor, geographer and engineer colonel Percy Fawcett of the royal British Army, who heard of a huge city in the jungle during his 15 years of field research, he spent mainly in the Amazon, and started in 1925 an expedition of which he never returned. In his last letter to a friend he outlines a very certain location (Mondfeld 1981: 220-221)

<sup>305</sup> This story is recognized as unlikely the truth as Ripley already in the 19<sup>th</sup> century assumes. “No one of the explorers, however, professes to have seen that wonderful women except D'Orellana, and from the evidence of La Condamine, in 1743, it would appear that they had become extinct, or left the country, some three generations before. 'We spoke,' he says, 'at Coari, to a man about 70 years of age, who assured us that his grandfather had seen those women pass the mouth of Cuchivara (...), that he has spoken to 4 of them’ (Ripley 1857: 443) On the other hand, as Heaton stresses, it “is an undeniable fact that among the Indians (...) they had seen a certain number of women marching in front of their fighting squadrons; but between this and vouching for the existence of the Amazons there is a long

to have opposed Orella.”<sup>306</sup> (1898: 44) In this context, non-European based research from the Amazon's federal capital Manaus refers to the indigenous legend of the Great Cobra, which will be outlined a bit later. Even though he was not known as a person who tells lies, some historians have denied his information. Later on it became apparent, that the geographic dimension of the Amazon-Orinoco basin, where the incident took place, has been underestimated. As Mondfeld continues by quoting the historian Marcia Willis, many unexplored areas are still waiting to be discovered, and in these districts of the rainforest which cannot be detected by airbased, modern cartography attempts, the “Baldachin tropischer Vegetation schützt die Wildnis” [baldachin of tropical vegetation protected the wilderness] to be discovered easily. Consequently, only “Menschen zu Fuß, die willens sind, wie ihre Vorgänger in den Jahrhunderten vor ihnen, den Tod zu riskieren, werden in der Lage sein, die alten Geheimnisse des Dschungels zu lüften” [humans afoot, who are willing to risk death like their predecessors in the centuries before, would be able to discover the old secrets of the jungle]. (1981: 295-296)

According to Monteiro, legends about the Amazons must be seen as a suspicious proof when based only on oral references. As he concludes, final proof can only be found in myths and legends of the people since there is the transmission of female warrior existence, even he has to confess that there is no scientific evidence. Finally – as he states – he argues in favour of a matriarchal process.<sup>307</sup> (1995: 72-73) Others, like Mondfeld, argue that the Amazons have been “etwas Greifbares und Realistisches – nicht wie der Jugendbrunnen (...) oder die Großohren und Hundeköpfe (...)” [something real – unlike the fountain of youth or the big ears and dog heads] (1981: 215). At his time, no one had any doubt regarding that what Fray Carvajal told since some assumed such adventurous stories of beautiful and frightening women fit mythical imaginations of the new world. Besides the myths about an area called *El Dorado*<sup>308</sup> and the Amazons, the myth of a lagoon as cradle of all South American rivers also emerged in the 16<sup>th</sup> century. The region was presented as a new paradise, where it is “non ibi aestus, non ibi frigus” [neither heat nor cold] and where mankind will and can be reborn in felicity and peace. (Hoornaert 1992: 49) These legends have been created

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way to go.” (1970: 26) According to Antonio de Herrera, the author adds, this is not a new thing in the Indians. (Ibid) Others say, that the world's largest river by volume “has a Native American (Tupi or Guaraní) name meaning 'wave,' referring to the notorious bore that runs up its lower reaches.” Saying that, when the explorers came “in the 16<sup>th</sup> century, they associated the name with the *Amazons* of classical mythology, mainly because local tribesmen were beardless and graceful and wore their hair long, like the legendary women warriors.” (Room 2006: 27)

<sup>306</sup> This etymology was put forward by Garcilasso de la Vega in his *Royal Commentaries of the Incas* published in 1609. (Taylor et al. 1898: 44) The book speaks of the 'river of the Amazons' and became famous by mixing Greek myths of Amazons with adventurous fantasies of the new world. More accepted today is to say that the name rather came from the indigenous word 'amassona', the 'boat destroyer', which has been the experience of many explorations in that time. (Ibid) Another name for the river is Paraná-Açu, “como é conhecido pelos os indígenas locais, que acabou por batizar toda uma região, por excitar a imaginação e despertar a cobiça de milhares de aventureiros.” (Perreira 2004: 1)

<sup>307</sup> For further readings see Guido (1937), Rosas (1971), Dias (1855) and Real (1967).

<sup>308</sup> The myth told that in that area are cities with gold until the roofs of the houses.

and intentionally supported with goal to define a new land of hope<sup>309</sup>, welfare and with opportunities for all.<sup>310</sup> As will be seen later on, these legends have been powerful tools to create arguments for further ruthless exploration of natural resources and men. Even more, the elimination of native landowners, sometimes the whole population, required legitimacy: On the one hand, the 'holy' land of hope for the Christians, on the other hand, the 'diabolic' Indians.

### The cultural regime in the Amazon

In this context I speak of a cultural regime, which is the “coloniality of power” imposed by European colonists, that didn't end after Brazil gained independence from Portugal (1888) “and began to be constituted as new nation-states” (Mignolo 2000: 87) but adopted by the ruling class in all Brazil<sup>311</sup>. In accordance to Schwartzman, relevant information about race and classification of races existed already between 1872 and 1890 by distinguishing between the 'free' and the 'slaves'. During the 20th century “é provável que as idéias racistas e as preocupacoes entao existentes com o 'melhoramento da raca' brasileira tenham influido na reintrodução do ítem de raca no recenseamento de 1940, da mesma maneira com que a noção de que no Brasil 'nao existe problema de raca' parece ter levado à exclusao do tema no censo de 1970” [is proven that racist ideas and also existing preoccupations of a 'bettering of Brazilian race' have influenced the reintroduction of the race item into the census of 1940. The same manner seemed to be applied when excluding this topic in the census of 1970 in terms of the statement 'in Brazil is no problem of race'] (Schwartzmann 1999: 83). From an early stage, coloniality “became subordinated to the new and emerging epistemological hegemony” as Quijano observed (Mignolo 2000: 88) As Costa states, the

“coloniality of power and knowledge produces and values certain cultures and understandings of the world, representing them as superior and desirable forms of social organization and progress. Integration into European colonialism and the imposed demands of Eurocentric development devalued knowledges and practices (...) because they did not produce wealth, status, or monetary value within the paradigm of capitalist development.”

And further, these led to negative and static meanings regarding people that did and do not fulfil the criteria of 'embranqueamento' ideologies in Brazil. (Costa 2010: 202-203<sup>312</sup>) As Grosfoguel contributes, when a “European/ capitalist/ military/ christian/ patriarchal/ white/ heterosexual/ male arrived in the Americas and established simultaneously (spatially and temporally) several entangled global hierarchies ” (2009: 18), in

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<sup>309</sup> Hereby, the European historical context of the ended Crusades in the Middle East created the need for a new hope on earth.

<sup>310</sup> Especially to support your own side in the inner-Christian conflict in Europe by taking the resources home, mainly precious metal and gems.

<sup>311</sup> In Latin American critical academic tradition, these two problems are recognized in regards to the Eurocentric mainstream in science world-wide but also inside of the countries too. One problem “regards the place of indigenous and black thought and practices within the Latin American context — that is, it is concerned with exclusion, genocide and epistemicide inside of Latin America. The other is concerned with these same problems, but looking into outside places and practices.” (Suárez-Krabbe 2009: 1)

<sup>312</sup> Costa refers in his statement to the Afro-Brazilian population, but the ideology applies to all non-white people, as the role of black slaves was the role of the indigenous people in the Amazon Basin. As Lima adds, in opposite to the Northeast and South of Brazil, colonial economy, such as plant extraction, based principally on indigenous work, since the number of African slaves was small in the Amazon (Lima 2009: 6).

both North and South America, not just a dominant ideal type of human was established, but superstructures too, that base on this predefined conception and have been mirrored by science based on the same categories<sup>313</sup>. As dominant as the cultural imposition, equally dominant became the pretended mainstream in science, lifestyle and values (economic, law, especially land tenure and environmental policy). To outline the characteristic of the cultural regime created by the European colonists, it is necessary to explain how cultural subalternization and inferiorization was constructed. Once again, the strong influence of European history on South American history can be seen, leading to a regime construction that can be split up by two forms of discrimination which – in reference to the initiating chapter about Environmental Justice in theory – can be named as racism, culturalism and locism. The year 1492 was “a crucial foundational year for the understanding of the present system” as Grosfoguel and Mielants (2006: 2) emphasise. In this year, they continue, the Spanish Crown achieved two goals, the recapture of the Iberian Peninsula from Arabic occupation and the discovery of the Americas. This created an ideological–religious structures which is considered as distinguishing between 'internal' and the 'external' “rather than centers, semiperipheries, and peripheries” by Mignolo (2000: 33). In the two conquests of homeland and external territory Spain faced different kinds of enemies that required different ideologies for treatment adequate to fulfil the political interests. The mentioned 'holy' land and 'diabolic' natives can be seen as a good example for these structuring categories. In Iberia the Christian Spanish monarchy used the opportunity to expel Jews and Arabs from the land. The structure of 'internal' and 'external' was then applied to national categories of 'us' and the 'others', so as to those who are to expelled from the homeland became 'internal others' whilst the indigenous tribes in South America became the 'external others'. The 'otherness' of the people was created around religious constraints by making a difference between 'people with the wrong religion' and 'people without religion' in order to allocate the different 'types' of 'others' a certain place in the treatment hierarchy. 'People without religion' have been recognised as 'people without God' and this category locating the declared to the absolute bottom of the hierarchy. (Grosfoguel/Mielants 2006: 2-3) In reference to Maldonado-Torres (2006) the distinction historically started across religious lines and can be seen as the birth of the racial-ethnic-cultural hierarchy. A “European/Euro-American Christian-Centric Capitalist/Patriarchal World-System” (cf. Grosfoguel/Mielants 2006: 2) is created across these lines. At this point, the social exclusion wasn't yet racially based, but the traditional distinction between the noble class, ideologically sent by God to rule and protect the people, the clergy and the 'tiers état' [Third Estate] (bourgeois class (merchants, entrepreneurs), peasants and workers, day labourer etc.) was extended by another, non-economic category. So, as internal

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<sup>313</sup> In consideration of outlined approaches of how to treat the complex problem sets from the researcher's perspective, a fully objective graduation between different racial concerns (indigenous versus black people for example) is neglected for two reasons: First, since the Indians have been the slaves in colonial times and thus are much more frequent than Afro-Brazilians in the Legal Amazon. (Wagley 1988: 153) Second, the field focus of the research is related to an indigenous island (as will be outlined later on), in which the distinction between 'white' and indigenous people makes sense, if spoken about an effect applied just to these part of the population, and between 'white' and 'non-white' people if spoken generally.



enemies have been characterised as the Jews and Arabs, as they lived on the land claimed by the Portuguese and Spanish crown. These were those with the 'wrong religion' as they believe in one almighty God in a monotheistic manner. Maldonado-Torres does not differentiate within these two groups in detail, so there is to mention a specific difference in the dynamic of inherent racial discrimination between Jews and Arabs later on. I would like to distinguish between an 'inner-internality' and an 'outer-internality', in which the Jews are the 'outer-internality' since they are usually culturally well integrated, in the meaning of a common, mainstream Spanish/Portuguese habitus, as well as in physiognomy undistinguishable, since physical differences can hardly be made. The same must be applied to the 'external' category, which is to be distinguished between an 'inner-externality' and an 'outer-externality'. The former would be the classified group of Arabs<sup>314</sup>. Both Jews and Arabs in this connotation share the position in the hierarchy as the groups, which believe in the 'wrong God'. The difference in the exposure with the Islamic religion, opposite to the remaining 'others', is classified by the "purity of blood" (Mignolo 2000: 29) as an 'imperial difference', which was a confrontation between empires, European versus Non-European. Conflicts with the 'outer-externality' such as American-Indigenous and African tribes in the same period of time (after 1492) are articulated as 'colonial difference', consequently a relation between European and non-European people, not empires. This 'purity' is recognized as one of two principles, formalized in the 16th century in Spain drawing a border between Christians, Jews and Muslims as outlined by Harvey (1990: 307-340) and Netanyahu (1995: 975-980). The second principle was originally a theological one, called 'rights of the people' (cf. Höffner 1957, Ramos et al. 1984). This principle was a debate about the indigenous people in recognition of their formal status as vassals of the Crowns (Portuguese and Spanish) and the task to educate and convert them to Christians, especially excluding the African slaves. Both principles have enforced their efforts. 'Purity of blood' turned in time from more and more racial distinctions by attributes (such as lazy, brutish, the German 'edle Wilde' among others) to finally, in the 19th century, a question of skin colour, when distinguishing the 'superior' Aryan 'race' of white Angle-Saxons from all the others (Mignolo 2000: 31). The 'Rights of the people' principle on the other turned to the 'rights of men and of the citizen', "looking at the 'universality' of man as seen in an already consolidated Europe, made possible because of the riches from the colonial world flowing west to east, through the Atlantic." (Ibid.: 29) This must be seen in line with what has been said about the universal truths and values above: An instrument to establish subjection and exploitation not only physically ('Purity of blood') but mentally, ideologically ('Rights of men and the citizen') too. For the sake of completeness is to stress that, there certainly have been differences in the ways of dealing with black<sup>315</sup> or

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<sup>314</sup> This 'grouping' isn't a generalizable category, but this is to be considered as a context related generalization in order to make the point.

<sup>315</sup> Not because of less relevance, but in consideration of this work's field research focus of an island originally mainly inhabited by indigenous people, the broad problem set of applied Eurocentric, whiteness based cultural regime to African people in general and Afro-Brazilians in particular must be shortened as above. For further reading in regards to the impacts of the environmental regime in consideration of the cultural regime towards Afro-Brazilian population, works of O'Dweyer (2002), Andrews (2006), Robinson (2000) and Schwarcz (1993) might be useful.

indigenous people, the characterisation by Las Casas<sup>316</sup> of Africans “not only as 'people without religion' but also as 'people without soul'” applies in the same manner to the indigenous people in South America.<sup>317</sup> (Grosfoguel/Mielants 2006: 3)

### Inferiorization of Indigenous people

So, how was the cultural regime in the Legal Amazon practically constructed? “We discern,” as Shohat and Stam point out, “even, a partial congruency between the phantasmatic imagery projected on to both the internal Jewish 'enemy' and the external 'savage': 'blood drinkers,' 'cannibals,' 'sorcerers,' 'devils.’” (Shohat/Stam 2000: 60) This projection shifted the view on the beautiful, mysterious, but 'edele Wilde' [noble savage] to something demonic and horrifying. Influenced by military propaganda on the Iberian island calling for a war against Jewish and Muslim enemies “in the name of 'purity of blood'”, the term's application to the Indigenous tribes in the Amazon (and elsewhere in South America) finally constructed a complete racial frame-work, in which the Amazon natives are characterised as 'people without God' or 'without soul' (as mentioned). Consequently, they became “in the Christian Spanish imaginary (...) inferior sub-human or non-human beings.” According to Sepúlveda, to which Dussel (1992) refers, the process of inferiorization of humans by humans “to the level of animals” created the “first racialized subject of the modern/colonial world inaugurated in 1492” (Grosfoguel/Mielants 2006: 3), which was manifested by creation of “el Otro” [the others] during the “nacimiento de la Modernidad, en la disputa de Valladolid en 1550 AC, la más insigne de los últimos quinientos anos, por sus consecuencias y actual vigencia” [genesis of modernity, in the dispute of Valladolid in 1550, with importance for the last 500 years due to its consequences and actual validity]. Modernity was perceived in the context of an emancipation process, that put under tutelage those – like the indigenous people – who are innocent but living in barbarism<sup>318</sup> in order to construct a 'sacrificial paradigm'. (Dussel 1992: 100-101) This 'paradigm' defined that “es necesario ofrecer sacrificios, de la víctima de la violencia, para el progreso humano” [it is necessary to offer sacrifices for the victims of violence for human progress] (Ibid.: 106). Consequently, the costs of modernisations are to be payed in order to achieve the level of modernity. “La Modernidad, como mito,” as Dussel concludes, “justificará siempre la violencia civilizadora, en el siglo XVI como razón para predicar el cristianismo, posteriormente para propagar la democracia, el mercado libre”<sup>319</sup> [Modernity, like a myth, always justifies the violence of

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Concluding, one must consider – as Mignolo emphasizes – that African slaves were not in the same category as they were part of the Atlantic “commerce” (Manning 1990: 23-37).

<sup>316</sup> “Las Casas argued that “Indians” should be incorporated in the *encomienda* (a form of semi-feudal coerced labor) and called for Africans to replace them as slaves in the plantations.” (Grosfoguel/Mielants 2006: 3)

<sup>317</sup> The argument here is that a racist imaginary that was built against the indigenous people of the new world was then gradually extended to all non-European peoples starting with the African slave trade in the mid-16th century.

<sup>318</sup> This means, according to Ginés de Sepúlveda, certain relation with persons and things, in particular no experience with private possessions (*ut nihil cuiquam suum sit*), no inheritance law and – most of all – a lack of *suae libertati* [their liberty]. (Dussel 1992: 102)

<sup>319</sup> This propaganda was discussed when speaking about the institutionalisation of Sustainable Development, since paths of development have always been entangled with ideologies of modernisation.

civilisation in the 16<sup>th</sup> century due to preaching of Christianity, later on for proclaiming democracy and the free market] (Ibid.: 115). As Monteiro emphasises, the 'Iurupari'<sup>320</sup>, “a quem o cristianismo atribui erradamente personificação demoníaca” [to which Christianity erroneously attributed demonic personification] (Monteiro 1995: 68), is another example as how to turn all cultural, religious and social practices of the Indigenous nations into something non-human. The question remains, how these theoretically clear procedures and implementation of interest took place in concrete political reality. How could the people of the 'new holy land', the El Dorado and mythic Amazons be turned into 'people below the human', inferior people, that, opposite to Muslim armies, have never conquered the colonists homelands, or, in opposite to Jewish communities in Europe, hadn't any (constructible) connection to the murder of Jesus Christ? The developed general concepts<sup>321</sup> required a governance doctrine for practicing the different 'externalities'.

In case of the indigenous people in the Amazon, the mentioned Christian-European legends about the Amazon faced the cultural constraints<sup>322</sup> on myths and legends of the native populations in the Legal Amazon, especially people that live at the potamic coasts (in Portuguese called *ribeirinhos*). Their general theological and philosophical world-view, which is sometimes called the cultural heritage, must be recognised as the cultural regime which is finally subjected by the colonist nations. Today, the heritage can be found as clotted in transmissions of legends. Three transmissions are very common: The legend of Açai<sup>323</sup>, the lore of Vitória-Régia<sup>324</sup> and – most popular of all – the legend of the 'Cobra Grande' [Great Cobra]. The most popular one (Britto 2000: 36) is as well the one which can be seen as one of the most pivotal points in Christian argumentation in order to demonise or inferiorise indigenous people and, therefore, their culture. The mentioned competition between the hunters of the indigenous soul and indigenous body required a concept of enemy for which a religious red line was the easiest and most sustainable thing to establish. In consideration of the common goal of profit by all European colonists, be they Protestant or Catholic, the terms of legal expropriation without considering the explored as human must have been outlined traceable. The legend of the cobra as a mythical entity can be found all over the world. In Greek myths for example, the basis of the occidental cultural heritage, the cobra was one of the shapes taken by Zeus, the most powerful God in the Olympus. In Christian myths<sup>325</sup> the whole original sin is based on the negative influence of the serpent. The devil, in shape of the serpent, seduced Eve to eat from tree of

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<sup>320</sup> Civilizing hero in the indigenous myth

<sup>321</sup> Meant are the general distinctions between 'us' and 'others' or 'external' and 'internal' (inclusively 'inner-externality', 'outer-externality', 'inner-internality' and 'outer-externality').

<sup>322</sup> This notion is to be understood in the context of Max Weber as the frame that determines life constraints such as customs, conventions and – as well – the exposure of nature.

<sup>323</sup> cf. Britto (1999)

<sup>324</sup> cf. Britto (2001)

<sup>325</sup> Consciously, there is made no terminological difference in the debate about different religious conceptions.

gnosis<sup>326</sup>, which was created by God (1. Moses 2,9), and she seduced Adam. Adam and Eve are banned from the paradise and women is blamed for this. Then, the Christian God said – according to the Bible – to the snake shaped devil: “Because you have done this, cursed are you above all livestock and all wild animals! You will crawl on your belly and you will eat dust all the days of your life.” (Genesis 3, 14) According to Christian theology, nothing can be worse than being fascinated by a great snake.

On the contrary, in the Amazon region, the cobra was a legendary and fascinating figure, differently named too, such as Boiúna, Mae-d'água, Cobra Norato, Boitatá, Anaconda etc. (Britto 2000: 36) In Amazon indigenous, the 'Cobra-Grande' is among the greater goods. She is the “mãe dos rios, a mãe dos lagos, a mãe das cachoeiras, dos poços, muiúnas, etc” [mother of rivers, the mother of lagoons, the mother of waterfalls, of potions, muiúna<sup>327</sup>, etc] (Monteiro 1995: 68). This 'mother' hasn't a connotation *ab origine* with the masculine gender, but is androgynous, fecundated *sine concubitu*. This created a rather positive or egalitarian image of both the women and the snake as an animal. This more naturalistic perspective can be found in their religious Genesis, which considers all of the animals – as Monteiro consequentially outlined in his book 'A Cobra Grande' - as a “idade muita antiga e é desses animais que se originaram os homens de hoje. Essa opinião naturalista faz com que os amzoníndios considerem os animais mais inteligente do que o homem” [very old entity and being one of these animals that originated humans of today. This naturalistic opinion is the reason why Amazon Indians consider animals as being more intelligent than humans] (Monteiro 1995: 71). This opinion opposes the anthropocentric regime of the foreigners, that – constantly growing at that time – are based on the idea of material profit thinking with reference to famous Genesis bible statement<sup>328</sup>, which gave argument to ruling all other creators of the world as a divine quest. The Great Cobra is just the most prominent example of how colonisation ideology is justified.<sup>329</sup> Interesting interrelation here is the combination of growing (occidental) rationality and scientific consideration combined with contradictions. Referring to Yates (1964), Monteiro can demonstrate, that, from a logical interpretative point of view, Christian genesis wasn't more than a parody of the Egyptian genesis, in which humans are the son of the devil or created by him<sup>330</sup>. (1995: 51) The objective of the colonists was by no means “to erase Brazil's

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<sup>326</sup> There is to add, that surely considerations of Jonas who linked the origin of the term to that what was called the „knowledge of *God* (...) so that reception or through inner illumination replaces rational argument and theory of the truth either trough sacred and secret lore“ or is „concerned with secrets of salvation, (...) charged with performing a function in the bringing of salvation. *Thus gnostic 'knowledge' has an eminently practical object.*“ (1958: 34) It is this, what Mignolo calls a not proper definition of practicality, when he claims not salvation, but decolonization. (cf. Mignolo 2000: 9-16)

<sup>327</sup> This is a traditional, nature based medicine of the Amazon.

<sup>328</sup> „fill the earth and subdue it. Rule over the fish of the sea and the birds of the air and over every living creature that moves on the ground.“ (Bible, Genesis 1, 28)

<sup>329</sup> Other arguments became side-effective influence just because of predetermined demonization which condemned the indigenous souls and bodies. Another imparitive came from Augustinus who argued that “todos os deuses dos gentios sao demonios”. (in: Moteiro 1995: 52)

<sup>330</sup> „A bíblia crista (...) não aludem a este inusitado caput, mas a recusa em admitir a Natureza como útero cósmico é resultado do escrúpulo em conceder arras ao concúbito maravilhoso. Essa epifania é demascarada, à outra luz, pelo excesso de controvérsias que emergem da aventura edenica. Eva só poderia ser filha 'de sangue' de Adão, ou pelo

African and indigenous cultural expressions – to the contrary”, the inclusion in the dominating cultural regime created “fame specifically by celebrating Brazilian 'folklore” (Dávila 2003: 162). This is truer in regards to the 'caboclos'<sup>331</sup>, about which is to be spoken later in more detail, but it is without any doubt, that the dominant stereotype remained negative. Appropriate examples of institutionalisation of this cultural regime was the employment of four colour categories (branca [white], parda [brown], preta [black], amarela [yellow]) into the Brazilian census in 1940 to institutionally establish the racial categories. Later the category of 'indígena' was added too. (Schwartzman 1999: 83) In particular, 'parda' [brown] became very elastic, describing anyone mixed European – African – Indian. (Dávila 2003: 18) This is true as well for the 'branco' [white] category, which is to be defined by skin colour and self-definition and – even more - by social function, that this determined by the *raça*<sup>332</sup> [race]. As mentioned above (cf. p. 8) the whiteness doctrine in Brazil ('embranqueamento') in the following three decades, in which teachers “taught students that being part of the *raça* was the key to citizenship and success. In practice, this meant behavioural whitening: that is, discarding African and indigenous cultural practice. Even Brazilians not of European descent could be members of the *raça*<sup>333</sup>.” (Dávila 2003: 27, italic in the original) Contemporarily, this is ideologically covered by the “Brazilian myth of racial democracy” which “has denied the existence of difference and stifled racial debates and mobilisation in Brazil. The Brazilian States responses to racial inequality have found resistance for a myriad of reasons and consequently these responses are characterised by under funded programs, lack of black support, less attention paid by political parties even the most progressive ones, debates whether involvement in political parties compromised autonomy of movement leaders or not.”

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menos sua irma, pois foi criada a partir de uma 'costela' do mesmo. O fato do miracle nao acrescentar o pater nao é pra admirir: os escritos bíblicos nunca jamais são claros demais e justamente o subterfúgio ou a metáfora é que procura subtrair, do racional, com o simbolismo, ou o eufemismo escateador, a natureza original da coisa criada. Um homem pecador, desobiente, inflamado pela corrupção do sexo prefigurado na serpente, não podera jamais obter certidão de nascimento divino senão pela astúcia do opífice contrário“ [The Christian Bible (...) does not allude to this unusual heading, but the refusal to acknowledge nature as the cosmic womb is the result of qualms about giving the wonderful copulation. This epiphany is demascating, in another light, the excess of disputes that arise from the Edenic adventure. Eve only could be daughter of Adam's 'blood', or at least his sister since it was created from a 'rib' of the same. The fact that the miracle does not add to the pater is not surprising: biblical writings are never ever too clear and just the subterfuge or metaphor is that try to escape, the rational with the symbolism, keyways or euphemism, the original nature of created thing. A sinful man, disobeying, inflamed by the corruption of sex prefigured in the serpent, could never the certificate of divine birth if not by cunning of contrary workman](Monteiro 1995: 51). In the same context, one must consider arguments from religious leadership, that confirmed that indigenous people had blood as cold as those of snakes, which proofs that they have no soul.

<sup>331</sup> The etymology of the word 'caboclo' is disputed. In accordance to Parker (1985: xix) the word comes from the tupi word 'kari'boka' and means 'son of the white man' opposed by Pereira (1975: 12) refers to the word *caa-boc* or *kaa'boc* which means 'what comes from the forest' or 'deriving from the white'. Furthermore, in the indigenous tupi language, the synonym to the word 'caboclo' was 'tapuio' which means hostile, enemy and slave (Veríssimo 1970: 14) and gives initial evidence to inherent connotations regarding, space, social status and promotion prospects of people characterised as such.

<sup>332</sup> This was defined by 'eugenic perfection of race' and elite concern.

<sup>333</sup> There is to add the story about Henry Koster who perambulated Brazil in the 19th century. „Ao perguntar se nao era mulato determinado capitão-mor, seu infomrante lhe respondeu: 'Ele era, mas já não é mais.' Quando Koster pediu que lhe explicasse isso, respondeu-lhe o informante: 'Então um capitão-mor pode ser mulato?'" [Asked whether not a mulatto could be general captain, the whistleblower answered: 'He was but not is anymore.' When Koster asked him to explain this issue, the informant answered: 'So, can a general captain be a mulatto?'] (Wagley 1988: 147-148)

(Souza 2008: 186; cf. also Reichmann 1999) So one can state, that the impacts of this regime are still one of the dominant questions within the Brazilian frame. As Acselrad (2009) can show, according to access to the Brazilian wide water supply, distinguished by the named racial categories, inasmuch the percentages express a clear racial inequality. Water as one of the world's most valuable resources is considered as one of the basic environmental needs and benefits and so this evidence gives proof as an example to both the concrete discriminating contribution of the cultural regime and the geographic discrimination (locism) named in the beginning.

Table 5: Racial distribution of water supply/distribution network and cesspool/discharge

Brazilian Regions	Water supply and general network of distribution		Cesspool and discharge	
	Branca (white)	Preta (Black) and Parda (Brown)	Branca (white)	Preta (Black) and Parda (Brown)
<b>Brazil (1)</b>	82.8 %	67.2 %	62.7 %	39.6 %
<b>North (2)</b>	68.8 %	57.5 %	19.2 %	12.7 %
<b>North-East</b>	66.7 %	55.1 %	28.7 %	19.8 %
<b>South-East</b>	90.0 %	82.5 %	83.9 %	71.0 %
<b>South</b>	79.8 %	77.3 %	46.4 %	34.0 %
<b>Central-East</b>	75.2 %	66.4 %	38.7 %	31.3 %

Source: IBGE 2000

The table clearly shows that a racial based distribution of environmental goods based on the given categories is evident. Even though, the data are partly inconsistent, such as 'Brazil (1)' excludes the rural population of Rondônia, Acre, Amazonas, Roraima, Pará and Amapá and the data of the 'North (2)' that exclude the whole rural population. Considering the fact, that rural areas in 'Amazônia Legal' are mainly occupied by non-white people and are less developed by infrastructure than metropolises, one can assume that the given distinction would tend to be even more different than already are. Besides the fact of racial definition bias, the following table gives evidence to two interesting observations.

Table 6: Composition of population by race 1991/2000

	1991	2000
Total	146,815,796	169,872,856
Branco (White)	75,704,927	91,298,042
Parda (Brown)	62,316,064	65,318,092
Black (Preto)	7,335,136	10,554,336
Yellow (Amarela)	630,656	761,583

Indigenous (Indígena)	294,135	734,127
Without declaration	534,878	1,206,675

Source: IBGE 2011b

First, counted data show a strong majority of white-declared people, whilst the non-white population's majority belongs to the 'very elastic' brown, but Indigenous people are counted separately and must have grown by three times within a decade. The problem of the data set of IBGE for this piece is the consideration paradigm of the census, which is based mainly on cities in which generally more white people are located than non-white. The second aspect to be mentioned is that most of the indigenous people are not counted in this calculation, especially the 'ribeirinhos' [riverine population]. But one thing is undeniable, most actual available data from IBGE (census of 2000) prove that “[e]ntre os que ganhavam até um salário mínimo, 8,3% eram de cor amarela. Já para os pardos, esse percentual era de 35,1%; para os pretos, 34,5%; para os indígenas, 32,9% e para os brancos, 18,2%” [between those who gain up to the minimum salary, 8.3% have been of yellow colour. For those of brown colour, the percentage was 35.1%; for those, recognised as black, 34.5%; for those of Indian colour 32.9% and for people of white colour 18.2%] (IBGE-Census 2011a). So, those who own less have been the non-white people, all of them close to double as much as white people.<sup>334</sup> In contemporary Brazil, 190.755.799 inhabitants are counted by the census of 2010. (IBGE 2011f) As the IBGE can show, from 2000 to 2010, the population has grown by 1.17 % at an average (2011g). This has been the lowest in all Brazilian history, as the following table can show.

Table 7: Population growth in Brazil 1872 – 2010<sup>335</sup>

Date of survey	Population	increasing rate
01.08.1872	9,930,478	0,00%
31.12.1900	14,333,915	2.01%
31.12.1900	17,438,434	1.98%
09.01.1920	30,635,605	2.91%
09.01.1940	41,165,289	1.49%
07.01.1950	51,941,767	2.39%
09.01.1960	70,070,457	2.99%
09.01.1970	93,139,037	2.89%
09.01.1980	119,002,706	2.48%
09.01.1991	146,825,475	1.93%
08.01.2000	169,799,170	1.64%

Source: IBGE 2011f

<sup>334</sup> Obviously the racial factor is not the only one applied, but one of others. As Reichmann points out, the “analysis of social indicators shows that black men are born with certain social opportunities unavailable to black women. The inequality based on sexual differentiation is more accentuated when considering (...) the educational differences.” (1999: 226)

<sup>335</sup> As the IBGE mentioned, to calculate both population and increasing rate in 2010 in addition 2.8 million inhabitants of the *população estimada* [esteemed population] for closed domiciles have been considered.

Looking at the division of population growth in the different regions, the 'North', which is the Legal Amazon among others, is on top with an increase of 2.09% in the same period, whilst – on the other side of the scale – the South region grew by just by 0.87%.<sup>336</sup> (IBGE 2011h) Within the northern region, the population of federal state Pará grew by 1,395,771 to an actual population of 7,588,078 people within the last decade, which is equal to growth of 22.54% (IBGE 2011d) and 6.66% of the all Brazilian growth of 20,956,629 people (see table above). These numbers are surprising at the first instance. When looking to the overall development in Brazil, first of all, one can state that urban areas in the Legal Amazon emerge on the highest scale. Especially, since IBGE's sample method underestimates rural areas, especially in the Legal Amazon.

Table 8: Population Growth<sup>337</sup> in % in Brazil's rural and urban areas 1940-2000

<b>year</b>	<b>urban</b>	<b>rural</b>
1940	12.9	28.3
1950	18.8	33.2
1960	31.3	38.8
1970	52.1	41.1
1980	80.4	38.6
1990	111	35.8
2000	138	31.8

Source: IBGE 2000b

Anyway, a tendency of geographical, racial spreading can be found when looking at the IBGE published report about 'Indicadores de cor ou raça, segundo a Pesquisa Mensal de Emprego' [Indicator of colour or race according to the monthly research of employment]. There, the institute stated, that the “Região Metropolitana de Salvador apresentou a maior proporção de pretos ou pardos (82,7%) e Porto Alegre a menor (12,6%)” [metropolitan region of Salvador presents the major proportion of blacks or browns (82.7%) and Porto Alegre the minor (12.6%)] (IBGE 2009: 1). Methodologically insufficient to properly interpret the data, the consideration of the indigenous people as a race biases even more. Looking to that what the literature says, 200,000 Indians live in the Amazon basin (Marger 2009: 401). This draws attention to another difficult circumstance, which consequentially follows the construction of the cultural regime and therefore links it to both the question of environmental racism<sup>338</sup> (ERA) and the environmental question in the shape of the environmental regime. The question is, what defined and defines the race concept on Brazil and further, what the anticipation of this by white and non-white people? And, who is of which colour in the Brazilian context? Marger stresses, the specific of racism in Brazil is that “believes and practices have been frustrated, ironically, by the ideology of racial democracy and by the lack of clear lines of racial division.” Furthermore, he points in his chapter 'A Faux Racial Democracy?' to the fact that pre-eminence of Brazil's superficial non-

<sup>336</sup> The other regions grew as follows: Northeast 1.07%, Southeast 1.05%, Centereast 1.90% (IBGE 2011h)

<sup>337</sup> In millions of people.

<sup>338</sup> As claimed by Brazilian Environmental Justice researcher Ari Souza as quoted in the related chapter (cf. 2008: 183)



discriminatory ideology has been responsible for the creation of a culture of customary denials or disbelief when accusation of racism towards to Brazilian state is made. Furthermore, claims and attacks of “un-Brazilian” behaviour are thrown against those who blasphemously addressed a 'racial problem'. Even in the 1970s, “censors banned a program dealing with racial issues from Brazil's largest television network”. Continuing perpetuation of the “mystique of racial and ethnic democracy” by officials has created a situation that makes the announcement of obviously existing racism in Brazilian society even more difficult.

Very recently, only in the last few years, Marger sees some beginnings of acknowledgement of racial prejudices by officials. (2009: 423) In this regards, new considerations in the census of IBGE seem to be crucial in order to prove Marger's perception. According to the IBGE , the census 2010 asks not just for race and color (as 2000) but “quem se declara branco, preto, amarelo, pardo ou indígena“ [who declared himself as white, black, yellow, brown or indigenous] as well, allowing a more detailed geography of ethnic population constitution. (2011c) The questionnaire leads to strange results such as typical researches work with 5% of 'pretos'<sup>339</sup>, 50% of 'whites' and 45% of 'browns' with a very little percentage in the categories 'yellows' (and orientals) and 'indigenous'. This leads to results such as those from the 'Pesquisa Nacional por Amostra de Domicílios' [National Research for Sample of Domiciles] (PNAD) in 1997, which showed – excluding just the rural areas of Amazonia – 54.4% of 'brancos, 5.2% of 'pretos', 39.9% of 'pardos', 0.4% of 'amarelos' and 0.1% of 'indígenas', which “ocultariam o verdadeiro tamanho da população negra no Brasil<sup>340</sup> (...) chegaria a pelo menos 50% da população; e também deixaria de medir o verdadeiro tamanho da população indígena” [hide the true size of the black population in Brazil (...) arrive at least 50% of the population, and also fail to measure the true size of the indigenous population] (Schwartzman 1999: 83-84, italic by the author). The specific division in the Amazon or in the different regions of Brazil, as well as the structural underestimation of indigenous people, will be discussed in the next chapter, when speaking about the territorial regime in more detail. The general constitution of races includes a structural problem too, since many languages are spoken in Brazil. According to the most recent census of the IBGE ca. 210 languages are spoken in Brazil, of which 190 are indigenous languages. After discussion groups of specialists and representatives of the Fundação Nacional do Índio [National Foundation of the Indian] (FUNAI), for the first time ever, the census tried to investigate the spoken indigenous languages. This approach was connected to the idea of mapping the indigenous languages to better implement public politics „ao reconhecimento, preservação e promoção dessas línguas“ [the recognition, preservation and promotion of these languages] (IBGE 2011e). The 'Composition of Population by Race' of 2000, as shown in the following table, demonstrates a very interesting tendency, namely a growing quota of 'white' [branca] and 'preta' [black]

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<sup>339</sup> Generally the Brazilian term is used since the translation to 'black' doesn't carry the same connotation like in the US, where the debate is more emerged. (cf. Schwarzman 1999: 98) The contrary is true, consciousness regarding smallest details of racial characteristics are much stronger than in the United States. (Wagley 1988: 145) In this regards the Portuguese word *preto* (with italic style) is used.

<sup>340</sup> For further reading about theoretical conceptions of 'preconceito de origem' [prejudice of origin] and 'preconceito de marca' [prejudice of indication] see also Schwarzman 1999, Nogueira 1985: 67-93, Sansone 1996.

Brazilian population at the expense of the 'parda' [brown] and 'amarelos/indigenas' [yellow/indigenous] others.

Table 9: Composition of population by race 1991/2000

Race / Year	1991	2000
white	51,8%	53,8%
brown	42,6%	39,1%
black	5,0%	6,2%
yellow/indigenous	0,6%	0,4%

Source: IBGE (2011f)

At this point, the reference of the most recent census 2010 confirms Schwarzman's claim of 'strange results' used by typical research work. According to the data of the total of 190,755,799 Brazilian inhabitants counted 47.7% (91,051,646) are labelled as 'white', and 43.1% (82,277,333) as 'brown', so more than 90% are already distributed. According to the census, only 14,517,961 black people [preta], or 7.8%, are living in Brazil, beside of 1% (2,084,288) of Asian or oriental [yellow] and just 0.4% (817,963) indigenous people. (IBGE 2011j) In reference to the above graph one can confirm a loss of 6.1% by the 'whites' and a regrowth in number by the 'browns' to (quasi) the level of 1991. As well, the 'yellow/indigenous' grew to a total of 1.4%. How is that to be understood? Mainly one must understand the result in terms of the used notions. As said, the problem lies in the impossibility, or rather, in the non-precision to clearly define the distinguishing lines<sup>341</sup>, which is based on the generalisation tendency in Brazil to suppose that the negation of identification with cultural minorities wouldn't be an essential condition or 'sine qua non' for the *abrasileiramento* [Brazilianisation]. This, probably – as Schwartzman continues –, explains the fact, that the topic of origin has never become object to systematic research in Brazil (1999: 85). Distinction between 'colour' and 'race' towards a superficial harmonisation of the racial concern, towards a simple differentiation in terms of colour hides the true social and racial elements. As the research shows, the majority of Brazilians define themselves as 'whites' whilst the term *preto* (see above) is rejected by most of the people classified by that colour. Especially the 'browns' - and in particular the indigenous people – reject the term, even though one must consider that indigenous people in an urban based study just considers the very few *caboclas* that live there, so one cannot speak of any representativity. Interestingly, the study can show furthermore that the expression '*morena*'<sup>342</sup> has a positive connotation and reflects a diffuse characteristic of ethnic division lines and races in Brazil. The whole racial distinction is based on self-definition, which made research even more difficult.

<sup>341</sup> ...in terms of ethnic, linguistic, cultural or historical terms (Schwarzman 1999: 85)

<sup>342</sup> This term is used, as Schwartzman points out, „adotando geralmente a forma feminina quando existem os dois géneros da mesma palavra (...) e unificando variações de ortografia e erros mais óbvios de codificação“ [usually taking the feminine form when there are two genera of the same word (...) and unifying variations in spelling and coding more obvious errors] (1999: 86).

Nevertheless, Schwarzman can show that many persons understand the question of their origin in race-based terms whilst others use terms based upon religion, federal state and city, but most of all, people refer to terms of nationality. (1999: 88) Clearly the results demonstrate the unwillingness of people to define themselves as 'black' [preta], since they rather define themselves as brown or 'morena'. In another part of this study people of different origin have been asked whether they consider themselves as 'Brazilians'. As the following table shows, besides those who have defined themselves first as Brazilians (closed questioning) and those who have declared to be *preta*, about two-third of the indigenous people have declared themselves that way.

Table 10: Persons declaring themselves as 'Brazilian' related to their income in R\$

Person's declaration as 'Brazilian' in % related to origin/average income by race/color/origin								
	declared 'Brazilian'	color						Total Average
		branca	preta	amarela	parda	indigena	without answer	
<b>Brazilian</b>	100.0	778.09	384.81	1379.03	431.64	495.05	702.91	<b>630.43</b>
<b>Black/negra</b>	76.2	651.16	438.77	291.75	437.46	398.12	-	<b>467.19</b>
<b>Indigenous</b>	<b>67.6</b>	645.93	404.91	363.35	464.77	493.36	521.20	<b>537.53</b>
<b>Jewish</b>	59.4	2047.24	-	-	547.84	-	-	1756.47
<b>Portuguese</b>	57.5	1071.97	583.29	653.34	619.86	489.48	634.93	982.65
<b>Italian</b>	56.9	1135.66	571.52	286.83	655.50	597.97	1051.63	1080.17
<b>African</b>	56.3	698.84	515.3	230.00	496.14	469.63	337.79	<b>535.99</b>
<b>Spanish</b>	55.0	1134.55	589.15	-	584.48	531.26	1037.93	1058.16
<b>Arabic</b>	54.5	1759.26	-	-	562.22	-	-	1654.52
<b>Others</b>	53.9	1260.37	346.46	-	562.01	1104.71	-	1161.21
<b>German</b>	48.6	976.59	490.06	-	504.98	456.60	-	931.06
<b>Japanese</b>	41.1	1038.87	-	1719.14	978.07	-	-	1505.66
<b>Total Average</b>	60.58	848.41	<b>400.84</b>	1462.72	<b>440.14</b>	<b>515.07</b>	695.79	688.98

Source: Schwarzman 1999: 91; 93

Furthermore, as the table shows, even though indigenous and 'negra' (African, black) people have the highest assimilative contribution to the superficial term of 'Brazilian', their average income remains on the bottom line. Taking as border lines the total average of all averages (688.98 R\$), as well as the total average of those who are 'declared 'Brazilians'' (60.58%), one can see that over-average declaration of being Brazilian is linked to an under-average overall income. As well, those who are classified by the IBGE as *preta*, 'brown'<sup>343</sup> or 'indigenous' have by far the lowest income of all groups, even though they are contributing the most, such as the 'Brazilian' with 100%, to the constructed frame of nation. In all three cases, the 'Brazilian' shows an income below the average. This makes clear, that the contribution to that what is claimed to be 'Brazilian' doesn't give better opportunity to participate from environmental benefits. As Schwarzman demonstrates, by linking average income of people of the different colour and their educational level, "claramente a educaçã

<sup>343</sup> At this point is to add, that according to the present study, just a part of those categorised as 'brown' or *preta* identify themselves as of African origin or 'negra'. (Schwarzman 1999: 96)

e nao a cor, raça, ou origem, o grande fator de desigualdade na sociedade brasileira” [the great factor of inequality in Brazilian society is clearly education, and not colour, race, or origin] (Schwarzman 1999: 94). Besides institutionally recognized classifications, one important classification isn't mentioned yet, but comes up either way: caboclos. This term is recognised as a regional 'type'<sup>344</sup> describing half-blooded, “ameríndio” [Amerindian] (Wagley 1988: 152), settled and/or citified natives, “o que tem por base o argumento de Lima (1999)<sup>345</sup>, em torno deste último termo, pois nao constitui-se em auto-definição, sendo antes uma referencia a alguém que nao seja branco, contendo portanto, uma conotação pejorativa” [which is based on the argument of Lima (1999), (...) since it isn't constituted in self-definition, but rather a reference to someone who is not white, containing therefore a pejorative connotation] (Treccani 2006: 25; note 4). The term caboclo is even more diffuse with a prejudice in connotation and usage than the term of *população tradicional*, which Treccani seeks to analyse. The former notion is a representation and an inclusion of many connotations, which finally tells us, how we see things (Baktin 1979). Since the term isn't very precise, colloquial usage gives it a general definition. Generally, the term is used by representatives of the superior class, which considers itself as 'branco' referring to the rural lower class as 'caboclo'. A more relational understanding of category is found in the Amazon region. Because of the failure of an institutionally defined notion, colloquial understanding as part of individual-collective behaviour of the term highlights this debate. There are principally three reasons to deeper analyse the notion even though omitting terms like *mulato* or *cafuzo* (see note 327): First of all, both terms, *caboclo* and Indian, are equivalent. Second, the researched area, Algodão-Maiandua, isn't declared as an indigenous island as said, but native people there use the term *caboclo* in a certain context as well as others from outside denominate people, which are living their, sometimes as *caboclos*. Third, the debate about the concepts brings up much of the debates we have found in looking for the conception of Environmental Justice, such as community, and questions of the geographic distribution of environmental burdens. Besides the geographical dimension, *caboclo* is a racial and class based category too. (Lima 2009: 6) This links to the outlined debate about both Environmental Racism based and social distribution of environmental burdens. The definition of *caboclo* mixes up different connotations, such as crossbreed (racial concern), *riberirinho* [close to the Amazon rivers living people], countrified-non-educated and of low socio-economical level (hunters and fishermen, cf. Wagley 1988: 152) in disrespect to the traditional production chain of these. As he further says, the *caboclo* term only exists to denote indigenous tribes that have settled down at upper reaches of affluxions of the Amazon river. He stresses that the Amazon

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<sup>344</sup> Same general types for other regions in Brazil are the 'gaúchos' in the region South, the 'bairanas' in federal state of Bahia and the 'sertanejos' in the region Northeast (the regions have been explained in detail on p. 190). Other popular categories of mixed race in Brazil: 'mulato' (son of 'branco' and 'negro'), 'cafuzo' (son of Indian and 'negro') (Lima 2009: 6), but these terms don't have a regional connection.

<sup>345</sup> Related article was reprinted in 2009 and used for this piece, consequentially the reference appears as Lima (2009). There he writes that terms like *caboclo* or Indian are used “no sentido de que ambos sao essencialmente rótulos de identificação que podem ou nao ser usados para a auto-identificação” [in the sense that both are essentially identifying labels that may or may not be used for self-identification] (Lima 2009: 12).

*caboclo* only exists in the concept of socially or societally higher ranked stakeholder groups, referring to the other group on a lower position. (Wagley 1957: 154) The general standardisation of *caboclo* refers to characteristics of rural population in the Amazon (regional attribution) (Lima 2009: 12) in a mixed racial context (racial attribution) of indigenous population's integration<sup>346</sup> into the society of coloniality (social attribution). The Brazilian expression of “[u]m negro rico é branco e um branco pobre é negro” [A rich Black is white and a poor whiter is black] (Wagley 1988: 147) is re-expressed in the commonly defined, officially denied but nevertheless powerful and influential classification: Opposing pairs of ideal type conceptions of superiority versus types of inferiority, namely 'urban' (regional) versus 'rural', 'white' versus 'indigenous' (racial) and 'civilised' versus 'uncivilised' (social), create a relational category as if there is a consistent group of *caboclos*. Entangled with racial attribution, but not identical, the cultural attribution is, as could be seen, crucial for defining the notion's relationality too. Difficulty of the term's application accrues from assumed homogeneity and faced heterogeneity of the group.<sup>347</sup> Furthermore, even the 'innocent Indian' uses this term for self-definition<sup>348</sup> (Wagley 1985: viii). So, if the *caboclos* in colloquial use is always someone else (Ribeiro 1970: 375), the terms definition can just be reconstructed from outside. The only thing, colloquially identified as factor *caboclos* have in common, is their poverty. Interconnectivity is given by the fact that – as seen – many cultural characteristics, which base on traditional economic ways of production, such as indigenous hunting and fishing methods, are considered as evidence for inferiority and proof of primitivity<sup>349</sup>. Social and economical disadvantages are turned into colloquially used attributions of the 'caboclos' These are their laziness since they are planting fields, just selling a bit of natural rubber and fishing to eat. Furthermore, negative psychological characteristics are added, such as they are anxious and love living like animals which is why they are living isolated in the forest, that they are untrustworthy and sly.<sup>350</sup> (Wagley 1988: 153) Consequently, this poverty is to be seen as a cultural conception too. Even more, if looking for the distinguishing factors, many contradictions in colloquial application can be found. One, which has been yet missing to be mentioned, is gender. This aspect – until today – plays an important role in the distribution of inequality, diversely as part of the environmental problem set, and in particular in the Amazon. In consideration of both colonial history and as a matter of fact by contemporary coloniality, stereotypes are produced and reproduced as a result of the masculine 'conquista'. Since the history of Amazon colonisation was 'male', the Portuguese colonists have been paramountly males, using female Indians as wives or concubines, two stereotypes have been produced: “o estereótipo masculino do exótico

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<sup>346</sup> „ou seja, escravizar, estimular casamentos mistos e 'civilizar“ [or rather, to enslave, to encourage mixed marriages and to 'civilize'] (Lima 2009: 6)

<sup>347</sup> The question to be answered is at least: Who are the persons identified by this term?

<sup>348</sup> Except the instance of a inferiority recognition like 'I am just a 'caboclo' addressing himself to especially to a 'white' or rich spokesman or someone who is from a non-Amazon region. (Lima 2009: 26)

<sup>349</sup> This aspect is of crucial importance for both, the development regime, that will be discussed in the next chapter as well as for the concluding environmental regime as will be demonstrated.

<sup>350</sup> “[O] caboclo desconfiado arma a sua rede mas dorme embaixo dela” is one of the storys told according to Wagley (1988: 153)

caboclo e pescador, que enfrenta a natureza selvagem, e o estereótipo feminino, que representa a domesticação masculina da sexualidade indígena” [the masculine stereotype of the exotic caboclo and fisherman, that faces the wilderness, and the female stereotype, which represents the masculine taming of indigenous sexuality] (Lima 2009: 13, note 8). Finally, one must admit, that on the one hand the sexual regime is playing as well a significant role within the concept. On the other hand, sexual subjection of female Indians isn't a unique feature that characterises specifically the relational category of Indians in the cultural, territorial and development regimes in general, and as part of the environmental regime in particular. In this context, sexual abuse and oppression of women is a side effect beside many others, such as the old (agism) or handicapped people (disabilitism) as outlined above. At least in the researched field, typical modes of sexism can be found in the same manner as in south Brazilian, metropolitan or even European context. (cf. Kaufmann 2003: 39) Concluding, it can be stated, that the *caboclo* connotation, as Indian, involves a negative stereotype and stereotypification by others. Discrimination does not just base upon social (poverty) attribution, but region (typical Amazon man) and culture (primitivity) too. So, even poverty conceptions in *Amazônia Legal* are to be seen as a cultural concept. Amazon's rural population faces two main challenges, first the hard environment and second the created economical and political (institutionalised) conditions. The negative stereotypification, that applies to both the economical and political field, must be seen as an indication of a potential base for environmental racism since an (officially) undefined group (*caboclos*) carries a conglomeration of all applicable discriminations that can be applied by those who are superior where required. So, generally, the word *caboclos* is used in and constitutes indirect discourses when talking about someone or a certain group, clouding racist distribution in abstract and general terms. Consequently, in this term colonisation and coloniality, urban versus rural, upper class versus proletarians, construction of gender role in society, cultural imperialism from inside Brazil and internationally are inserted and reproduced over time leading to a 'cablocism' concept, as described by Cardoso de Oliveira, in which *caboclos* signifies “olhar a si mesmos com os olhos do branco” [to observe them with the eyes of whiter] (Lima 2009: 28). In the *caboclos* concept one finds discrimination from outside Brazil as well as from inside.<sup>351</sup> The multitude of the of both forest and Amazon environment is contrasted by existing poverty, and its permanent comparison to the supposed laziness and failure of *caboclos* in contemporary society by Brazilian and international attribution. All this is framed by the fact that European colonisation in the Amazon, treating Indians just as savages, more inferior than African slaves, since more costly too, and placed Indian characteristics, characteristics of *caboclos* in particular, within the relational category hierarchy at the bottom line, as “um símbolo nao só de descendencia escrava como também de origem social mais baixa, nos tempos coloniais, do que a do negro” [a symbol not only for slave descent but also for lower

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<sup>351</sup> “O caboclo nao é só pobre em relação a padroes de vida urbanos ou internacionais, mas também em relação a uma expectativa elevada para a performance economica e social deste neobrasileiro na Amazonia” [The caboclo is not only low in relation to the standards of living, urban or international, but also in relation to a high expectation for the economic and social performance of this neo-Brazilians in the Amazo] (Lima 2009: 13).

social origin, in colonial times, for being black] (Wagley 1988: 153). In consideration of the relationality and diverse interconnectivity, obviously the cultural regime cannot be analysed just as such. It is embedded in a frame of a second, and at least of a third regime that constitutes the cultural and sequentially racial distribution of environmental burdens too. The cultural regime grasps back to the colonial heritage of European invasion centuries ago, but is already established with an institutional intrinsic dynamic.

In the following, the second contributing regime will be described, which is the 'territorial regime'. Closely bound to the cultural ideology, the second regime points more to the general approach of how the richness of the occupied land was and is seen, which will finally explain the development strategies as outlined in the third part, when talking about the development regime in Brazil.

### The territorial regime

As both protestant and catholic nations have been assembled in the Amazon, the earthquake of the Enlightenment and consequentially the ideological conflicts have been reproduced in the struggle of land claims to mainly supply plants and animals<sup>352</sup> for the conquerors and manpower in terms of slavery (mainly) or worship (by catholic or evangetic proselytism). All conquests in Brazil have been accessed via the rivers for geographical reasons (Monteiro 1980: 150). Until the mid 16<sup>th</sup> century all relationships regarding the colonist expeditions of European states have been regulated by pontifical bulls, such as the bulls *Dum Diversas* of 1452 and *Romanus Pontifex* in 1455 by Pope Nicolas (1397 – 1455) and *Inter Caetera* of 1456 by Pope Calisto III (1378 – 1458), who secured the land claims of Portugal's crown under conditions of the “direito do Padroado, aquele império que se lhe pretendeu posteriormente contestar sobre os espaços que seus marinheiros e soldados fossem descobrindo e incorporando à monarquia ultramarina” [right of patronage, that he is to rule later on the spaces that challenge their sailors and soldiers were discovering and incorporating the monarchy overseas] (Reis 1993a: 13-14). In 1493 the new pope (beginning in 1492) Alexander VI (1431 – 1503) confirmed these bulls by bulls of *Inter Coetera*, *Eximiae Devotionis* and *Dudum Siquidem* in consideration of increasing land conflicts in the colonies between Portugal and Spain, the begin of history of the territorial regime. Especially the last bull, signed in September 1493, dealt clearly with the matter. Also known as “ampliação das doacoes” [magnification of donations], the bull “reconhecida como pertencentes à Espanha todas as terras localizadas a cem léguas<sup>353</sup> de Cabo Verde, revogando, na prática, as garantias que tinham sido concedidas anteriormente portuguesas” [recognised all lands located within one hundred miles of Cape Verde as belonging to Spain, revoking, in practice, the guarantees that had been previously granted to Portugal] (Treccani 2006: 103). As, even that way, the problem couldn't be resolved, negotiations started in order to prevent a war between the two Iberian states which ended in re-establishing the equilibrium by the international contract of Tordesilha, called 'Capitulacion de la Repartition del Mar

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<sup>352</sup> This instance became the predominant role of the Amazon since its integration in the international market, as Treccani points out (2006: 98).

<sup>353</sup> This is about 500 kilometers.

Oceano', assigned at June 7, 1494 and became the most important juridical instrument to successfully regulate land claims of both for centuries. As can be seen from the following map, the treaty defined the newly discovered lands in South America along a meridian 370, which is – Ferreira mentions – an imaginary line, passing approximately where today is the city of Belém, crossing the city Bauru in the federal state of São Paulo and ending in Laguna, located in federal state of Santa Catarina. (2003: 63) The line was made in ignorance of the geographical dimension, contained by the land for Portugal, and so the location of the Meridian varied as could be seen in the negotiations of representatives of Portugal and Spain in 1524 to study the matter and cartographers relocated the line of Tordesilha, which varied then and over as part of negotiations. (Reis 1993a: 47) One can assume that future conflicts, as emphasized by Treccani (2006: 105), would have been even more controversy without the beginning of the Reformation in Europe in 1517, which made strong alliances of the economically and morally weaker and weaker becoming catholic monarchies in Europe. In consideration of the growing European technical optimism and anthropocentrism as outlined, Reis states consequentially that “nemuma nação christa oferecia restrição de qualquer natureza.” [not even one Christian nation offered any kind of restriction] (1993a: 14). In the time, when the two Iberian crowns were united<sup>354</sup> (1580 – 1640), in 1596, when the Protestant nations England and the Netherlands came to the region too, took away the pick of the Portuguese and Spanish alliance<sup>355</sup> and began to establish commercial settlements. (Holanda 1976: 258) From there on, English and Dutch enterprises spread out, based on the (military) support of the royal crown and – moreover – on the financing of powerful merchants and the nobility. Anyhow, more than the profit aspect was the presence of settlement as fundamental element for justifying their territorial claim. Beginning in year 1600 ambitious Dutch merchants from Flessinga established plantations at the border of the river Amazonas. (Azevedo 1893: 229) Stimulated by the exorbitant success of the British East Indian Company, the investment attitude of the colonial states changed fundamentally, abandoning the financial caution. In order to reproduce the economic success, the British introduced according to Oliveira, black slaves from Guinea to guarantee ploughing targets were matched<sup>356</sup>. (Oliveira 1991: 6) In the meantime, the Netherlands could establish their dominance in the Northeast of Brazil, namely the states Pernambuco, Paraíba and Rio Grande do Norte, for more than 30 years (1623 – 1654) with continuing attempts to establish the same in the North. These attempts of the British, Dutch but also the French (in Maranhão) led to various warnings regarding the 'foreign' threat, such as the letter of the

<sup>354</sup> This has been realized by King Filipe I of Portugal and at the same time King Filipe II of Spain from until 1598, from then and until 1621 King Filipe II of Portugal (and Filipe III of Spain) and from then on until the restauration in 1640 by Filipe III of Portugal, who was consequentially King Felipe IV of Spain.

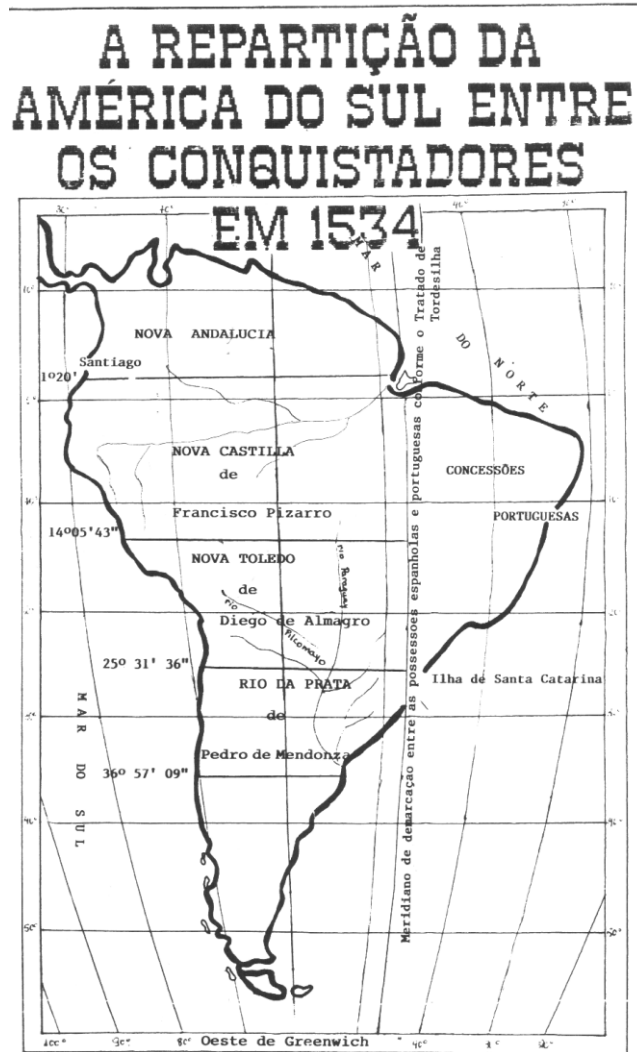
<sup>355</sup> This alliance was yet concluded at the begin of the colonization of South America and enforced by the named royal unification of the two countries, with churchal support by pontifical bull of 1479 in Alcacovas, 1480 in Toledo and – most importantly – of 1494 in Tordesilhas (Treccani 2006: 102-103), about which will be discussed in more detail later on. Already in 1442, the bull 'Etis Susceptii' of Pope Eugene IV confirmed Portugal's exclusive right over the 'Mar Oceano'. The right to do so was given to the popes over all (catholic) Christianity (and its emperors) by the Roman emperor Constantinus Magnus in 330 to pope Silvester I and was valid ever since. (Leal 1991: 49) In this context must be considered that even the crowns have been united, national interests of the two countries still varied.

<sup>356</sup> Later on copied by Dutch merchants too (Oliveira 1991: 6).



Portugal Council to the Spanish King Felipe III alerting that the two Protestant nations began to “tratar e comerciar no rio das Amazonas” [treat and trade in the Amazon River] (Holanda 1976: 258), followed by attempts in the same year to denunciate those as 'strangers' at the indigenous council. (Ibid.) After 1619, British and Irish colonists had been able to increase the number of colonies by about 50%. (Reis 1993a: 35) The Portuguese-Spanish alliance came under *zugzwang* to politically and theologically counter strike. Important military success was achieved against the French rivals by the Portuguese captain Francisco Caldeira de Castelo Branco on December 22, 1615 who dispelled them from the capital of the neighbouring federal state Maranhão, Sao Luiz (Saragoca 2000: 226), and since the local tribe of Tupinambá, that at present does not exist anymore (cf. Ricardo 1981: 28), accepted Francisco and his accompany without hostility (Reis 1993a: 26), he could construct a fortress and by founding the city of Belém at January 12,

Map 2: Contract of Tordesilha



Source: Mensageiro 1991: 116

1616 establish first trade relations with the indigenous population around Belém (Treccani 2006: 106), followed by enslavement<sup>357</sup> of various indigenous tribes in the region. (Ibid: 130) At this time 'began' the European history of colonisation of the area, which is called today federal state of Pará, which always had a special status. The specialty of Pará resulted from the contract of Tordesilha which drew the line at the place where Belém was founded, declaring all east-sided land to Portugal and all on the western side to Spain. By the Carta Regia on June 13, 1621, the Portuguese Crown created two states, Grão Pará and Maranhão. The former was directly subordinated under the Portuguese metropolis Lisbon. In the same year both Francisco Coelho de Carvalho became first governor of the state Maranhão, established in the city of Sao Luiz, and Bento Maciel Parente was established as capitão-mor<sup>358</sup> [general captain] in Grão Pará. The 'Estado do Maranhão e Grão Pará' was administrated by the Conselho Ultramarino [ultramarine council] of the colonies' ministry. Therefore, in the Amazon region administrative politics, economy and religion have been independent from the rest of Brazil (Barreira 1979: 68).

The long-term independent status of the Amazon caused mainly (to two-third percents) in its isolated geographic location these times. It was easier to approach Belém from Lisbon then from Salvador or Rio de Janeiro as Pinto points out, (Pinto 1997: 140). Therefore another reason is given for Portugal's territorial advance in the next 200 years, officially consistent with the Spanish *conquista* strategy, but – as Reis adds – in fact it was Portugal that purported the attitudes. (1993c: 7) Resistance of indigenous tribes against enslavement and expulsion led to unnumbered deaths because of bad treatment (in slavery<sup>359</sup> or whilst serving in military forces of the colonists), diseases and direct combats within a few years<sup>360</sup>. One assumes, that under the governorship of *capitão-mor* Bento Maciel Parente (18.06.1621 to 06.10.1626) about half a million Indians died. The main goal of consolidating the *conquista* made Portugal rushing into gain as much benefit as possible from the land. “A posse (...) na Amazonia” [The possession of Amazonia] as Galvao points out “foi menos importante geral, predominando a ocupação temporaria da terra com o objetivo de explorar-lhe os recursos naturais até a exaustão” [was of less overall importance than predominantly

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<sup>357</sup> This happened even though two bulls of pope Paulus III, 'Veritas ipsa' and 'Sublimis Deus', enacted already in 1537, banded the enslavement of human aborigines as well as in main laws of the states. (cf. Treccani 2006: 130-131)

<sup>358</sup> Capitães-mores were a military position in function (among others) of responsibility for locally recruited troops.

<sup>359</sup> Especially since the „indigenous population proved unassimilable to forced labour systems”. (Dávila 2003: 221)

<sup>360</sup> During the first two centuries of colonization there was a competition between slave hunters and the Jesuits, in which the former wanted the Indian's body and the latter their soul. This can be seen also as a competition between the two mentioned principles of 'purity of blood' and 'rights of the people' (Mignolo 2000: 29-30), in which the former was the punitive principle of domination and the latter the restitutive one. Whilst the first excluded the Indian ruling by obedience, the second wanted to rule by adaptation of ideas (and finally laws) 'by choice'. As Wagley continues, this was a war where the indigenous people finally lost both. (cf. 1957: 65) This also was a theoretical debate, known because of the debate “between Sepulveda and Las Casas in the School of Salamanca in the 1550s. Sepulveda argued that indigenous people had no soul and therefore were not humans and could be enslaved without representing a sin in the eyes of God. Las Casas argued that they were savages with a soul, that is culturally inferior, child-like but ultimately humans to be Christianized rather than enslaved.” (Grosfoguel/Mielants 2006: 3) As Grosfoguel et al. continue, these established two forms of discrimination which continued for the next five hundred years, so until contemporary times. Whilst Sepulveda's position stands for racist discourse based on biologism, Las Casas' point of view is contemporary known as the 'cultural racist discourse'.

temporary occupation of land in order to explore its natural resources until exhaustion] (1955a: 15-16). This is the reason, of much stronger Portuguese and indigenous influence in the Amazon compared to other regions in Brazil. The mixture of these two groups created the classification of *caboclo* defined by a 'caboclian' culture, which are the integrated Portuguese and indigenous traits. (cf. Galvao 1955b) The conflict about the land ownership in *Amazônia Legal* was kind of an overseas replacement combat of the religious conflict between Protestants and Catholics in the Roman Church in Europe during the Thirty Years War (1618 – 1648). Also, the conflict became a strong religious dimension beside of the obvious need for resources, which was both the basis for the forced and continuing alliance between Portugal and Spain and a direct order to proselytize the native population, which had impacts to the ideological argumentation of as what indigenous people have been seen and which role they had in the colonist's and missionary's plan. Irish, British and Dutch colonists were declared heretic missionaries of the Reformation, which made fighting were equal to serve fatherland and Christianity (Reis 1959: 17) basing on the political and religious dogma of “*cujus regio, illius et religio*” [each lord of a region is also the lord of the practised religion] (Hoornaert 1992: 56). Because of this dogma, catholic orders and other missionaries assisted in the profane military occupation. According to Hoornaert, the strategy was a trichotomy of labour, in which the soldiers fought the competition with other nations, the merchants opened ways to export the resources to the metropolis and the churchmen secured the presence “*de mão de obra*” [of manpower] (1992: 57). Furthermore, the author continues, ideology was subjected to the colonial, imperial interest in the Amazon, when has been stated that the 'realm of god' has to be identified as the realm of the Portuguese Crown, as the “*interesses da religião são idênticos aos do Estado Portugues*” [interests of religion have been identified as those of the Portuguese state] (Ibid: 58). As consequence and in consideration of the outlined cultural regime, these policy of congruent abstract (divine, religious) and concrete (politics, regimes) interests created that, what Grosfoguel and Mielants called the increasingly entangled global hierarchy of the religious Christian-centrism and racial/ethnic Eurocentrism, which didn't leave much left of “the distinction between practicing a non-Christian religion and being racialized as an inferior human”. (2006: 4) As Leal states, the motor of merchant activity in the Amazon was driven by the change of feudal economic production towards a capitalist production structure. (1991: 19) Certainly, the outlined development of nature conception by outspreading Modern or New Science (see Bacon, cf. p. 91) in Europe found its expression in the conflict about the new land. Consequently, the interests were much more economically driven than by religious spirit as Treccani points out (2006: 102). Thereafter, the contract of Tordesilha continued to be a diplomatic issue between Portugal and Spain. Reis can show the difficulties faced by Portugal to ensure its possession of Brazilian land. (1993a, 1993b) The contract of Utrecht, signed at April 11, 1713, forced Spain to acknowledge the validity of the Tordesilha contract the first time accompanied by Portugal's diplomatic strategy of concealment, consolidation and revision. As a matter of fact, the contract of Tordesilha gave no right to the Portuguese crown to cross the demarcation line as noted, but in search and need of gold and resources,

Portugal never respected the line. As Treccani emphasized Grao Pará was “antes de fato e depois de direito” [before *de facto* and after *de iure*] (2006: 52). Concealing information in negotiation, Portugal consolidated its own *conquista* and started in 1747 the revision the contract. This year the Lisbon government sent documents to Madrid in which the validation and acceptance of past contracts was shown but the advance over the agreed limits centuries ago too. Portugal claimed then that the ecclesiastic civil structures such as created parishes, villages and cities have created a new situation which is to be reconsidered. Consolidation was found by the contracts of Madrid three years later (January 13, 1750) and Santo Idelfonso that adapted the principle of *Ut possidetis*<sup>361</sup> which finally declared the establishment of borders between Portuguese and Spanish possessions in the Amazon at October 1, 1777. Whilst Portugal achieved legal ownership of the occupied land in South America, short-term profit thinking in the 17<sup>th</sup> century destroyed the mode of indigenous production in the Amazon<sup>362</sup>, since even religious orders that controlled indigenous settlements concentrated more on growth of economical power than on sustainability considerations. Contemporary 'territorial regime'<sup>363</sup> in Brazil<sup>364</sup> is characterized by a property concept and use of natural resources which “escapa dos parametros oficiais, pois ressalta há diferentes concepções de posse na região” [escapes official parameters, since it highlights different conceptions of possession in the region] (Treccani 2006: 25) The open question of possession of land is just one side of the coin. The territorial regime points to further social distribution of environmental burdens, or rather, the environmental and material costs of development. Sequentially part of the territorial regime is as well the social distribution of poverty. As seen in the outline regarding the territorial regime, income inequalities can be linked back to racial distinctions or distinctions of colour too, but they aren't a result of the racial or colour related distribution, but of education, so the access to information and so – finally- to environmental benefits.

Based on the assumptions which have been made already, and in consideration of the racial/colour definition problem, geography of inequality will be reckoned in two regards: First as a nation wide geographic

<sup>361</sup> „Este princípio determinava como pertencentes a uma nação as terras adquiridas como posses mansas e pacificas“ [This principle determined as belonging to a nation the lands acquired possessions as calm and peaceful] (Treccani 2006: 107).

<sup>362</sup> As Treccani points out, this process continued „tambem depois da independencia“ [as well after the independence] in 1888. (2006: 132)

<sup>363</sup> When talking about the concept of territory today, general distinction is required. Classification of territory in general bases upon the answer to the question of who owns the land and to which extent? Territory is distinguished between public and particular territory. The origin of land will indicate the possible modalities for institutional regulation. Public territory can be part of the *União* (national government), part of a federal state (federal government) or part of a municipality (municipality government). Whilst regulation of *União* territory is under direction of INCRA or SPU/GRPU, public territory of federal state Pará (for example) is regulated by the ITERPA. Regarding public territory principally two differences have to be outlined: First “terra devoluta” [unoccupied territory] and second “terra arrecadada” [seized territory], distinguishing territories not yet identified and marked (the former) and territory already registered in the “cartório de registro de imóveis” [Brazilian land registry of the government] (the latter). Crucial point is, that any government can just register land which is already marked. Particular territory is privately hold possession of land. Regulation of these areas (be they later on defined as environmental protection areas or any other) the *União* has two ways to re-incorporate the land into the national frame: nationalising because of social interest and buying. (Carvalho et al. 2008: 17-18)

<sup>364</sup> Excluded at this point has to be land regulation of environmental protection areas.

inequality at the north – south line and second inside of the Amazon region distinguishing between urban and rural areas. For approaching that area, reference to the population census 2010 and its detailed analysis of the predefined racial concepts seems the easiest way to complete the drawn image. For the sake of completeness, there is to add, that the regions are not proportionally representative of the federal states. The region North contains seven federal states, Acre, Rondônia, Roraima, Amapá, Tocantins, Amazônia and Pará, the location where the field research took place. So, region North is most of that what is called 'Amazonia Legal' except of half of the federal state Maranhão, that belongs completely to the region Northeast, that has further eight federal states, namely Piauí, Ceará, Rio Grande do Norte, Paraíba, Pernambuco, Alagoas, Sergipe and Bahia., except Mato Grosso, that belongs to the region Center-West. Furthermore this region contains three additional federal states, especially the federal state Distrito Federal, where the national capital Brasília is located, Goiás and Mato Grosso do Sul. On the other side is the region South with three federal states, Rio Grande do Sul, Santa Catarina and Paraná, as well as the region Southeast with four federal states, Espírito Santo, Rio de Janeiro, São Paulo and Minas Gerais. Finally, the region Center-West .

Table 11: Residential population by region 2011

Brazil's Regions	Residential population – Urban and Rural						
	Total	Colour and Race					Without declaration
		White	Preta	Yellow	Brown	Indigenous	
<b>Brazil</b>	<b>190 755 799</b>	<b>91 051 646</b>	<b>14 517 961</b>	<b>2 084 288</b>	<b>82 277 333</b>	<b>817 963</b>	<b>6 608</b>
<i>Percentage</i>	<i>100,000%</i>	<i>47,732%</i>	<i>7,611%</i>	<i>1,093%</i>	<i>43,132%</i>	<i>0,429%</i>	<i>0,003%</i>
North	15 864 454	3 720 168	1 053 053	173 509	10 611 342	305 873	509
<i>Percentage</i>	<i>100,000%</i>	<i>23,450%</i>	<i>6,638%</i>	<i>1,094%</i>	<i>66,888%</i>	<i>1,928%</i>	<i>0,003%</i>
<b>Pará</b>	<b>7 581 051</b>	<b>1 653 307</b>	<b>548 825</b>	<b>69 198</b>	<b>5 270 307</b>	<b>39 081</b>	<b>333</b>
<i>Percentage</i>	<i>100,000%</i>	<i>21,808%</i>	<i>7,239%</i>	<i>0,913%</i>	<i>69,519%</i>	<i>0,516%</i>	<i>0,004%</i>
Northeast	53 081 950	15 627 710	5 058 802	631 009	31 554 475	208 691	1 263
<i>Percentage</i>	<i>100,000%</i>	<i>29,441%</i>	<i>9,530%</i>	<i>1,189%</i>	<i>59,445%</i>	<i>0,393%</i>	<i>0,002%</i>
Southeast	80 364 410	44 330 981	6 356 320	890 267	28 684 715	97 960	4 167
<i>Percentage</i>	<i>100,000%</i>	<i>55,162%</i>	<i>7,909%</i>	<i>1,108%</i>	<i>35,693%</i>	<i>0,122%</i>	<i>0,005%</i>
South	27 386 891	21 490 997	1 109 810	184 904	4 525 979	74 945	256
<i>Percentage</i>	<i>100,000%</i>	<i>78,472%</i>	<i>4,052%</i>	<i>0,675%</i>	<i>16,526%</i>	<i>0,274%</i>	<i>0,001%</i>
Center-East	14 058 094	5 881 790	939 976	204 599	6 900 822	130 494	413
<i>Percentage</i>	<i>100,000%</i>	<i>41,839%</i>	<i>6,686%</i>	<i>1,455%</i>	<i>49,088%</i>	<i>0,928%</i>	<i>0,003%</i>

Source: IBGE (2011j)

For comparison purposes, one has to look for columns of 'White' and 'Brown' in consideration of the mentioned untrustworthiness of the categories 'Preta' and 'Indigenous'. There it is obvious that the region North and Northeast has 23.45% or 29.44% of whites, but 66.88% and 59.445% 'Browns'. Considering the Brazilian wide average of 47.73% 'Whites' and 43.13% 'Browns', the percentages of the regions Southeast (55.16% 'Whites', 35.7% 'Browns') and South (78.47% 'Whites', 16.5% 'Browns') speak a clear language. As can be seen, racial distinctions between north and south are a running line between the region North and

Northeast on the one side, and South plus Southeast on the other, with extreme poles in each group: region North represents a stronger surplus in the relationship between 'Brown' and 'White' towards 'Brown' than region Northeast does. On the contrary, region South is more loaded towards the 'Branços' and less towards 'Pardas' than region Southeast does. Obviously, the region Center-West<sup>365</sup> is something in between, kind of representing the Brazilian average except of the fact that it “is the fastest-growing region” in Brazil (EIU 2008: 24). Looking further into the area of research, in the federal state Pará, the percentages are showing clearly that what can be said about the whole region North is reflected there in a more extreme form. The data are to the extent of<sup>366</sup> less 'Whites' (-1.642%) and 'Yellows' (-0.181%), but more 'Preta' (+0.601%) and 'Brown' (+2.631%). Concluding one may say, that, if unequal distribution of Environmental Goods and Bads is connected with IBGE categorisation, in which people of ('darker') colour are disadvantaged, then the two northern regions are more disadvantaged than the southern regions, and Pará is below the average of the region North, so closer to the bottom line and therefore an example appropriate to show distinguishing elements of the discourses. Or, as Wagley points out, the general empirical rule in Brazil is: “Quanto mais clara a pele, mais alta a classe; quanto mais escura, mais baixa a classe” [The lighter the skin, the higher the class; the darker, lower class] (1988: 144).

Besides the nationwide South-North divide and in opposite to the well-known North-South divide, the remark, which has to be made in this context, is, that interestingly the latter is often mentioned on a global scale without asking, whether it really considers all relevant information, in particular those in regards to country or continent inherent inequality. This means, that fact like the transmission of global inequality to South America (often mentioned in the new climate justice debate), do not consider the unjust transport of global social inequality. For example, not all countries in the South participate equally on costs created on the global level, but the allocation of the 'volume of inequality' differs by many means. What does this mean? Arguments in the chapter about Environmental Justice regarding various oppressions applied to the individual scale must equally apply to the global scale. Referring specifically to the community level (as argued on behalf of critical Environmental Justice research and) as mentioned in the same chapter, Amazon communities (if one may speak so general about this heterogeneous region) suffer more from global inequality, from the global unequal distributions of environmental burdens, than communities in Santa Catarina. Other examples for the insufficient superficiality of the North-South would be South Africa, which is geographically more in the South than – for example – Zimbabwe, but having a better wellbeing average. Furthermore, and generally spoken, rural communities carry more costs than urban communities etc. which leads us to aspects of locism injustice on the meso (community, nationwide) and macro (global) scale. The

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<sup>365</sup> Because of the focus of this piece, the interesting analysis of racial compound cannot be undertaken at this point. For further reading see Instituto Socioambiental (2008), As Heringer states rightly, „a Região Centro-Oeste apresenta uma distribuição equilibrada entre brancos e negros, similar à distribuição nacional“ [the Midwest Region presents a balanced distribution between blacks and whites, similar to the national distribution] (2002: 60).

<sup>366</sup> Always in relation to the total population of both the region North and federal state Pará.

macro level environmental injustice is well researched especially in the Brazilian context (Acselrad et al. 2009, Treccani 2006, Ricardo 1996), distinction between the urban and rural area give answer to the locism based distribution on the meso scale:

Table 12: Residential urban population 2011

Brazil's Regions	Residential population – Urban						Without declaration
	Color and Race						
	Total	White	Preta	Yellow	Brown	Indigenous	
<b>Brazil</b>	<b>160.925.792,00</b>	<b>80.212.529,00</b>	<b>12.430.469,00</b>	<b>1.803.377,00</b>	<b>66.158.924,00</b>	<b>315.180,00</b>	<b>5.313,00</b>
<i>Percentage</i>	<i>100,00%</i>	<i>49,84%</i>	<i>7,72%</i>	<i>1,12%</i>	<i>41,11%</i>	<i>0,20%</i>	<i>0,003%</i>
North	11.664.509,00	2.984.289,00	772.646,00	137.558,00	7.708.329,00	61.520,00	0.167,00
<i>Percentage</i>	<i>100,00%</i>	<i>25,58%</i>	<i>6,62%</i>	<i>1,18%</i>	<i>66,08%</i>	<i>0,53%</i>	<i>0,001%</i>
<b>Pará</b>	<b>5.191.559,00</b>	<b>1.252.431,00</b>	<b>377.403,00</b>	<b>50.360,00</b>	<b>3.501.300,00</b>	<b>9.966,00</b>	<b>0.099,00</b>
<i>Percentage</i>	<i>100,00%</i>	<i>24,12%</i>	<i>7,27%</i>	<i>0,97%</i>	<i>67,44%</i>	<i>0,19%</i>	<i>0,002%</i>
Northeast	38.821.246,00	12.122.698,00	3.866.632,00	470.491,00	22.254.431,00	106.150,00	0.844,00
<i>Percentage</i>	<i>100,00%</i>	<i>31,23%</i>	<i>9,96%</i>	<i>1,21%</i>	<i>57,33%</i>	<i>0,27%</i>	<i>0,002%</i>
Southeast	74.696.178,00	41.563.639,00	5.949.559,00	844.534,00	26.255.482,00	79.263,00	3.701,00
<i>Percentage</i>	<i>100,00%</i>	<i>55,64%</i>	<i>7,97%</i>	<i>1,13%</i>	<i>35,15%</i>	<i>0,11%</i>	<i>0,005%</i>
South	23.260.896,00	18.222.524,00	995.219,00	161.948,00	3.846.956,00	34.009,00	0.240,00
<i>Percentage</i>	<i>100,00%</i>	<i>78,34%</i>	<i>4,28%</i>	<i>0,70%</i>	<i>16,54%</i>	<i>0,15%</i>	<i>0,001%</i>
Center-East	12.482.963,00	5.319.379,00	846.413,00	188.846,00	6.093.726,00	34.238,00	0.361,00
<i>Percentage</i>	<i>100,00%</i>	<i>42,61%</i>	<i>6,78%</i>	<i>1,51%</i>	<i>48,82%</i>	<i>0,27%</i>	<i>0,003%</i>

Source: IBGE (2011j)

What has been found in the first instance, finds confirmation – in its tendency – on both the urban and the rural area: Federal state of Pará has less 'Whites' and 'Yellows' in both the urban (-1.46% and -0.21%) and the rural (-0.744% and -0.068%) area than the whole region North, to the extent, that the 'Yellows' difference is quasi negligible, like the divergence in the category 'Without declaration' in all three tables. An interesting difference to the given average can be found by looking at those who are self-defined as 'Browns' and 'Indigenous'. The former category deviates by a total of 2.631% from the average of the region North, but the same divergence is less than half that much in the urban area (1.36% of 2.631%) and close to the double of it in the rural hemisphere (4.913% vs. 2.631%). Comparing the results of all three tables (7,8,9) one can see that the 'Indígena' category shows in the federal state Pará less in quantity, be it of the total (-1.412%), in the urban (-0.34%) or in particular in the rural area (-4.6%).

As a matter of fact, besides the mentioned problematic definition of 'racial' or 'color defining' terms in the IBGE census, the definition of the key word in defining both the right of indigenous people to land ownership and preservation of traditional forms of production are closely combined with the concept of *população tradicional* [traditional population] and *população local* [local population] respectively. The definition of the central concept of *população tradicional* in Brazil's legislature is especially strong within the discussion about the development regime for the Amazon. Adopted strategies open more questions than

they answer. Since populations, which are living in the Legal Amazon, have different traditions established in the area, the arising problem is a conceptual one: It is the question of defining and distinguishing the concept of traditional and local population. According to Murrieta, these concepts are used very flexible in the context of public politics of the socio-environmental nature (1995: 51). Additionally other pairs of terms are in use, such as *campones* [peasant] and 'trabalhador rural' [rural worker], which are different terms for the

Table 13: Residential rural population 2011

Brazil's Regions	Residential population – Rural						Without declaration
	Total	Color and Race					
		White	<i>Preta</i>	Yellow	Brown	Indigenous	
<b>Brazil</b>	<b>29 830 007</b>	<b>10 839 117</b>	<b>2 087 492</b>	<b>280 911</b>	<b>16 118 409</b>	<b>502 783</b>	<b>1 295</b>
<b>Percentage</b>	<b>100,000%</b>	<b>36,336%</b>	<b>6,998%</b>	<b>0,942%</b>	<b>54,034%</b>	<b>1,685%</b>	<b>0,004%</b>
Norte	4 199 945	735 879	280 407	35 951	2 903 013	244 353	342
<i>Percentage</i>	<i>100,000%</i>	<i>17,521%</i>	<i>6,676%</i>	<i>0,856%</i>	<i>69,120%</i>	<i>5,818%</i>	<i>0,008%</i>
<b>Pará</b>	<b>2 389 492</b>	<b>400 876</b>	<b>171 422</b>	<b>18 838</b>	<b>1 769 007</b>	<b>29 115</b>	<b>234</b>
<b>Percentage</b>	<b>100,000%</b>	<b>16,777%</b>	<b>7,174%</b>	<b>0,788%</b>	<b>74,033%</b>	<b>1,218%</b>	<b>0,010%</b>
Nordeste	14 260 704	3 505 012	1 192 170	160 518	9 300 044	102 541	419
<i>Percentage</i>	<i>100,000%</i>	<i>24,578%</i>	<i>8,360%</i>	<i>1,126%</i>	<i>65,214%</i>	<i>0,719%</i>	<i>0,003%</i>
Sudeste	5 668 232	2 767 342	406 761	45 733	2 429 233	18 697	466
<i>Percentage</i>	<i>100,000%</i>	<i>48,822%</i>	<i>7,176%</i>	<i>0,807%</i>	<i>42,857%</i>	<i>0,330%</i>	<i>0,008%</i>
Sul	4 125 995	3 268 473	114 591	22 956	679 023	40 936	16
<i>Percentage</i>	<i>100,000%</i>	<i>79,217%</i>	<i>2,777%</i>	<i>0,556%</i>	<i>16,457%</i>	<i>0,992%</i>	<i>0,000%</i>
Centro-Oeste	1 575 131	562 411	93 563	15 753	807 096	96 256	52

Source: IBGE (2011j)

same reality, are dependent by politically different points of view (political parties, union movements, confessional entities). As Lima emphasises, actual political movements, especially in the field of the environmental problem, have come up with new social identities, such as *povos da floresta* [plant people], *pescadores artesanatais* [fishermen], *mulheres da floresta* [women of flora] or even *população tradicional* [traditional population], “mas não como caboclos” [but not as *caboclos*] (Lima 2009: 28). Finally, terminological impreciseness brings various concepts in use for indicating the same reality, which is not reducing the complexity of the hyper-complex system, but increases complexity or at least makes the analysis more and more difficult. Basically the concept implies five different parameters to 'become' part of traditional population, which are (1) equal historical-cultural identity of nature ethic, (2) certain way how the population is related to nature, (3) the typical different ways of exploitation of forest and agricultural products, (4) the way of traditional fishing in rivers, lakes and lagoons, (5) and, last but not least, as a consequence of public policy making. The first parameter refers obviously to the indigenous people and the



leftover *quilombo* communities, whilst the second one is attached to the *ribeirinhos* [riverine people] and the so-called *camponeses históricos amazonicos*<sup>367</sup> [historical Amazon peasants].

### The Brazilian development regime and the Amazon

Problems in outlining the Brazilian development regime arise from the beginning. First of all, we find many other regimes, which are hidden behind the supposed clear and undeniable empirical facts. As the exegeses about the territorial and the cultural regime could show, manifold aspects come into play when looking behind the scenes. The other problem touches the structure of the chapter, which probably should be two chapters – and not. The two regimes, let's call them the Brazilian development regime and the Amazon development regime are highly entangled, as they are connected to the worldwide predominance of specific compromises and agreements. Finally, I have decided to not distinguish what obviously belongs together, paying the price of less structure for the benefit of an all-encompassing, or rather over-arching, picture.

According to World Bank information the income share of the richest 20% of the population is 33 times higher than the corresponding share of the poorest 20%, giving Brazil one of the highest levels of income inequality in the world. (...) About 12%<sup>368</sup> of income inequality in Brazil is accounted for by skin color, reflected in disadvantages in wages, schooling or both. (...) Inequality also varies widely according to region in Brazil. For example, poverty rates range from 3.1% in metropolitan São Paulo to more than 50% in the rural north and northeast, notably in the states of Pará and Maranhão.” (Cornejo et al. 2010: 3) Using the mapping of regions in Brazil already made distinctions between North and Northeast versus Southeast and South find evidence in the GDP (Gross National Product). As to be expected, only the region Southeast (São Paulo Rio de Janeiro among others) produces more than 50% of Brazil's total GDP (EIU 2008: 24). Economic calculations (i.g. from the World Bank) as well as IBGE census surveys must deal with the bias of a continuing large, highly unregulated informal sector, that doesn't pay taxes, finances itself on a very low level, but intervenes into and influences the third party suppliers and the agricultural sector. Prior to trade liberalization and at the time of chronic price instability, so before the 'Plano Real' of 1994, the IBGE stated, that “13% of Brazil's GDP was generated in the informal or unregistered economy.” (Henley et al 2009: 995) Market-liberal economic forecast for Brazil is provided by the Economist Intelligence Unit (EIU) in May 2011. In consideration of Dilma Rousseff's victory in the past presidential elections, EIU assumes continuity in terms of macroeconomic policy orthodoxy and an expanding role for the state. Policy tightening will slow GDP growth from 7.5% in 2010 (EIU 2011: 9) to 4.0% (forecast) while inflation will ease towards 4.5% in the forecast period. Contemporary deficit will rise from 2.8% of GDP (2011) to 3.7 – 4.0% within the election period (until 2015). Because of the unity of a multi-party and ideologically-diverse coalition, which secures a majority in Congress, debated reforms of the political system won't be too ambitious and hence not

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<sup>367</sup> This expression is connected to the term of *caboclo*.

<sup>368</sup> For comparison purposes the percentages of the United States are 2.4%. (Cornejo et al. 2010: 3)

be able to resolve Brazil's main problem of government inefficiency. In February 2011 monthly GDP growth was at 0.3%, so the EIU report expects no change in the future. (EIU 2011: 3)

As mentioned, the outlined, strongly influencing time of colonisation found its important echoing impression in this area. The two mentioned aspects, Land property and concentration on the one hand and coloniality, the reproduction and historical heritage of colonisation, on the other hand have strongly influenced the contemporary environmental regime as will be seen in the next chapter. To the territorial and cultural regime the economic regime is to add, or rather, the development regime in Brazil and the Amazon. Particular debates about the definition and understanding of the key term 'população tradicional' [traditional population] in development law and legislature have to be considered in this context. Whilst the chapter about the cultural regime could show, that poverty distribution, or rather the distribution of environmental goods which leads to unequal distribution of Environmental Bads, is connected with the racial concerns in a broader sense, this chapter aims to show, how this is done. Since the environmental question is closely combined and unresolvable bound to the question of land property and annexation which finally touches all questions of social challenges and threats that can be found in this field, one must ask for the values and the valued objects in the Legal Amazon, natural and human resources, soil conditions etc. As a matter of fact, in the last 500 years Brazilian society adopted a process of territorial occupation based on indiscriminate use of natural resources (Treccani 2006: 201), in particular wood, but also cacao [*Theobroma cacao*], cloves [*Eugenia Caryophyllata* Thunb], oilseed of vanilla [*Vanila Edwalli*], anchiote [*Bixa Orelana* L.], cannimon [*Cinnamomum Ceylandicum*], indigo blue [*Indigofera suffruticosa* Mill] (Treccani 2006: 131-132) and climbing undershrub [*Herreria Sarsapilla*] (Simmonds 2006: 448). This has to be seen in the context of the "hegemonic Eurocentric paradigms that have informed western philosophy and sciences in the 'modern/colonial capitalist/patriarchal world-system'<sup>369</sup>" in the same period assuming "a universalistic<sup>370</sup>, neutral, objective point of view." (Grosfoguel 2008: 3) As mentioned above, this process led to a loss of 93% of the Atlantic Forest and further devastation in other areas of Brazil's South and Southeast in the first half of the 20<sup>th</sup> century. (Alencar et al. 2004: 11) The same model<sup>371</sup> was adopted in the Amazon in terms of resource use with a focus on export, but not in terms of structure building. (Santos 1980: 182) The focus of

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<sup>369</sup> Grosfoguel 2005; 2006, quoted by: Grosfoguel 2008: 3

<sup>370</sup> Western philosophy and the rushing 'modern science' was able to produce „a myth about a *Truthful Universal* knowledge that conceals who is speaking, as well as, obscuring the geo-political and body-political epistemic location in the structures of colonial power/knowledge from which the subject speaks." (Grosfoguel 2009: 14) This myth of 'universality of man' just was possible because of the resources flow that came from the colonized countries to the east, as Mignolo confirms. (2000: 29)

<sup>371</sup> As Santos states, "pode ter-se idéia da estrutura geral da economia. Esta parece estar reduzida a somente dois setores ativos. Com efeito, mais da metade da renda provém do setor primário, onde é eminente a participação da extração vegetal; e quase outra metade é detida pelo terciário, no qual domina o comércio de mercadorias; o setor secundário é praticamente insignificante para a geração de renda." [may have general idea of economy structure. This seems to be dropped to only two active sectors. Indeed, more than half as income derived from the primary sector, where the participation of eminent extraction plant, and almost half are owned by the tertiary sector, which dominates trade in goods, the manufacturing sector is almost negligible for the generation of income.] (1980: 179)

the applied development regime in past was – as said – rather establishing temporary occupation to exploit the natural resources to their end, rather than to permanently possess the land (Galvão 1955: 15-16). This created roots for short term profit thinking and exhausting resource use in the Amazon until today as part of the contemporary coloniality. Development and its strategy based basically on the withdrawal of natural products as provided by nature, but people have been left in pre-capitalist relationship, reproducing poverty and dissipation of natural resources. In the 20<sup>th</sup> century, politics of regional development have been enacted such as the convention the federal states of Pará and Amazonia in 1911 and the Plano de Defesa da Borracha<sup>372</sup> [plan of defense of natural rubber] in 1912.

Beginning with the first government period of Getúlio Vargas (1930 – 1945), substantial redirection of public politics in 'Amazônia Legal' has been carried out. By declaring the 'Estado Novo' [New State], a process of centralisation in regards to both all kinds of political regimes and planning of regional development was initiated. This led to more direct intervention of the national government into economic processes and into the regulation of work, namely working rights. Workers became organised along the corporative, so within governmental constraints. In creating this highly regulated system of labour relations for the formal sector. Unions were founded at the local level in forms of federations of unions, confederations of federations rather providing services to workers than engaging into collectively organized strikes and negotiations. (Cornejo 2010: 4) A central part of Vargas' 'national reconstruction' was the integration of the Amazon, arguing that the end of Amazon's isolation may be of benefit for the whole nation (Oliveira 1991: 84). During the second period of Vargas' presidency (1950 to 1954), the 'Superintendencia de Valorização da Amazonia' (SPVEA) [super administration of the valorization of the Amazon] was created, basing on Art. 199 of the 'Constituição dos Estados Unidos do Brasil' (enacted at September 18, 1946) . In this article, the execution of the 'plano de valorização economica da Amazonia' [plan for economical valorization of the Amazon] was outlined as an investment of annually three percents of the contributed taxes over the next twenty years by the national government. And further,

“Parágrafo único - Os Estados e os Territórios daquela região, bem como os respectivos Municípios, reservarão para o mesmo fim, anualmente, três por cento das suas rendas tributárias. Os recursos de que trata este parágrafo serão aplicados por intermédio do Governo federal“

[Sole Paragraph - States and Territories of the region, as well as the respective municipalities, to reserve the same order every year, three percent of their income tax. The funds mentioned in this paragraph shall be implemented through the federal government] (Vianna 1946). As part of these politics, Getúlio Dornelles Vargas announced his 'Discurso do Rio Amazonas' [discourse on river Amazonas] in Manaus, the capital of federal state Amazonia, in 1940 in order to end the isolation and underdevelopment state. (Oliveira 1991: 84) Due to the Contract of Washington and Law No 4,451 at July 1942, the 'Banco de Crédito da Borracha' [Credit Bank for rubber] was founded by both Brazil and the United States of America. In the 1950s then the national government created the 'Banco de Crédito da Amazonia' [Credit Banc of Amazonia] as part of the

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<sup>372</sup> In the meaning of a return to mono-cultural rubber extraction.

'Primeiro Plano Quinquenal' [first five year plan] (1955-1959). This plan was established under government of Juscelino Kubitschek and measured the available resources and gave birth to central co-operations such as the contract signed between SPVEA and the Food and Agriculture Organisation of the UN surveying the forest resources<sup>373</sup>. (Oliveira 1991: 88) On the administrative side, the number of municipalities as government's smallest units grew from 1,889 to 2,766 within the decade from 1950 to 1960 as result of these efforts (IBGE 2011k). During the two decades military dictatorship (1964-1985) Vargas' policy of national integration of the Amazon continued based upon the expansion of high finance by centralising decisions and elaborating policies that

“privilegiaram a ocupação do espaço amazonico por parte das grandes empresas. O mercado internacional passou a ser ainda mais a mola propulsora das demandas económicas, fazendo com que a antiga oligarquia comercial fosse paulatinamente perdendo poder em favor do capital internacional e nacional, sendo obrigada a se associar a este”

[privileged the occupation of Amazon space for big enterprises. The international market became the driving force of the economic demands.<sup>374</sup> The antique commercial oligarchy gradually lost their power in favour of the national and international capital, obligated to associate themselves with those] (Treccani 2006: 203). In 1966 the 'Superintendencia de Desenvolvimento da Amazonia' (SUDAM) was founded to substitute the 'Superintendencia do Plano de Valorização Economica da Amazonia' (SPVEA) and the 'Banco de Crédito da Amazonia' was transformed to the 'Banco da Amazonia' (BASA) with objective to promote the above named plan for economical valorization of the Amazon. This intervention by national government was accompanied by financial inducements for huge infrastructure projects (harbours, roads and barrages<sup>375</sup>). Especially roads had a very strong impact on both development and land concentration. Financed by beneficial credits of BASA, the roads gave access to earlier not accessible land, which not only pushed the process of land allocation and concentration, but also guaranteed the necessary capital for enterprises to establish them at the new markets. As Pinto states, the impacts of the policy of financial incentives in regards to the concentration of land ownership led to ground conflicts, depopulation, ecological devastation and the maintenance of a climate of permanent social tension is already sufficient respected. (1987: 7) The consequent contradiction between the territorial and environmental regime, so public policies of territory occupation on the one hand and on the other hand the protection of the natural environment in the Amazon, is mentioned in consideration of the contemporaneous beginning international and national environmental debate by Cunha who states that “[n]as décadas de 50 e 60, a criação de unidades de conservação no Centro-

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<sup>373</sup> The result of the survey based research permitted to reveal resources by commercial deforestation and industrial usage of any specie with possibility to commercialize and transport in a strip of 1,700 km beginning at the river Maracacumé (federal state Maranhão) to the river Madeira (federal state Amazonia) by crossing federal state Pará. Silva 1987: 31-32)

<sup>374</sup> cf. also Lima (2009: 7)

<sup>375</sup> The creation of the 'Centrais Elétricas Brasileiras S.A.' (Eletrobrás) at June 11, 1962 (Bursztyn et al. 2008: 122) is worth mentioning in this context, since contemporary great projects such as the barrages in Belo Monte at river Xingu basin for electrification purposes are based on Eletrobrás' initiative among others (ISA 2011c).

Oeste e a efetivação da primeira Floresta Nacional na Amazônia, a FLONA de Caxuana, estavam associadas ao processo de transferência da capital nacional para o interior do país e à política de abertura de estradas” [in the 50's and 60's, the creation of conservation units in the Midwest and the activation of the first National Forest in the Amazon, the FLONA Caxuana, were associated with the process of transfer of national capital into the country and the policy of openness road] (Cunha et al. 2003: 47).

The fast dissemination of the Sustainable Development notion during the 1970s and 1980s in Brazil shifted the scale of prioritised actions from Brazil's developed South and Southeast (and a problematic Northeast and Amazonia) to (growing) interest for the Amazon region.<sup>376</sup> As well, administrative penetration continued as the number of municipalities increased by 43.77% (to a total of 3,991 municipalities) (IBGE 2011k) and major confederations are created such as the 'Força Sindica' (FS) [Unionized Force], the 'Confederação Geral dos Trabalhadores' (CGT) [General Workers Union] and most importantly the 'Central Única dos Trabalhadores' (CUT) [Central Workers Confederation]. Since the mid 1980s, originating in São Paulo a major change organized labour forces in Brazil, pushing for freedom when unions in that area started bargaining in collective strike and engagement, and culminating in the formation of the CUT as well as the 'Partido dos Trabalhadores' (PT) [Workers Party], which rules Brazil now. (Cornejo 2010: 4) As consequence, the formulation and implementation of the environmental regime in Brazil was more and more influenced by the interaction between ideas, values and strategies of action undertaken by various social and societal actors. The state continued to be the instance where decisions are negotiated and:

“em que conceitos são instrumentalizados em políticas públicas para o setor. A transformação no processo de instituição de políticas voltadas ao controle e mitigação dos problemas ambientais – redefinindo prioridades, arranjos institucionais e padrões de relação entre organismos estatais e não estatais – resultaram na necessidade de se repensarem as estratégias de gestão política”

[in which concepts are exploited in public policies for the sector. The transformation in the institution process of aimed policies to controlling and mitigating environmental problems - redefining priorities, institutional arrangements and patterns of relationship between state and non-state agencies - resulted in the need to rethink the strategies of political management] (Cunha et al. 2003: 43). After the collapse of military dictatorship on March 15, 1985 land struggles, in particular in the Legal Amazon, and specifically in the south of federal state of Pará, west of Maranhão and the north of Tocantins, turned out to become increasingly violent, giving space for opportunity seekers from other regions for clandestine activities in the left vacuum of governmental power, namely smuggling, drug trafficking and illegal extraction. This was caught up by the gold rush that captured the area in the 1980s. (Keck/Hochstetler 2007: 146) One year after the presentation of the Brundtland Report, Brazil's new Federal Constitution of 1988 was historical caesura in law. Regional (Amazonia Legal and the Northeast), local (municipalities, communities etc.) and the natural heritage in Brazil turned out to become the focus. Consistent with Brundtland, Art. 225 of the 1988 Constitution proclaimed that

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<sup>376</sup> cf. Cunha et al. 2003: 48-50)

“Todos têm direito ao meio ambiente ecologicamente equilibrado, bem de uso comum do povo e essencial à sadia qualidade de vida, impondo-se ao Poder Público e à coletividade o dever de defendê-lo e preservá-lo para as presentes e futuras gerações”

[Everyone is entitled to an ecologically balanced environment, and the common use and essential to a healthy quality of life, imposing upon the State and society the duty to defend and preserve it for present and future generations](Paulo 2005: 162-163). In 1989, the Instituto Brasileiro de Desenvolvimento Florestal<sup>377</sup> [Brazilian Institute of Plane Development] (IBDF) was transformed into the Instituto Brasileiro de Meio Ambiente e Recursos Naturais Renováveis [Brazilian Institute of the Environment and Renewable Natural Resources] (IBAMA), which became responsible for all conservation units. Because of security concerns of the Brazilian military forces, the national government established in the decade of the 1990s the Sistema de Vigilância da Amazonia [System of Amazon's Surveillance] (SIVAM) and the Sistema de Proteção da Amazonia [System of Amazon's Protection] (SIPAM), that had relevant part of monitoring and controlling Amazon's environment (Cunha et al. 2003: 53). Nevertheless, as consequence of the applied development regime, the deforestation of the Amazon proceeded in the immediate decades since the 1960s at a rate of 11,000 km<sup>2</sup> a year of legal and illegal 'clearing the jungle' and has been answered by growing social conflicts on the basement, especially by indigenous organisations<sup>378</sup>. These organisations criticised both missing demarcation of indigenous territory and illegal deforestation of their lands. As answer to the critiques of deforestation of the Amazon, the government decided to coordinate a project called Zoneamento Economico e Ecologico [Economical and Ecological Zoning] (ZEE) for the Amazon region, launched, financially supported and technically assisted by the seven richest countries in the world after the Earth Summit 1992 in Rio de Janeiro. The Programa Piloto para a Conservação das Florestas Tropicais Brasileiras [Rain Forest Pilot Project] (PPG7)<sup>379</sup>, which was co-initiated by the German government in 1992, was established

“zur Ausweisung der Indianergebiete<sup>380</sup> (PPTAL381), das Naturressourcenpolitikprogramm (NRPP), die Demonstrationsprojekte für nachhaltige Ressourcennutzung durch soziale Bewegungen und indianische

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<sup>377</sup> Created by decree-law No 289/67 in 1967 the IBDF was „vinculado ao Ministério da Agricultura, assumindo a missão de formular e executar a política florestal, a aplicação do Código Florestal e a proteção e conservação dos recursos naturais renováveis“ [bound to the Ministry of Agriculture, assuming the task of formulating and implementing forest policy, the implementation of the Forestry Code and the protection and conservation of renewable natural resources] (Bursztyn et al. 2008: 133).

<sup>378</sup> Among other examples, Ricardo tells about the Índio Txucarramae of the indigenous tribe Kayapó in the north of Mato Grosso, who went to Brasília in May 1984 to speak with the Minister of the Interior, Mário Andreazza, „depois que seus guerreiros bloquearam por mais de um mes a rodovia BR-080 que liga Xavantina e Cachimbo (...) pelo fato do governo nao ter demarcado, conforme prometido, uma área de acréscimo ao seu território, na margem direita do Xingu“ [after his warriors blocked the BR-080, that connects Xavantina and Pipe, for more than one month, since government has not marked, as promised, the area of their territory based on the rights of the Xingu] (Ricardo 1996: 90).

<sup>379</sup> 43% of the total budget of 350 million US\$ is paid by the German government which therefore has specific interest in the outcome of this project. Other payers are the European Union (ca. 24%), Great Britain (ca. 7%), the USA (ca. 5%), Japan, the Netherlands and France. Brazil's interest is about 10%. The six biggest sub-projects contain 65% of the total budget and are mainly paid by the German government. (cf. Scholz 2002: 6)

<sup>380</sup> The establishment went at that time along with stakeholder conflicts within Brazil's society. Ministry of External Affairs' (Itamaraty) approach to remove the project “Demarcação de Terras Indígenas' do contexto do PP-G7”

Gruppen (PDA/PDPI), die Förderung der nachhaltigen Waldbewirtschaftung durch Gemeinden und Privatunternehmen (Promanejo), die nachhaltige Bewirtschaftung der aquatischen Ressourcen (Provárzea) und das Management zusammenhängender Naturschutzgebiete (Ökokorridore). Die Projekte werden in Amazonien und in den Restgebieten des atlantischen Küstenwaldes (Mata Atlântica) durchgeführt”

[for extension of Indian areas (PPTAL), the program for natural resource policies (NRPP), pilot projects for sustainable resource usage of social movements and Indian groups (PDA/PDPI), the support of sustainable woodland use by communities and private enterprises (Promanejo), the sustainable use of water resources (Provárzea) and the management of related environmental protection areas (eco-corridors). The projects are conducted in the Amazon and in the remaining areas of the Atlantic Forest] (Scholz 2002: 5-6). The problem is not just that as such. The Amazon region has multifaceted biodiversity as well as a great heterogeneity of social actors, which look back to a history of centuries, decades or short in that area. Difficulty to clearly define the different stakeholders suggests considerations about the nature of the conception too, as both the Amazon environmental and development regime work with the concept of *população tradicional* to define rights to land and resources use. Various actors are subsumed in the concept,

“de acordo com cada região do Brasil, apresentando traços culturais que a diferenciam da população que está em seu entorno; são comunidades tradicionais os 'povos indígenas', as comunidades 'remanescentes de quilombos', os 'caboclos ribeirinhos', as 'comunidades tradicionais urbanas', as 'populações tradicionais marítimas', que se subdividem em 'pescadores artesanais' e os 'caiçaras', entre outras”

[according to each region of Brazil, with cultural traits that differentiate the population that is around them, they are the traditional communities' indigenous peoples' communities' quilombola, 'the' riparian caboclos', the 'traditional urban communities', the 'traditional maritime people', which are subdivided into 'fishermen' and the 'native population', among other] (Santana et al. 2005). Many laws refer to this, especially those related to the named categories, such as the definition of traditional communities of *quilombolas* in Art. 2 of the Federal Decree No 4,887 of November 20, 2003 or the handling, managing and protection of the environment in Art. 62 of the Environmental Crimes Law (No 9.605/98) or culture in Art. 215 and 216 of the Federal Constitution of 1988 or in combination of indigenous land rights and right to sustain their local culture Art. 23 of Federal Law 6,001/73, that considered:

“o território indígena, ou seja, toda a terra por eles ocupada, dando-lhes direito ao usufruto exclusivo das riquezas naturais e de todas as utilidades nelas existentes, utilizando-as para seu sustento e preservação de sua identidade cultural”

[the Indian territory, or rather, all land, occupied by them, gave them exclusive right to fruitful usage of natural resources and all existing utilities in it, in order to retain and preserve their cultural identity] (Benatti 1996: 124-125). The problem is, that the conceptual question of traditional population or *população local* [local population] is not clearly answered, but made flexible. (Murrieta et al. 1995: 51) Opposite to the term 'indígena' [indigenous], to which is referred in laws, other racial attributions (such as mulatto or *caboclo* aren't in the development legislature too). This flexible definition implies five different parameters in

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[Demarcation of Indigenous Lands in the context of PP-G7] was answered by indigenous protest correspondence. (Ricardo 1996: 70)

<sup>381</sup> Projeto Integrado de Proteção às Populações e Terras Indígenas da Amazônia Legal

accordance to Treccani (2006: 25): (a) the historical-cultural identity of natural ethics such as indigenous people and remaining communities of *quilombo*, (b) the way the population is related to nature as riverine population and 'historically Amazon peasants' (meaning *caboclos*), (c) the different ways of forest and agriculture exploration, (d) the exploration of resources in or close by the rivers such as fishermen (or also *vazanteiros*), and (e) as consequences of recent public policies of regional occupation such as colonists. Therefore economic development strategies generally have problems achieving targets of equitable wellbeing growth, even if aimed. As Keck and Hochstetler point out, many federal programs have tried to establish industry, such as cattle ranching, logging, mining and soy farming, and people there, but scarce governmental resources and lack of implementation ability have often made them end in land and power conflicts. (2007: 146)

The distribution of land, access, benefits, protection and readjustment would require terms that clearly define the disadvantaged and marginalised. Established concepts such as 'traditional population' still aren't sufficient. Whether this definition is intended or meant to include such 'flexibility' or not, must remain open here. Without giving adequate proof for that, one may assume that it has been the same reason as for the Sustainable Development concept in order to achieve the broadest possible consensus in a field of stakeholders, which have antagonistic interests (such as enterprises and indigenous populations). Looking for the economic facts in the Amazon and particularly in Pará, one thing is undeniable: wood extraction continued to be the basic element of development beside of mining. The GDP of federal state Pará is R\$ 39.15 million, which is just 5% of the state of São Paulo (R\$ 727,057 million), even though the former state is the second biggest state in the territory (1,247,690 km<sup>2</sup>), bigger is only Amazonas state. Population density in Pará is much higher than other states in the region North, mainly concentrated a few cities<sup>382</sup> and towns. (Cornejo 2010: 5) Many early small farmer settlements organised by INCRA among others, in Pará failed quickly, "causing their settlers to join others in pushing back the frontier, only to be expelled by force from their new lands by the hired guns of land grabbers from Minas Gerais, São Paulo, Paraná, and Goiás." (Keck/Hochstetler 2007: 145-146)

Extracting industry in Pará is both important source for the GDP (14% of the state's GDP is represented by the mining sector) and source of large social problems: Unequal land tenure, land expropriation, environmental degradation, lack of employment, lack of infrastructure, poor health and safety, inequality and power imbalances. Pará's exports base mainly on iron-ore, which is 31.1% of total export), 22.2% is the aluminium part, legal deforestation is 13.5%, bauxite ore (8.3%) and other ores (7.9%). (EIU 2008: 65) The

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<sup>382</sup> In the biggest city, Belém, capitol of federal state Pará, located at the Pará River, 33.95% of the whole population (2.1 million) are settled there. This is equal to a HDI (Human Development Index) of 0.81 and 0.14 more than the rest of the state. (Cornejo 2010: 5)



bauxite ore stands for over 80% of the country's bauxite extraction<sup>383</sup>. In a broader context, Brazil's bauxite extraction is globally only surpassed by Australia.

In contemporary time, labour Unions are strongly developed in all Brazil. They are not just focussed on industrial workers, but on agricultural and white-collar workers too. Nevertheless, labour organisers, social activists, even missionaries that are struggling on the side of the voiceless are often badly treated (legally and violently). In the rural areas of some Amazon states even killing may happen regularly without further charges. Most prominent example happened in 2005 in Pará, when 73 year old missionary of the order 'Soeurs de Notre Dame de Namur' Dorothy Stang was murdered after struggling to protect a piece of jungle that ranchers wanted to clear for logging and cattle ranching. Legal structures haven't done much to find the truth. As a matter of fact, the murderers were freed referring to the independence of juridical procedure. International pressure called for correction, but as recently as in 2008 a Brazilian court renewed trials for those accused to be the murderer. Therefore, federal state Pará gives the “most graphic illustration of the absence<sup>384</sup> of effective, accountable local government and the ceaseless contestations of socio-environmental claims – and disregard for their proponents.” (Cornejo et al 2010: 5) This is also true regarding NGOs, in particular large ones. Some NGOs defend the adoption of preservationist policies, proposing the creation of UCs, where traditional populations are excluded even though living in the forest for generations and depending on it for survival. As Keck and Hochstetler tell, when the WWF came along with a proposal of how to preserve 10% of – as they assumed – most valuable parts of the Amazon, their representatives “were adamant that the parks to be included in the 10 percent should have no people in them, as if there were no one there.” (Keck et al. 2007: 149)

#### 4.2.3 Summary

Consequently, the mentioned geographic distance of the Amazon region to highly productive regions in the south (speaking in monetary terms only) must be amended by 'mental distance' of those that are interested in that region. Therefore conclusive geographic inequality must not be observed separately from a mainstream view of this 'mental distance' in theory and method. Even in sociological research, various terms indicate the same reality trying to describe the diversity of the conception used. This applies as well to terms like *campones* [peasant] and rural worker (Almeida 1994). In consideration of this, one can assume, that – similar to the concept of Sustainable Development – social science and legislation has not clearly defined this and other principle concepts for comprehensibly political reasons, for which plurality in the conceptions (sic!) of *posse* [property, occupation] has responsibility too as Benatti adds (1996: 56). The author carries on stating,

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<sup>383</sup> These mines as well are one of the most pressing problems in federal state Pará. Without naming it an Environmental Justice conflict, the authors are pretty clear by defining their field problem: land conflicts, indigenous rights and the environment. (Cornejo et al. 2010: 6)

<sup>384</sup> As Keck state, “Very few public officials in any sector, or at any level of government, want to be posted outside the state of national capital: The Amazon seems more manageable from a distance.” (2007: 149)

that each conception is responding to different economical, social, juridical and specific environmental needs. (Ibid) Benatti sees the problem in assuming a general theory of possession which is flagged by a bias of this general applicable global theory of 'posse', in particular regional applications. (cf. Ibid: 53-55) He concludes that the Brazilian *Código Civil* [civil code] is a codification of some possibilities and not a general theory for all kinds property manifestation. (Ibid: 56) As Ricardo and Lima stress, a new law is required and must take in consideration to “garantir o reconhecimento das suas diversidades e das enormes diferenças entre os processos de reconhecimento de direitos na relação com o Estado” [ensure recognition of their diversity and vast differences between the processes of recognition of rights in relation to the State] (2005: 2). Furthermore, the re-regulation of land ownership structure touches the main principles of both underlying modernisation concepts plus related theories and visions of nature preservation. In this new law, one must consider the acceptance of different forms of resources use, which will offer juridical security to the traditional population “para garantir o desenvolvimento sustentável” [to ensure Sustainable Development] (Treccani 2006: 27). Without mentioning, Treccani agrees to the results of Hurtienne, who emphasized that governmental based approaches for a “‘ordentliche’ Landwirtschaft nach europäischem oder südbrasilianischem Vorbild” [‘proper’ agriculture by the European or southern Brazilian model] adjusted the “Verdikt der ökonomischen Ineffizienz und der ökologischen Nichtnachhaltigkeit” [verdict of economic inefficiency and environmental non-sustainability] to a ‘slash-and-burn shifting cultivation’ without sustainable effect as will be outlined later on. (Hurtienne 2005a: 1) In finding reasons for this failure, scientific discussions tend to a more regional point of view. “The main limiting factors are less ecological knowledge and management expertise than the efficacy of the management and land tenure policies and institutions through which management plans are developed and implemented.” (McGrath 2008: 679) Though, community based initiatives such as the Proambiente Program, that seek to capture the value of ecosystem services in smallholder settlements (Rodrigues et al. 2007) became en vogue. Since the socio-economic, racial but also gender and the specificum of the location as categories have a strong influence on the allocation of Environmental Goods and Environmental Bads of burdens faced by different individuals as well as different located or assembled groups which environmental juridification based upon the above assumption disregards. Jason Sharman argues that even global governmental approaches are powerless against the ‘weapons of the weak’, as used by NGOs, small island states or mediaeval ‘hold-overs’ (2003: 2). As a result, the more isolated an area, the more specified or regionalized are the opportunities and necessary solutions for waste management. This new understanding of regionalism as a way of overcoming national constraints, transforms the “‘architecture of regionalism’ to better address the region’s major development[al] difficulties” (Ibid: 1). This new ‘architecture of regionalism’ can constitute a solution to managing environmental problems that cannot be resolved in distance, meaning by global and metropolitan governance as “the enforcement of environmental laws has been diffuse since responsibility is often lost within the confusing environmental bureaucracy of the government.” (Cornejo 2010: 6) Concluding one can

confirm, that the environmental question in Brazil is strongly attached and influenced by the three outlined regimes. Territorial, cultural as well as development regime have had a reciprocal impact either way. The territorial regime created a broad range of stakeholders that base their land claims on customary law, thus customs of taking possession of land. Long time struggle for land rights against natives and smallholders, enforced and supported by the government in favor of the economical powerful (such as large companies), created both, a culture of semi lack of rights for the weak and view of the Amazon region as Brazil's "Wild West" (Cornejo 2010: 5). Without any quasi control by any government in the time of the *conquista*, this understanding wouldn't surface, as the entangled cultural regime created from the bottom up legitimacy for such unequal treatment combined with a development regime that favours a 'more' of the market as the solution to overcome the state of underdevelopment. One aspect within the debate that is underestimated in my opinion: Are the efforts of civil society sufficient? As a matter of fact, governmental institutions haven't been able to regulate the market created inequality properly. Corruption and institutional failure can be seen as symptoms of this disability. Research has rather focused on the problem set of environmental conscious, behaviour, the research of sustainability notions and nature comprehensions than on the origins of social differentiation of environmental burdens. Undeniably, the failure of the market to ease growing social disparities as part of capitalist development is due to global and national market constraints, consequently a result of the capitalist system itself and its inherent market constraints. Coming back to Groß' announced budding beginning of an environmental sociology in early Marx (2001: 38), basis and superstructure are – in order to describe the environment regime properly – central, but also the question of class in itself and class for itself, and consequently the question of objective and subjective interests. This contains not only the separation of institutions versus the various stakeholders in the field and worldwide too, but tries to separate different social classes in the conflict and the conflict itself as analytical tokens. Actions of all stakeholders, the economically powerful, the governmental institutions and the local population must be seen as combined via the division of environmental burdens and benefits and consequently are part of both the problem and the solution. Central to the environmental question are questions of who is the civil society in the regional context, what are their needs, what are their demands and – most of all – what are their undertaken efforts? Since historical heritage of both foreign colonisation and Brazilian made coloniality in the Legal Amazon was governed by stakeholder struggles and sovereignty of definition, the struggle for a proper environmental regime must be seen in consideration of the established regimes and history of administrative penetration in the meaning of environmental executive and legislation, but also in recognition of specific civil society responsibility. The following chapter seeks to describe the environmental regime in the continuing 'top-down' line, ending up on the local level of field research, where the regime will find its completeness by confronting the 'regime in distance' with a local understanding of the environmental problem set. Considering Elver's procedural research paradigm in outlining class related conflicts inclusive of their side

effects, this work ends with a turnover when 'top-down' changes to 'bottom-up' in reflecting the regionally found data in the abstract, theoretical framework.

#### 4.3 The environmental regime in Brazil

Two momenta<sup>385</sup> have been most central for construction and constitution of the environmental regime in Brazil: The Constitution of 1988 and the period after ECO 92 in Rio de Janeiro. From 1991 to 2000, governmental and administrative penetration achieved its highest level in total (5,507 municipalities in all Brazil) and its second highest growth (1,061 municipalities) since the census was implemented in 1950. More was just in the time of building the New State and the beginnings of military dictatorship from 1960 to 1970 (a growth of 1,186 municipalities in number). (IBGE 2011k) As outlined, Brazil's governmental policy in the past was based on the construction of industrial capitalism by playing the role of an agency of territorial nature conditions in favor of the process of accumulation, in which the “interações entre estruturas física e social e as relações desiguais de poder influenciam o uso e acesso aos recursos naturais e fazem da noção de território categoria fundamental na discussão da questão ambiental” [interactions between physical and social structures and unequal power relations influence the use and access to natural resources and make the notion of territory a fundamental category in the discussion of environmental issues] (Cunha et al. 2003: 44) As Acsehrad points out, “políticas ambientais implícitas” [implicit environmental policies] can be characterized on three levels: First, by the administration of conflicts caused by the appropriation of natural resources generated by the expansion of capitalist exploration, such as the incorporation of land (as outlined above), programs of colonization, implementation of projects in areas of land speculation, non-sustainable commercial exploration of wood, document forgery of land property or biopiracy. (2009: 124) Second, by structuring so called 'general conditions of capitalist production', such as the Código de Águas [Water Code]

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<sup>385</sup> For the purpose of this study one must take into consideration the judicial conception that understands the fundamental rights in terms of 4 (four) 'right generations': These have been – in short – the first generation which created the value of liberty by implementing public liberties and its political rights in the 17th to 19th century based on the Magna Carta of 1215, Treaty of Westphalia after the 30 year war (1648), the 'Habeas Corpus Act' of 1679, the Bill of Rights in 1688 and both the American (1776) and French (1789) Declaration. The second generation introduced the social, cultural and economical rights, in particular equality rights during the European Industrial Revolution in the 19th century. Activators came this time from the basement instead of the superstructure, so movements such as the Paris Commune in 1848. Official documentation are in the Weimar Constitution and the Contract of Versaille in 1919 (both). The third generation or dimension (in consideration of contemporary preferences in the debate) of fundamental rights are known as the 'new rights' coming from new problems such as environmental preservation and consumer protection difficulties. In this dimension men became part of collective conscious BTW consciousness (in terms of Durkheim's 'organic solidarity') creating rights of solidarity. Finally, the 4th 'right generation' is seen as a consequence of in earlier 'generations' already granted rights and progresses in the field of genetic engineering. (Lenza 2008: 588-589) As Noberto Bobbio puts it: Members of the 4<sup>th</sup> generation “já se apresentam novas exigências que só poderiam chamar-se de direitos de quarta geração, referentes aos efeitos cada vez mais traumáticos da pesquisa biológica, que permitirá manipulações do patrimônio genético de cada indivíduo.” [already have new needs, that could only be called fourth-generation rights, referring to the increasingly traumatic effects of biological research that will allow manipulation of the genetic heritage of each individual] (Fachin/Silva 2010).

of 1934 (Ibid: 125) or the Programas de Controle da Poluição do Ar por Veículos Automotores [Programs of Air Pollution Control for Automotives] (PROCONVE) (Ibid: 127), „que fixa os valores limites do monóxido de carbono, hidrocarbonetos e óxidos de nitrogênio“ [fixing the limits of carbon monoxide, hydrocarbons and oxides of nitrogen] and created in 1986 (Souza Júnior 2007: 162), defining certain levels of 'legitimate pollution' appropriate for a coexistence “entre as distintas unidades de acumulação constituídas em torno de atividades industriais” [between the different units of accumulation built around the industrial activities] (Acselrad 2009: 125). Last but not least, offering collective consumption goods for mediation between both the needs of the urban population and the environment. The shown three levels demonstrate clearly, that the focus of the environmental regime in Brazil, as started in the 1930s, concentrated rather on the abstract market than on human well-being's development. In consideration of the outlined international institutionalisation and definition of the concept of Sustainable Development in recognition of Brazil's special role as spokesman of the self defined 'Third World' (cf. United Nations Environment Programme 1982) and in respect to terms of explicit environmental policies construction, a closer look to the institutional structure inside of Brazilians environmental regime will give information about how environmental law is constituted, procedurally and in process. Principally, the Instituto Brasileiro do Meio Ambiente e dos Recursos Naturais Renováveis [Brazilian Institute of the Environment and Renewable Natural Resources] (IBAMA) is responsible for the implementation of environmental policies with the federal government as coordinator and executer.

“Conseqüentemente, programas, fundos e UC386s, vem sendo por esse Instituto gerifos. É o caso do Programa Nacional do Meio Ambiente/PNMA, um programa de grande porte, e o PPG-7, programa da cooperação internacional, cujo objetivo principal é o de gerar experiencias pioneiras que conciliem o desenvolvimento económico sustentável com a conservação das florestas tropicais”

[Therefore, programs, funds and UCs, have been created by this Institute. This is the case of the National Environment / PNMA, a large program, and the PPG-7, a program of international cooperation, whose main objective is to generate pioneering experiments that reconcile economic development with sustainable conservation of tropical forests] (Quaresma 2000: 61). These institutional programs – on the other hand – seemed to have appeared practically very little in the past (Souza/Siqueira 1999: 44/45). In praxis, new insights have led to new policy and institutional frameworks for an ecosystem-based approach of management. Key-term in this debate for a more effective handling of the environmental question is *co-management*. Co-management means in this context the responsible participation opportunity of the local population. According to the Fourth National Report from the Convention on Biological Diversity “In 2008, 158 Community Management Plans and 522 small-scale Individual management Plans were mapped in the Brazilian Amazon, all approved. Of the projects supported by the Ministry of the Environment, it is estimated that 40% follow formally prepared management plans and the remainder apply traditional resource use practices.” (DCBio 2010: 198) Since the available data is not structured to properly assess the degree of

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<sup>386</sup> Unidades da Conservação [Conservation Units]

environmental sustainability, they call for additional data collection and further analysis to define target achievement states. One study has been undertaken by Almeida, who proved in her Ph.D thesis, “that these lake management regimes are having a significant effect on the productivity of local fisheries” (McGrath et al. 2008: 689) and “that while fishing activity in the two types [managed and not-managed lakes – not of the author] of lakes was essentially the same, on average fishing in managed lakes was 60% more productive.” (Ibid: 690, cf. Almeida et al. 2009: 66) As the authors conclude, the failure of a difference in fishing activity, but in productivity seems to cause the exclusion of large fishing boats from lakes with fishing agreements indicating that “fishing agreements can have a positive effect on floodplain fish population despite great seasonal variation of water level and the movement of fish between floodplain and river.” (Ibid) Participatory approaches as part of Amazon's environmental regime are a response to both the unresolved problem of a truly sustainable development in the meaning of economic growth with an absolute minimum of environmental abuse and regional conflicts of the so called 'traditional population'. As will be outlined in more detail, when talking about the Conselho Gestor [Management Council] on the APA Algodoal-Maiandeuá as part of this environmental strategy, three main questions for floodplain management have to be properly answered in order to achieve success: stakeholder representation, institutional structure and co-management policy. This set will be furthermore considered with the framework in which the positive result as outlined by the authors has been possible, such as the origin of the concept out of the grassroots movement of floodplain communities, that (illegally) “took control of local lakes and implemented collective agreements regulating fishing activity” (Ibid: 677), let's call this 'civil society' in the meaning of Emile Durkheim, the approval of agreed terms by the legal authority (Ibid: 689) and – last but not least – the fact that the researched floodplain areas have been monitored by the federal body IBAMA, not, as on APA Algodoal-Maiandeuá, by the state-based Secretaria do Meio Ambiente [Secretary of the Environment] (SEMA) in Pará with significantly less financial capacity than their federal counterpart.

#### 4.3.1 Environmental legislation

Brazil's path of environmental legislation is based on the planning concept adopted by three domains: Federal government, state and municipality. (Quaresma 2000: 44) As Quaresma states further, the term of 'adopted planning' refers to a dimension of mobilisation but as well to the maintenance of the *status quo*. (Ibid: 56) Generally, the constitution refers to (6) six principles as identified by Sampaio: (1) The principle of international equality, (2) the principle of precaution, (3) the principle of prevention, (4) the principle of responsibility, (5) the principle of information, and (6) the principle of participation. Among them, the principle of precaution (number 2), as the authors state on the same site, requires “ênfase especial, fato nao apenas qualitativo” [special emphasis, not only qualitatively] (Sampaio et al. 2003: xi), which determines “que o ato potencialmente poluidor não seja praticado quando não se possam mensurar as suas

conseqüências, no espaço ou no tempo, para o meio ambiente” [that the potential pollution act is not carried out if consequences for the environment cannot be measured in space or time] (Brandão 2011: 2). In the Constitution of the Federal Republic of Brazil (República Federativa do Brasil, RFB) chapter VI, art. 225 about the environment, defines in six paragraphs the right of all “ao meio ambiente ecologicamente equilibrado, bem de uso comum do povo essencial à sadia qualidade de vida, impondo-se ao poder público e à coletividade o dever de defendê-lo e preservá-lo para as presentes e futuras gerações” [to an ecologically balanced and common use of the people essential to a healthy quality of life, imposing on government and public the duty to defend and preserve it for present and future generations] (Paulo 2005: 162-163), as regulated by the Laws No 6,938/81 and No 7,804/89 (National Politics of the Environment), Law No 7,735/89 (Instituto Brasileiro do Meio Ambiente e dos Recursos Naturais Renováveis – IBAMA), Law No 7,797/89 (Fundo Nacional do Meio Ambiente [National Fund for the Environment]) and the insertions I-III and VII of Law 9,985/2000 (Institui o Sistema Nacional de Unidades de Conservação da Natureza [Establishing the National System of Nature Conservation Units])<sup>387</sup>. Paragraph (§) 1 brings up the important distinction in Brazilian environmental law between restoration and preservation, in which the principle of preservation (see above) is considered. With the application of this principle, it is possible to foresee the consequences of a self-initiating, determined act, pursuing with or repaying it. (cf. Ibid: 163) Furthermore, the paragraph adjusts the duties of the governmental bodies such as the duty to preserve and repair the essential ecological processes and to take care of an ecological treatment in regards to the species and the ecosystem (insertion I) and – based on Law 8,974/95 – the duty to control the production, commercialisation “e o emprego de técnicas, métodos e substâncias que comportem risco para a vida, a qualidade de vida e o meio ambiente” [and use of techniques, methods and substances which endanger the life, the quality of life and the environment] (insertion V). (Ibid) Furthermore, the promotion of environmental education on all levels is regulated in insertion VI. The last insertion of §1 concludes a serial of environmental laws in regards to preventing natural abuse and animal cruelty and the duty to promote fauna and flora (Law 9,985/2000 [partly], Law 5,197/67 (Código de Caça [Wildlife Code]), Law 4,771/65 (Código de Florestal [Flora Code]), insertions II and VI of §1 of Law 8,974/95 and the Decree – Law 221/67 (Código de Pesca [Fishing Code])). §2, regulating the important aspect of mining, which is a predominant concern in consideration of the past and contemporary path of development in the Amazon (Decree – Law 227/67, Código de Mineração [Mining Code]), and §6, Sistema de Proteção ao Programa Nuclear Brasileiro [System of Protection for the Brazilian Nuclear Program] – SIPRON based on Decree – Law 1,809/80 and Decree 2,210/97, are of less importance for the researched field, which is neither a mining area nor close to nuclear power plants. Of central importance are the two remaining paragraphs. §4 regulates (among others) the Amazon forest and all coastline zones as a “patrimônio nacional” [national heritage] (Ibid: 164), which can just be used – generally – within conditions that ensure the preservation of the environment including the use

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<sup>387</sup> cf. Law 2000

of natural resources. Referring to Law 6,938/81 (Política Nacional de Meio Ambiente) [National Policy of the Environment], Law 7,437/85 (Disciplina a ação civil pública de responsabilidade por danos causados ao meio ambiente, ao consumidor, a bens e direitos de valor artístico, estético, histórico, turístico e paisagístico (vetado)) [Discipline for public civil action of responsibility for caused damages to the environment, to the consumers, to the goods and rights of artistic, aesthetical, historical, touristic and scenic value (vetoed)] and the Provisional Measure 2,186 – 16/2001, which will be discussed in more detail in the next sub-chapter as it detects as well the specific indigenous legislation), the most relevant law for the given field is Law 6,902/81 (Criação de estações ecológicas e áreas de proteção ambiental) [Creation of ecological locations and areas of environmental protection] which claims in the constitution of Brazil the creation of APAs. The second and last remaining paragraph (§5) combines the the necessity to protect the ecosystems, the proscription of discrimination and the non-availability of “terras devolutas ou arrecadadas pelos Estados” [vacant or governmentally seized lands] (Ibid) in application of Law 6,383/76 (Processo discriminatório de terras devolutas da União) [Discriminating process of vacant lands of the Union (the Brazilian Country)], Decree – Law 1,414/75 and Law 6,925/81 (Processo de ratificação das concessões e alienações de terras devolutas na faixa de fronteiras) [Ratification process of concessions and alienation of vacant lands at the border line], Decree 87,620/82 (Procedimento administrativo para o reconhecimento da aquisição, por usucapião especial, de imóveis rurais compreendidos em terras devolutas) [Administrative routine for the recognition of the acquisition, especially usucapion, of rural property in vacant lands] and Decree-Law 9,760/46 (Sobre os bens imóveis da União) [About the property goods of the Union]. These last two paragraphs are the basis for all further law implementation as they represent the highest law in Brazil, from which down to the smallest unit certain state and municipality laws are formed. In seeking an approach to that what can be the environmental regime in Brazil, one can state at that point, that the formal legislative regulations include the highest standard for considering the broad variety of the environmental problem set.

In regards to the international institutionalisation and definition of the key terms as outlined above, one can clearly observe the influence of the 1972 Stockholm Declaration on behalf of the Brundtland Report (1987) in Brazil's recent Constitution. The link to the future generations in the introduction to this article (225) as well as the returning attempt to combine environmental preservation with limits to disproportionate economical growth. On the other hand, at least one paragraph (§5) of the constitution shows some concerns in regards to the discrimination aspect, which could apply to an island with (also) indigenous people like the islands Algodual and Maiandeuá (see above), linked to the environmental problem set. On the macro level, the federal government in the shape of the President's Office, the Ministry of the Environment and the Ministry of National Integration with contributions from the nine Amazon states (Acre, Amapá, Amazonas, Maranhão, Mato Grosso, Pará, Rondônia, Roraima, and Tocantins) and public consultations involving approximately 6,000 people in the Brazilian Amazon Region developed the Sustainable Amazon Plan (PAS – Plano Amazônia Sustentável) as part of the federal project called Programa Áreas Protegidas da Amazônia



[Program Protected Areas in the Amazon] (ARPA). Seeking to harmonise economical development with the sustainable use of natural resources in consideration of socio-cultural and ecological diversity and in order to reduce regional social inequality, the main principles of the Law contained the valuation of regional socio-cultural and environmental diversity, the promotion of deforested area usage and shared management of public policies (cf. McGrath et al. 2008: 678), consideration and protection of traditional people's territory rights and the expansion of regional infrastructure, whilst “combating illegal deforestation” (DCBio 2010: 186) by at least “[i]nitially considered illegal” action (McGrath et al. 2008: 680) And further, the report gives some examples of policies and actions being implemented under these guidelines such as the Regional Sustainable Development Plan for the Area of Influence of Highway BR163 as an attempt to avoid illegal deforestation and land grabbing, the Sustainable Territorial Development of the Marajó Archipelago (Pará) in creating a mosaic (MMA 2011g) of protected areas around the BR163 and the *Terra do Meio* region or actions of the Citizenship Territory Program (McGrath et al. 2008: 680). Beside the question, inasmuch the given federal laws are finally applied on the regional level, in recognition of the indigenous background of the inhabitants on island of Maiandeuá, but on island Algodóal too, later on this paper will take a deeper look for the legislative regulation of Brazilian indigenous people in order to better understand the regime which is applied in the Amazon considering the claim, that Brazilian regulations, even in Environmental Justice matters, are made for indigenous people, *quilombos* and *caboclos* by a certain class of (mainly) white Brazilians (cf. Souza 2008: 187). Even more, the challenge that “the declarations of the Brazilian state as a racist institution in itself are stages of racial relationship in Brazil”, which “have coexisted and been updated since their conception”, opened effective political action by the “the Brazilian myth of racial democracy” that still denies the existence of difference, racial debates and racial mobilisation. (Ibid: 186) This must be seen in the context of Brazil's status as a flawed democracy too, which show high civil liberties (9.41) and highly functioning electoral processing (9.58) but weakness in political culture (5.63) that leads to a democracy index overall score of just 7.38388 (EIU 2008: 8) Some indications for a the claim of racial distribution of environmental burdens by not preventing environmental destruction is published by the Instituto Socioambiental [Socioenvironmental Institute] (ISA). ISA refers to the fact, that in 1992 already 431 of 510 registered indigenous areas (84%) have been invaded for economic reasons, but responsible governmental institutions “nao tem recursos para pagar as indenizacoes “which why “os índios estao sofrendo retaliacoes”(Ricardo 1996: 70) and give – without using the term of Environmental Justice – provable evidence for that possibility.

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<sup>388</sup> This is – as Cornejo et al. state, „ahead of most of its neighbours in Latin America, including Costa Rica and Chile, both of which rank among the highest in the region.” (2010: 2)

### 4.3.2 Environmental Police

Generally, the term 'Environmental Police' might be misleading, as one cannot count it as a separated unit, but a section of the different police forces such as federal police, military police and civil police. These sections are related to the appropriate legislative body, the state in case of civil and military police, the federal state in regards to the federal police. The one which can be applied depends on the organisation responsible for the certain protected area. So we have to speak about a division of the civil police, a battalion of the military police and a department created in 2009 within the federal police called 'policía ambiental federal' [national environmental police] (PAF). These institutions are working separately within the already existing organs for environmental crime elucidations in their area of observation, be it the civil, military or federal responsibility. Considering the above named critique in regards to the 'institutional disappearance' a deeper look for the legislative given capacity for the executive authority concerning the protection of the environment will be provided as useful to paint a broader picture of the frame. According to Hely Lopes Meirelles, generally, the “poder de polícia age através de ordens e proibições, mas, sobretudo, por meio de normas limitadoras e sancionadoras”, “pela ordem de polícia, pelo consentimento de polícia, pela fiscalização de polícia e pela sanção de polícia” [police power acts through orders and prohibitions, but, above all, by limiting and sanctioning standards, by order of the police by consent of the police, police surveillance and punishment of police] (Meirelles 2008: 141). The environmental regularities vary by the definition of the protection area and will be outlined in more detail by specifying the frame of APA Algodal-Maiandeuá.

### 4.3.3 Ecological Movements

The second authority of execution are certainly the ecological grassroots movements that come from a different origin, but are playing a very important role in the environmental regime internationally and in Brazil in particular since ECO 92. Their progressive impact, especially in the Amazon area, cannot be neglected (cf. Bernardes et al. 2003: 34) , when looking for some positive signals in participatory management of lower Amazon floodplains, “contributing to more efficient use of local resources and also to maintaining the basic ecological processes” (McGrath et al. 2008: 693), which are based on grassroots activity. The struggles of such movements have without any doubt turned attention in the world, but in Brazil as well, “de um discurso ambiental de ambito governamental” [as an environmental discourse in the governmental area] (Acselrad 2009: 124). When talking about the development of ecological movements, three periods can be distinguished: The first one is called 'ambientalista' [environmentalist] phase (1974 to 1981), the second, characterised as 'transição' [transition] went from 1982-1985 and the third phase is running since 1986 until contemporary times. In the 'environmentalist phase', movements unveiled environmental degradation in cities whilst alternative rural communities were created. The second one was

labelled a “grande expansão quantitativa e qualitativa dos movimentos da primeira fase” [major quantitative and qualitative expansion of the movements from the first phase] (Bernardes et al. 2003: 37). After 1986, the majority of the ecological movements began to participate in the parliamentary arena.<sup>389</sup> Viola (1987) turns to the fact, that the Brazilian Bourgeoisie in general rejects the ecological discourse, leading to the instance of a “penetração mais ampla da preocupação ecológica nas classes mais populares” [penetration of the broader ecological concerns in the popular classes] (Bernardes et al. 2003: 37). Therefore, the authors stress the positive dynamics especially by the force of NGOs in the Amazon (Ibid.: 38) and point out most of all contradictions to Santos who is optimistic in regards to the future of the relation between science, technology and nature, benefiting from a more equal relation within the society, stating that the

“mesma materialidade, atualmente utilizada para construir um mundo confuso e perverso, pode vir a ser uma condição da construção de um mundo mais humano. Basta que se completem as duas grandes mutações ora em gestação: a mutação tecnológica e a mutação filosófica da espécie humana”

[same material, currently used to build a world of confusion and perversion, may become a condition of building a more humane world. Just to supplement the two major changes now in development: technological change and changing philosophy of the human species] (Santos 2000: 174, in: Ibid: 39). This view is disagreed by contemporary EJ research in Brazil, such as Ari Souza, who states, that Brazilian environmental research has not “brought up a consistent racial analysis able to support actions to redress race-based environmental injustice.” (Souza 2008: 186) He further states, that the “Brazilian Network for Environmental Justice, as the one which claims such nomenclature, has been led by whites, mainstream, southeast, eco-Marxist oriented organizations and people” (Ibid: 187) and this claim can be turned to Bernardes et al. too<sup>390</sup>. The role of grassroots is important, but when talking about ecological movements it seems reasonable to distinguish between the grassroots, “concerned with excessive commercial fishing pressure on local fisheries” (cf. McGrath et al. 2008: 678) and their declared or self-declared representatives. The question is, as Ricardo asks, “Quem fala em nome dos Índios” [Who speaks in the name of the Indians]? (Ricardo 1996: 90), in the more general context here, 'who claims to speak for those deprived by status, race or gender?', especially in consideration of the specific “role played by lawyers in the fight for” Environmental Justice as Souza points out (2008: 186).

#### 4.3.4 Classification of (environmentally) protected areas

Unidades de conservação (UCs) [Conservation Units] “são áreas especialmente protegidas destinadas primordialmente à conservação da natureza e ao uso sustentável dos recursos naturais” [specially protected areas are intended primarily for nature conservation and sustainable use of natural resources] (IBAMA /

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<sup>389</sup> There is a chronological parallel to the three eras in constructing the Brazilian wide environmental regime as we know it today. In both cases, since the end 1980s a continuing process of consolidation basing on the foundations created before.

<sup>390</sup> See also their eco-marxist approach as outlined in their conclusions (Bernardes et al. 2003: 39)

WWF Brasil 2007: 15). UCs are one of basically four types of protected areas in Brazil, to which belong as well Terras Indígenas (TI) [Indigenous Lands], Reservas Legais (RL) [Legal Reserves] and Área de Preservação Permanente (APP) [Area of Permanent Preservation]. (Barros 2010: 13) All of them “podem ser estabelecidas pelo governo no âmbito federal, estadual e/ou municipal” [can be established by governments of the national, federal or municipality realm] (Bensusan 2006: 55, Filho 2006: 87). The Sistema Nacional de Unidades de Conservação [National System of Conservation Units] (SNUC) was established in 2000 by Brazilian Federal Law No. 9,985/2000 to regulate the creation, implementation and management of UCs properly. This law also defines two distinguished groups “[d]e acordo com o Artigo 7o do SNUC” [in accordance to Article 7 of SNUC] (Leray 2010:43), “as públicas e as particulares ou privadas” [those that are classified as public and others which are classified as particular or private units] as Leray emphasises (2010: 42). First, conservation units of integral protection (Unidades de Proteção Integral<sup>391</sup>, UPI or just PI) and units of sustainable use (Unidades de Uso Sustentável<sup>392</sup>, UUS or just US). UPI are defined as areas with the objective to protect the nature and therefore are featured with more restrictive directives. They are rural areas protected by the Código Florestal [Forest Code], Federal Law No 4,771, created September 15, 1965. Art. 1 of the Forest Code states clearly:

“As florestas existentes no território nacional e as demais formas de vegetação, reconhecidas de utilidade às terras que revestem, são bens de interesse comum a todos os habitantes do País, exercendo-se os direitos de propriedade com as limitações que a legislação em geral e especialmente esta Lei estabelecem”

[The forests in the national territory and other forms of vegetation, which is recognised as the lands that line, are goods of common interest to all inhabitants of the country, putting up property rights to the limitations that the law in general and especially this law establishes] (Law 2011). In these areas only the indirect use of natural resources is permitted meaning a use that doesn't involve consumption, collection and damaging of these. Examples for indirect use are, according to the Ministry of the Environment (MMA), recreation in contact with nature, ecological tourism, scientific research, education and environmental interpretation among others. (MMA 2011d) Therefore these type of conservation units are called 'conservation units of indirect use'. These UCs occupied in October 2001 about 2.26% of Amazon's biome. (Filho 2006: 86) Units of UUS, on the other hand, are aimed at conciliating nature conservation and using parts of its natural resources sustainably, therefore are named 'conservation units of direct use', These are “as florestas nacionais (...) com 2,56% do bioma amazonico” [the national flowers with 2.56% of Amazon biome]. (Ibid) In this category, the collection and use of the resources is permitted, “mas desde que praticadas de uma forma que a perenidade dos recursos ambientais renováveis e dos processos ecológicos esteja assegurada” [but since

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<sup>391</sup> “cuja finalidade é preservar a natureza onde o uso de seus recursos naturais é admitido exclusivamente em casos especiais previstos na lei, sendo, porém, facultado seu uso de modo indireto” [whose purpose is to preserve nature where the use of natural resources is allowed only in special cases provided by law. This is, however, provided by its use in an indirect way] (Leray 2010: 43).

<sup>392</sup> “onde o objetivo é utilizar seus recursos de modo racional em sintonia com a natureza” [where the objective is to use their resources of rational mode in tune with nature] (Leray 2010: 43).

practised in a way, that environmental sustainability of renewable resources and ecological processes is assured] (MMA 2011d). In 2002 former president Fernando Henrique Cardoso created the *Áreas Protegidas da Amazônia* [Protected Areas of the Amazon] (ARPA), protecting about 10% of Brazil's Amazon (Filho 2006: 87). Five years later, the area was quasi doubled, containing then 50,1 million ha (date 22<sup>nd</sup> of June 2006) by an increase of 20 million ha since the beginning of the presidency of Lula da Silva in 2003 (Ibid: 86). In June 2007 19,97% of the protected territory of Legal Amazon<sup>393</sup> [*Amazônia Legal*] was defined as UCs, according to the Socio-environmental Institute (ISA) [Instituto Socioambiental]. 9,89% have been marked as federal units, 10,08% have been declared state-run units. (ISA 2011a) According to the data base of the Ministry of the Environment (MMA) 23.27% of the Amazon is preserved in Conservation Units, of which 9.45% are Conservation Units of integral protection (UPI) and 13.83% in Conservation Units for sustainable use (UUS), which probably include the conservation units of all municipalities too (3.3%). (MMA 2011e) In the following two types will be outlined in more detail: TI and UCs. Why is that? First of all, the APA Algodoal-Maiandeuá, the field of research, is a declared UC, so all applied legislation in the field works within this environmental regime. The next chapter will completely focus on the legislation of UCs and the relevance of the various tapes. But why discuss the legislation of TIs in Brazil, even though the islands Algodoal-Maiandeuá are not declared as Terra Indígena (TI). One reason is the specific local populations in the conservation unit Algodoal-Maiandeuá. There must be more than one spoken of<sup>394</sup>. The overview over indigenous legislation will later on give some important analytical options to better interpret the situation. So, this examination is made in advance to the debated problems of defining key terms. Another aspect is made in recognition of the self-awareness of the local inhabitants (partly) as indigenous people, considered as such in literature as well (cf. Loureiro 1987: 12, Nascimento 1989: 79, Quaresma 2000, Kaufmann 2003: 62) and the obvious physiognomy of these inhabitants on Algodoal-Maiandeuá<sup>395</sup>. (cf. Ricardo 1981: 28) As can be said in advance, some fundamental rights made in response to the struggle of representatives of and indigenous tribes themselves are becoming considered in the general environmental legislation too, especially the approach to finding a possibility to preserve and value the knowledge of indigenous people or in consideration of the land question. Consequently the existing legal base, not even applied in the field, will show the undertaken endeavors of the government to give right to the deprived people, which is important to consider, especially because the pioneering task Brazil has in this context too (see below). Finally, indigenous legislation in Brazil shows legal concerns regarding the central

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<sup>393</sup> *Amazônia Legal* is the region defined by Federal law No 5,173/66, that encompasses the totality of the states Acre, Amazonas, Roraima, Rondônia, Pará, Amapá, Mato Grosso and Tocantins as well as partly the state of Maranhão. (ISA 2011a)

<sup>394</sup> The problematic definition of terms such as *população*, *população tradicional* and *população indígena* as a term, a concept or a stigma has been approached in the context of *Amazônia Legal* [Legal Amazon], to which, with particular interest on federal state Pará (Treccani 2006).

<sup>395</sup> Furthermore, the culturally passed on narrative of a cobra shaping princess on the islands Algodoal-Maiandeuá, which the indigenous population in particular can tell, can be led back traditional legends of the indigenous tribes in the Amazon, like the *Cobra Grande* [Great Cobra].

environmental justice matter: environmental racism. In order to appraise the situation of whether or not such a thing exists in an institutional matter, this excursus is reasonable. APP and RL will be presented briefly just for the sake of completeness of the contextualisation.

#### 4.3.4.1 Terra Indigena (TI)

International indigenous legislation has its origins in the convention about indigenous people by the UN based International Labour Organisation (ILO) in 1957 (and the critiques), the resolution of the Economic and Social Council (ECOSOC) in 1971, the important 'convention 107' of 1986, the UN based institution called Voluntary Fund for Indigenous Peoples founded in 1988 and – finally – the adopted convention 169 by the ILO conference in 1989 (for further reading ILO 1989) has to be spared at this point. According to Ricardo,

“[e]m 1988, embora sem coragem para declarar o país multiétnico e pluricultural, a Constituição brasileira reconheceu a diversidade na fórmula de reconhecer a organização social, os costumes, a língua, crença e tradições dos povos indígenas além do direito originário sobre as terras que habitam”

[In 1988, though without the courage to declare the multiethnic and multicultural country, the Brazilian Constitution recognised the diversity in the formula of social organisation recognition, customs, language, beliefs and traditions of indigenous peoples and the right to the lands they inhabit] (1996: 29). As he further conducts, these rights are considered in the Brazilian constitution in two articles, 231 and 232. (Ibid: 31) The former – and more important – article acknowledges the

“índios sua organização social, costumes, línguas, crenças e tradições, e os direitos originários sobre as terras que tradicionalmente ocupam, competindo à União demarcá-las, proteger e fazer respeitar todos os seus bens”

[Indian social organization, customs, languages, beliefs and traditions, and rights to the lands they traditionally occupy, incumbent upon the Union to demarcate them, protect and enforce all of its assets] in consideration of Law 6,001/73 (Estatuto do Índio) [Charter of Indian] (Paulo 2005: 167). The following seven paragraphs decree the detailed regulation. The permanent character of estate by lands including soil, rivers and lakes traditionally occupied by indigenous people, used for their production activity and indispensability of the preservation of the necessary natural resources for the well-being and their physical and cultural reproduction as well as their conventions, customs and traditions are considered in §§1 and 2. §4 states that these lands are imprescriptible and undisposable, and that their estate is irrevocable and §6 declares that any act with the objective to occupy estates or lands is null and void. (Ibid) Article 232 constitutes that the indigenous people, their communities and organizations are “partes legítimas para ingressar em juízo em defesa de seus direitos e interesses, intervindo o Ministério Público em todos os atos do processo” [legitimate arts to take legal action in defense of their rights and interests, the Public Prosecution intervening in all the acts of the process] (Paulo 2005: 168). The remaining paragraphs can be disregarded for the purpose of the given field, since they concern the required approval of the National

Congress (Congresso Nacional) to use the resources in such declared lands (§3), the acting constraints in case of catastrophes in indigenous territories (§5) and §7 regulates the articles 174 (State as ruler for economic activity), 30 (incumbent upon the municipalities) and 40 (servers holding positions in the Union, States, Federal District and Municipalities in order to assure the security scheme and to observe criteria that preserve the financial equilibrium) aren't applied to indigenous lands. Contemporary legislation focuses on preservation of and right to traditional knowledge by the indigenous and traditional communities. Based on the Convention on Biological Diversity (CBD), opened for signature at the ECO 92 in Rio de Janeiro and entered into force on 29 December 1993, with goal of conservation and sustainable use of resources considering the biological diversity and – even more importantly – a fair and equal sharing of the environmental goods which can be gained from genetic resources, „particularly articles 8j and 15 which address (...) traditional knowledge “ (Azevedo 2005: 1), “Brazil took on the responsibility to establish the rules for access to genetic resources under its jurisdiction and to protect traditional knowledge, of local communities and indigenous peoples, relevant to the conservation and sustainable use of biodiversity. ” (Ibid: 2) This is especially realized in the Provisional Measure (PM) 2,186-16/01, which created the Conselho de Gestão do Patrimônio Genético [Genetic Patrimony Management Council ] (CGEN) under the Ministry of the Environment (MMA). In accordance to the MMA, the CGEN is an organisation “de caráter deliberativo e normativo (...) no âmbito do Ministério do Meio Ambiente, é integrado por representantes de 19 órgãos e entidades da Administração Pública Federal<sup>396</sup> (...) com direito a voto” [of deliberative and normative in the area of the ministry of the environment. It is integrated for representatives of 19 organisations and entities of the public national administration with voting right] (MMA 2011c). PM 2,186-16/01 asks CGEN to “establish the criteria for the creation of databases for recording information related to traditional knowledge associated to biodiversity (genetic resources).” (DCBio 2010: 152) In its clause 16, § 9º, I, is instituted that “the authorization for access and shipment would only occur following the prior informed consent of the indigenous community entailed, according to the Official Indigenous Organization, whenever the access takes place in indigenous lands”. (Azevedo 2005: 5) Because of the delay<sup>397</sup> in the process of transformation from the PM to proper law, though CGEN tried to regulate PM 2,186-16/01 by publishing resolutions based on previous agreements and contracts, “but has not yet defined criteria for the

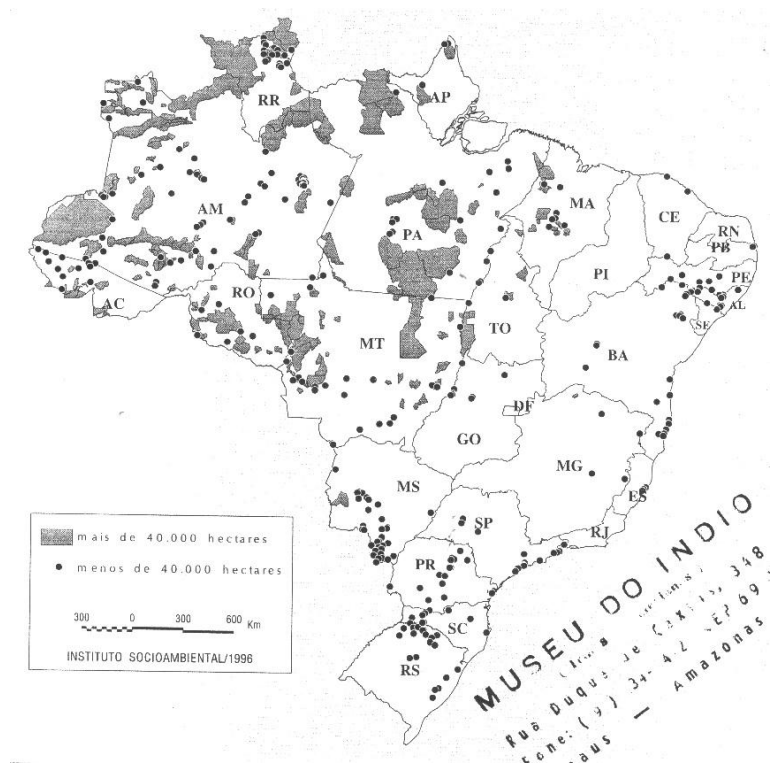
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<sup>396</sup> Ministério do Meio Ambiente; Ministério da Ciência e Tecnologia; Ministério da Saúde; Ministério da Justiça; Ministério da Agricultura, Pecuária e Abastecimento; Ministério da Defesa; Ministério da Cultura; Ministério das Relações Exteriores; Ministério do Desenvolvimento, Indústria e Comércio Exterior; IBAMA; Instituto de Pesquisa Jardim Botânico do Rio de Janeiro; CNPq; Instituto Nacional de Pesquisa da Amazônia; Instituto Evandro Chagas; Embrapa; Fundação Oswaldo Cruz, Funai, Instituto Nacional de Propriedade Industrial, Fundação Cultural Palmares [ministry of the environment, ministry of science and technologies, ministry of health, ministry of justice, ministry of agriculture, stock breeding and supply, ministry of defence, ministry of culture, ministry of external affairs, ministry of development, industry and external trade, IBAMA, institute of Botanic Garden Research of Rio de Janeiro, CNPq, National Institute of Amazon Research, Evandro Chagas Institute, Embrapa, Oswaldo Cruz Foundation, FUNAI, National Institute of Industrial Property, Palmares Culture Foundation]

<sup>397</sup> A bill based on Provisional Measure 2.186-16/01 was lodged by the CGEN to the President's Office in 2003. Since bills still require evaluation by the National Congress, and the analysis is still not yet finished, the process is paralysed. (cf. DCBio 2010: 152)

documentation of traditional knowledge.” (DCBio 2010: 152) To foster the process, CGEN organized in 2004 consultations and in 2006 a broader workshop with traditional and indigenous communities in order to debate the diverse aspects of traditional knowledge documentation. As a result of the workshop, the commission recommended the continuation of the process and qualified training of the communities to better participate in the discussions and consultations in regards to both the knowledge documentation and Provisional Measure as a whole. In consideration of the mentioned delay, CGEN decided to negotiate access to traditional knowledge associated with genetic resources on a case-by-case basis, “following the criteria and rules established by its Resolutions on the implementation of Provisional Measure 2.186-16/01” to protect traditional knowledge (Ibid: 153), such as the Resolution 05 demanding a prior informed consent for access to associated traditional knowledge for scientific research purposes, the demand of prior informed consent for access to associated traditional knowledge for bioprospecting or technological development (Resolution 06), the prior informed consent from local and indigenous communities for access to genetic heritage and scientific research (Resolution 09) and Resolution 12, that claims the prior informed consent for access to genetic heritage for bioprospecting or technological development, even if this efforts could handle the delay, without clearly defining “the heritage legal terms by Law, it will remain as an object of dispute among legal scholars“ (Azevedo 2005: 4).

Map 3: Indigenous territories in Brazil



Source: Ricardo 1996: 63



### Áreas de Preservação Permanente (APP) and Reservas Legais (RL)

In the following the two distinguished areas (APP and RL) will be outlined in separate chapters. Áreas de Preservação Permanente [Areas of Permanent Preservation] are created in accordance to Art. 2 of the Código Florestal [Forest Code], Federal Law No 4,771, created September 15, 1965. §2, II defines an APP as a

“área protegida nos termos dos arts. 2o e 3o desta Lei, coberta ou não por vegetação nativa, com a função ambiental de preservar os recursos hídricos, a paisagem, a estabilidade geológica, a biodiversidade, o fluxo gênico de fauna e flora, proteger o solo e assegurar o bem-estar das populações humanas”

[protected area in terms of arts. 2 and 3 of this Law, or not covered by native vegetation, with the environmental function of preserving water resources, landscape, geological stability, biodiversity, gene flow of plants and animals, protect the soil and ensure the well-being of human populations] (Law 2011). As Leray points out, these areas are created in covered and uncovered areas to protect vegetation in both urban and rural fields. Usually APP is distributed in specific locations such as “ao longo de qualquer curso d’água, no cume das montanhas e serras, nas caatingas, encostas com declive superior a 45o e em áreas situadas acima de 1800 m de altitude” [over the course of any water, the summit of the mountains and hills, in scrublands, hillsides with slopes greater than 45 and in areas located above 1800 m asl] (2010: 43). In opposition to APPs, Reservas Legais [Legal Reserves] (RL) are distinguished by law in the next inception (§1, III), that treats it as areas located on the countryside of a property or

“posse rural, excetuada a de preservação permanente, necessária ao uso sustentável dos recursos naturais, à conservação e reabilitação dos processos ecológicos, à conservação da biodiversidade e ao abrigo e proteção de fauna e flora nativas“

[rural possession, except for the permanent preservation, necessary for the sustainable use of natural resources, conservation and rehabilitation of ecological processes, biodiversity conservation and shelter, and protection of native flora and fauna] (Law 2011). They represent a private property, where it is forbidden to deforest unless a sustainable 'management plan' for the usage is approved.

“Segundo o Código Florestal a área de cerrado e 80% em áreas de florestas, enquanto que na área de ocorrência de mata Atlântica distribuída nas regiões sudeste, nordeste e sul, a reserva legal é de 20% da propriedade. Ainda de acordo com o Código Florestal, as RPPNs também são áreas particulares, criadas pelos próprios proprietários através de solicitação ao órgão ambiental do registro oficial da totalidade ou parte de seu terreno como reconhecida como uma RPPN, com a finalidade de preservá-lo em função de suas características cênicas e / ou importância ecológica.”

[According to the Forest Code of cerrado area and 80% in forest areas, while in the area of occurrence of the Atlantic forest distributed in the southeast, northeast and south, the legal reserve is 20% ownership. Also according to the Forest Code, RPPNs are particular areas, created by the owners upon request to the environmental agency of the official record of all or part of their land as recognized as a PRNP, in order to preserve it as a function with its scenic features and / or ecological importance] (Leray 2010: 43).

#### 4.4 Conservation Units (UCs)

Art. 225, §1, III of the Constitution installed Sistema Nacional de Unidades de Conservação da Natureza [National System of Nature Conservation Units] (SNUC) and defined “áreas protegidas de caráter público compreendem as denominadas Unidades de Conservação (...) instituído pela Lei Federal no 9.985 de 18 de julho de 2000” [protected areas of public character called conservation units in reference to Law No 9,985/2000] (Leray 2010: 43), Art. 2º, I, as territorial space with respect to the environmental resources, with goal to conserve and define limits for a special administration regime to apply appropriate guarantees of protection. In Art. 6º of the same Law SNUC is executed by the following organisation:

“I – Órgão consultivo e deliberativo: o Conselho Nacional do Meio Ambiente - Conama, com as atribuições de acompanhar a implementação do Sistema;” [Consultative and deliberative organisation: the National Environmental Council - CONAMA, with the duties of monitoring the implementation of the System;]

“II - Órgão central: o Ministério do Meio Ambiente, com a finalidade de coordenar o Sistema; e” [Central body: the Ministry of Environment, in order to coordinate the system, and]

“III - órgãos executores: o Instituto Chico Mendes e o Ibama, em caráter supletivo, os órgãos estaduais e municipais, com a função de implementar o SNUC, subsidiar as propostas de criação e administrar as unidades de conservação federais, estaduais e municipais, nas respectivas esferas de atuação. (Redação dada pela Lei nº 11,516, 2007)” [executing agencies: the Chico Mendes Institute and IBAMA, in a supplementary fashion, the state and municipal agencies with the task of implementing the SNUC, subsidize the proposals to establish and manage protected areas, federal, state and municipal governments, in their respective spheres of activity. (Wording given by Law No. 11.516, 2007)]

(Brandão 2011: 1)

##### 4.4.1 Legislation

Legislative (just decrees, not laws) and authorised organisations of the SNUC are the 'Instituto Chico Mendes de Conservação da Biodiversidade' [Institute Chico Mendes of Biodiversity Conservation] (ICMBio) and the IBAMA in order to control and monitor all kinds of UCs. In 2007, the federal government put into force Law 11,516/2007 to create the ICMBio by redistributing some competitions from IBAMA to ICMBio. In this law, insertions I, II and III of Art. 1 constrain the function of the former, which centered on environmental licensing. Most importantly, the law gave unlimited competences to the ICMBio regarding the

protection Conservation Units.<sup>398</sup> (Brandão 2011: 2) In order to control and manage them properly, certain conservation units (UCs) require a management plan according to Art. 27 of Federal Law 9,985/2,000 elaborated within five years after creation of the UC. A management plan is the

“documento técnico mediante o qual, com fundamento nos objetivos gerais de uma unidade de conservação, se estabelece o seu zoneamento e as normas que devem presidir o uso da área e o manejo dos recursos naturais, inclusive a implantação das estruturas físicas necessárias à gestão da unidade”

[technical document by which, based on the general objectives of a conservation unit, establishes its zoning and the standards that should govern the use of the area and natural resource management, including the implementation of the physical structures necessary for the management unit] (Art. 2º, XVII). This plan encompasses not just the area of the UC but also the specifically declared areas such as an ecological corridor or “a peripheral zone, called 'zona de amortecimento’<sup>399</sup> in Portuguese (...) with a more flexible use of resources defined through a specific management plan” (Briot et al. 2007: 186-187) as defined by Art. 27, §1. The named paragraph demands that the management plan “deve abranger a área da unidade de conservação, sua zona de amortecimento e os corredores ecológicos, incluindo medidas com o fim de promover sua integração à vida econômica e social das comunidades vizinhas” [should cover the area of the conservation unit, its peripheral zone and wildlife corridors, including measures to promote their integration into social and economic life of the surrounding communities] (Brandão 2011: 2) and establishes in §2, that in the elaboration, updating and implementing of the Management Plan of Extractive Reserves, Reserves for Sustainable Development, the *Environmental Protection Areas (APA)* and, where applicable, of the National Forests and Areas of Relevant Ecological Interest, *broad participation of the resident population must be assured* (sic!) (Maciel 2000). In consideration of Brazil as a federation of states, the so called 'fatherland legislation' in regards to the Environment [Legislação Pátria sobre o Meio Ambiente] in the Federal Constitution refers to Art. 23, that attributes in inception VI and VII the common competence for the Union (União) to the federal states, the districts of the national government and the municipalities to protect the Environment, to “combater a poluição em qualquer de suas formas” [fight the pollution whatever kind may appear] (VI) and to preserve the forests, the fauna and the flora (VII). Furthermore, Federal Law 9,985/2,000 clarifies in Art. 25 that conservation units except *Área de Proteção Ambiental* [Environmental Protection Areas] (APA) and *Reserva Particular do Patrimônio Natural*<sup>400</sup> [Particular Reserves of Natural Heritage]

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<sup>398</sup> „uma vez que determinadas condutas, a despeito de não praticadas dentro de Unidades de Proteção Integral ou de Unidades de Uso Sustentável, podem afetá-las diretamente. É o caso, por exemplo, de uma indústria que emite efluentes num rio situado fora da Unidade de Conservação, mas que a jusante ingressa na área protegida” [Since a certain behavior, despite not being practiced within the Integral Protection Units or Units of Sustainable Use, may affect them directly. This is the case, for example, an industry emits waste in a river outside the conservation area, but that downstream joins the protected area] (Brandão 2011: 2).

<sup>399</sup> This 'zone' is the environment of a conservation unit (UC) where the human activities are subjected to specific norms and restrictions proposing to minimize the negative impacts for the unit (cf. Art. 2º, insertion XVIII)

<sup>400</sup> RPPNs are „em áreas privadas, que averbam em cartório o compromisso de conservação ambiental dessas reservas” [in private areas, which endorsements office committed to conservation of these reserves] (Filho 2006: 87).

(RPPN) have to possess these areas. In the following, the legal basis of executive action to prevent and punish environmental crimes will be outlined. The latter will not be discussed in all detail, since the number of RPPNs in the Amazon is very little (Filho 2006: 87) and the focus of this piece is public areas, and especially the APAs.

#### 4.4.2 Executive authority

The given distinction between ICMBio and IBAMA in regards to the executive authority is considered in different laws by the legislative body. Regarding the Instituto Chico Mendes de Conservação da Biodiversidade, clauses are defined by Federal Law No. 11,516/2,007. The first article states the federal, financial and administrative autonomy of the ICMBio as an entity of public law associated with the Ministério do Meio Ambiente (MMA) [ministry of the environment], the possibility to execute national police actions for management, protection, control and monitoring of the UCs (cf. insertion I), to build and execute programs to do so (like research) and environmental education (cf. insertion III) and to promote and execute programs of public use and eco-tourism in the UCs in co-working with other involved organisations and entities (cf. insertion V). Insertion IV is of certain interest, since it is the only paragraph which can be executed by the Instituto Brasileiro do Meio Ambiente e dos Recursos Naturais Renováveis (IBAMA) as well. (Brandão 2011: 1) It allows to “exercer o poder de polícia ambiental para a proteção das unidades de conservação instituídas pela União” [exercise the police power to protect the environmental conservation units established by the Union] (Law 1989). Further competences of IBAMA are regulated in Art. 2 of the Federal Law No 7,735, created at February 22nd 1989, in which federal autarchy as a juridical personality of public law is given by the Ministério do Meio Ambiente including administrative and financial autonomy. Insertion I of the called article refers to that entity, whilst insertion II defines the area of IBAMA's execution competence as

“ações das políticas nacionais de meio ambiente, referentes às atribuições federais, relativas ao licenciamento ambiental, ao controle da qualidade ambiental, à autorização de uso dos recursos naturais e à fiscalização, monitoramento e controle ambiental”

[actions of national environmental policies, concerning federal powers relating to environmental licensing, environmental quality control, authorisation of use of natural resources and inspection, environmental monitoring and control] (Law 1989). One general problem in this predefined competence of direct environmental action by the government is the territorial delimitation of the ICMBio's competence. Effects which have impacts to units of PI or US, but are caused outside, cannot be prosecuted within this legal frame. The more problematic aspect in this environmental legislation appears in insertion III where IBAMA is authorised to “executar as ações supletivas de competência da União, de conformidade com a legislação ambiental vigente” [perform the actions subsidiary of Union competence, compliance with environmental legislation] (Ibid.). This results from the dual autarchy of ICMBio and IBAMA. Both institutions are

authorized to control and prevent environmental wrong-doing, so double investigations in the same case aren't unlikely, including the institutional impacts of unnecessary high resources use and therefore a higher chance of institutional failure in the particular cases because of excessive demands. From a more practical point of view, in reference to the use of environmental police forces, Brandão concludes, that one can extract from these that the environmental police force is used first by the ICMBio and just supplementary by the IBAMA. (2011: 2) Further, in order to prevent immediate damage IBAMA has to wait for a decision of ICMBio to act. In this constellation the responsibility to prevent the environment in conservation units is shifted to the civil society in order to match the environmental principles, since the institutional slackness cannot guarantee required action against the environmental abuse in time or space.

Table 14: Democracy index of Brazil 2008/2010<sup>401</sup>

	<b>Overall Score</b>	<b>Overall Rank</b>	<b>Electoral Process</b>	<b>Government Functioning</b>	<b>Political participation</b>	<b>Political Culture</b>	<b>Civil Liberties</b>	<b>Regime type</b>
<b>Brazil 2008</b>	7.38	41	9.58	7.86	4.44	5.63	9.41	Flawed Democracy
<b>Brazil 2010</b>	7.12	47	9.58	7.50	5.00	4.38	9.12	Flawed Democracy

Source (Brazil 2008): EIU 2008: 8  
 Source (Brazil 2010): EIU 2010: 4

Looking for Brazil's democracy index<sup>402</sup> this shift seems to be out of the frying pan into the fire. Obviously the weakness of Brazil's democracy lies less in democratic processings and given liberties than in weakness of the civil society. According to this table, one can state one of the central problems in the environmental regime: Since governmental processes are not working properly, required control from societal basement fails for some reason too, creating a situation of immobility in which governmental institutions try to put the effected population in charge of matching persons with little interest in political participation and culture. In the following research, specific attention has to be loaded on this fact! According to the EIU (Economic Intelligence Unit), the score has had a loss in score by 0.27 (cf. EIU 2010: 12) mainly because of a weakening in the political culture score and a loss in governmental functioning, which couldn't be covered by increasing political participation (+0.56). Brazil fell back to rank 47 of all considered 167 countries, of which are 26 (twenty-six) are declared as 'full-democracies', 53 (fifty-three) 'flawed democracies', 32 (thirty-two) 'hybrid regimes' and 56 (fifty-six) 'authoritarian regimes' (Ibid. 3-8) Because of the methodological bias (cf. Kaufmann/Hurtienne 2011) of the mainly used World Value Survey in general, in particular since "Indicators based on the surveys predominate heavily in the political participation and political culture

<sup>401</sup> Overall and component scores are on a scale of 0 to 10; overall rank is out of 167 countries.

<sup>402</sup> General critiques of such measurement of democracy are considered as the given results aren't taken for granted but as a circumstantial evidence for further research in the region itself.

categories, and” just “a few are used in the civil liberties and functioning of government categories”<sup>403</sup> (Ibid. 32), the information value must be used carefully.

#### 4.4.3 Forms of Conservation Units (UCs)

According to the Ministry of the Environment (MMA) there are twelve different types of conservation units in Brazil. These are Área de Proteção Ambiental<sup>404</sup> (APA) [area of environmental protection], Área de Relevante Interesse Ecológico<sup>405</sup> (ARIE) [area of relevant ecological interest], Estação Ecológica<sup>406</sup> (EE) [ecological location], Floresta (FLO) [forest], Monumento Natural<sup>407</sup> (MN) [natural monuments], Parque (PAR) [park], Refúgio de Vida Silvestre<sup>408</sup> (RVS) [wildlife reserves], Reserva Biológica<sup>409</sup> (REBIO) [biological reserves], Reserva Extrativista<sup>410</sup> (RESEX) [extracted reserves], Reserva Particular do Patrimônio Natural<sup>411</sup> (RPPN) [particular and natural heritage reserves], Reserva de Desenvolvimento Sustentável<sup>412</sup> (RDS) [sustainable development reserves] and Reserva de Fauna<sup>413</sup> (REFA) [fauna reserves]. As mentioned,

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<sup>403</sup> Furthermore they have used different surveys such as Eurobarometer surveys, Gallup polls, Asian Barometer, Latin American Barometer, Afrobarometer and other national surveys for completing the WVS at specific points, where answers are missing. As they state further „In the case of countries for which survey results are missing, survey results for similar countries and expert assessment are used to fill in gaps.“ (EIU 2010: 32) To this approach same critiques apply as outlined by Kaufmann and Hurtienne (2011) in regards to scientific rigor and methodological minimum requirements.

<sup>404</sup> APA corresponds to a large space, often with human occupation, which aims to direct the primary land use, to ensure sustainable use of natural resources of the site whilst protecting biodiversity and considering the diversity of the population with customs, cultures. (Leray 2010: 44).

<sup>405</sup> ARIE are characterized by a small space with little or no human presence, with rare biotic and biotic attributes of outstanding local or regional importance, aiming an administration directed to the preservation of ecosystems. (Leray 2010: 44).

<sup>406</sup> Defined for conducting scientific research and preserve nature. (Leray 2010: 43, related to Art. 8, Federal law 9,985/2000).

<sup>407</sup> Natural monuments (MNs) have as main purpose the preservation of natural sites of outstanding scenic beauty and special attributes. (Leray 2010: 44, related to the paragraphs 1 and 4 of Federal law 9,985/2000).

<sup>408</sup> RVS aim to the protection of natural environments that require specific conditions to ensure life and are used as a nursery for the reproduction of the species or community resident or migratory wildlife and local flora. (Leray 2010: 44, related to the paragraphs 1 and 4 of Federal law 9,985/2000).

<sup>409</sup> With aim to full preservation of natural resources by not admitting changes in the environment or human actions, except those management activities with aim to help recovering and maintaining the ecological balance of ecosystems. (Leray 2010: 43-44, related to Art. 8, Federal law 9,985/2000)

<sup>410</sup> This is an area where traditional populations develop diverse activities which highlight the creation of small animals and subsistence agriculture and extraction. It aims primarily to sustainability and protection of culture and life of the population occupying. (Leray 2010: 44).

<sup>411</sup> RPPN is a category of conservation unit that represents a privately hold area with purpose of biological diversity conservation, where regulatory provision may enable scientific research and visitation of character education, recreational and tourism. (Leray 2010: 45).

<sup>412</sup> “é uma área com grande diversidade biológica e recursos naturais, onde vivem populações consideradas tradicionais que utilizam esses recursos com sentido de preservação e sustentabilidade” [is an area with great biological diversity and natural resources, which are considered traditional living populations that use these resources with a sense of preservation and sustainability] (Leray 2010: 45).

<sup>413</sup> “corresponde a um espaço de domínio público utilizado, de acordo com o Artigo 23 do SNUC, pelas populações extrativistas tradicionais, observando que serão desapropriadas as áreas privadas situadas dentro de seus limites” [corresponds to a public space used, in accordance with Article 23 of the SNUC, the traditional extractive populations, noting that will be expropriated private areas located within its boundaries] (Leray 2010: 44-45).

several of them exist on all three administrative levels. FLO (floresta [forest]) and PAR (parque [park]) add an additional NA for nacional [national], ES for estadual (state) and MU for municipal [municipal]. In consideration of Federal law No 9,985/2000 (Law 2000) both § 1 and 4 of the Sistema Nacional de Unidades de Conservação (SNUC) describe PARs as

“um espaço físico de posse e domínios públicos enfatizando que serão desapropriadas as áreas nele inseridas, e que receberá a denominação de Parque Estadual ou Municipal conforme seja criado pelo Estado ou município respectivamente”

[a space of public land ownership and emphasizing areas that will be expropriated it entered, and receives the name of State or Municipal Park as may be established by the state or municipality respectively] (Leray 2010: 44). In reference to the mentioned distinction between UPI and UUS, the named conservation unit types are allocated to these two categories as follows. In accordance with Art. 8 of the named law, conservation units of indirect use or internal protection (UPI) are ESEC, REBIO, PARNA, MN and RVS. (MMA 2011a) These are considered as public goods of special use, meaning that the resources in that areas are non appropriated from social use in accordance to Federal Law No 4,132/62. UCs of direct use (UUS) are APA, ARIE, FLONA, RESEX, RF, RDS and RPPN. (MMA 2011a) EE, REBIO, PARNA<sup>414</sup>, FLONA<sup>415</sup>, RESEX and RF are located in areas of public domain, whilst MN, RVS, APA, ARIE, RDS and RPPN are classified as private domain. As Cunha et al. stress, PARNAs, reserves and ESECs have strongly gained attention of the scientific community to advance their research activities in the 1970s and 1980s (2003: 52).

### Environmental Law APA

An Área de Proteção Ambiental (APA) [area of environmental protection] is an Unidade da Conservação (UC) [conservation unit] created to conserve the local ecosystems and to reduce the negative environmental impacts by protection of the natural resources and the sustainable use of them. In an APA, it is permitted to live by respecting the principles of conservation. The Sistema nacional de Unidades de Conservação (SNUC) [national system of conservation units] defines an APA as being

“geralmente extensa e dotada de atributos abióticos, bióticos, estéticos ou culturais especialmente importantes para a qualidade de vida e o bem-estar das populações humanas”

[generally extensive and often endowed with attributes abiotic, biotic, aesthetic or culturally important for the quality of life and well-being of human populations] (SNUC: Sistema Nacional de Unidades de Conservação, Federal law No 9,985/2000) with the principle objective to “proteger a diversidade biológica, disciplinar o processo de ocupação e assegurar o uso sustentável dos recursos encontrados” [protect the

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<sup>414</sup> Those have – as Art. 8 of Federal law No 9,985/2000 determines - „a finalidade básica de preservar os ecossistemas naturais de beleza cênica e de importância ecológica, interpretação ambiental e educação ambiental, além de pesquisas científicas” [the basic purpose of preserving natural ecosystems of scenic beauty and ecological importance, environmental interpretation and environmental education, and scientific research] (Leray 2010: 44).

<sup>415</sup> “compreende um espaço com floresta onde predominam espécies nativas, que objetiva a utilização desses recursos de modo sustentável, e permitindo a pesquisa científica” [comprises an area with forest which predominantly native species, which aims to use these resources in a sustainable manner, and allowing the scientific research] (Leray 2010: 44).

biological diversity, to discipline the process of occupation and assure the sustainable use of given resources] (SEMA 2010: 1). APAs belong to the group of conservation units of direct use (UUS) and are therefore areas, where people also live, as considered in the definition of the SNUC above. That's why endeavours have been undertaken to increasingly consider a practicable way to improve the well-being of the inhabitants, as will be argued in the following chapter. As all UCs, APAs can be created in all governmental responsibility areas, national, federal and under direction of municipalities. Most common are these conservation units in federal responsibility. Due to the research focus on federal APA the following examinations will partially attend to legislation and history to the federal area of governmental responsibility, consider to a lesser extent the remaining two (nation and municipality).

#### The history of APA and the rise of RESEX

The history of APA under national direction can be lined back to its earliest reference in 1981 by National Law 6,902/81 of the Política Nacional de Meio Ambiente [National Policy of the Environment] (PNMA). In that law, APA was defined as not necessarily owned by the government, thus requiring no expropriation, presenting geo-ecological and sometimes socially sensible features, which, by legislative enactments or restriction or prohibition of acts with impacts on the environment. Each APA should have specific goals, embodied in environmental zoning, delineating areas and wildlife areas with restrictions and prohibitions of use. (Schubart 1989: 98 et seq.) Three years later, in 1984, when Jader Barbalho was governor of Pará, the federal responsibility for the equivalent was created via the Área de Proteção Sanitária [sanitarian protection area] of Lagos Bolonha e Água Preta and the Área de Proteção Especial para Fins de Preservação [especial protection area of preservation] of the Mananciais da Região Metropolitana de Belém. In the same year, the prefecture of Belém created the 'Plano Diretor do Parque do Utinga' [leading plan of park Utinga] (that never was finally implemented). In 1988, the same governmental body proposed the creation of a 'Zona de Preservação de Recursos Naturais' [preservation zone of natural resources], since the denseness of the population in that area was very low. In 1993 a 'Zona Especial de Preservação do Patrimônio Ambiental' [special preservation zone of environmental heritage] was implemented in the area. At the same time, the government of the state created the APA of the Mananciais de Abastecimento de Água de Belém, called APA Belém. Another action was undertaken by creation of the 'Parque Ambiental de Belém' [Environmental Park of Belém].

Since 1994 endeavours have been undertaken to determine new forms of management, with participation of all spheres of power as well as the organized civil society. Then, governor Almir Gabriel established the Política Estadual do Meio Ambiente [Federal Politic of the Environment], that performing institutions such as the Sistema Estadual de Meio Ambiente [Federal System of the Environment] and the Conselho Estadual de Meio Ambiente [Federal Environment Council] ending 1996 in the Plano Estadual Ambiental [Federal Environmental Plan] to democratize the environmental guidance. The year after, the state implemented the



Política Nacional de Recursos Hídricos [National Policy of hydrous resources], that postulates to decentralise the management of hydrous resources and change it to a more participative and integrated manner. (ISA 2011b) Since this time the focus of the environmental regime has changed, from a preservation approach to a development focus.

While legal endeavours in the past have focused on the preservation of nature and biodiversity, such as APA, to answering the environmental question, recent approaches of regulating use to access to natural resources are distinguishing between two initiatives: (a) The legislation of hydrous resources and its institutionalisation in terms of participatory forms of organisation and (b) the creation of RESEX (Cunha et al. 2003: 44). This can be seen in the context of the debate in regards to both the conservation of indigenous culture heritage, and knowledge, because of their fortified struggles, the better organisation since the end of the 1980s (cf. 'convention 107' from 1986 AC) and its legal position due to declared rights in Brazilian constitution as well as in recognition of the critique on the APA concept in favour of RESEX. Critique arises from the viewpoint of dysfunctionality of APA and its outmoded focus on preservation. For the sake of this work, the question becomes central, if APA legislature attempts to incorporate the new participatory approaches, and if yes, inasmuch and what are the impacts on the requested human development tasks? Must we speak of APA as a 'dead end' or is the usage of a nature preservation unit in the context of UUS a possible access to accomplish both preservation of nature and economic development? Critique on the national based approach of RESEX comes from responsible bodies that run federal APAs, criticising that RESEX just applies its instruments to a selective part of local population's production chain. Furthermore, in the interview, Christiane Nogueiro, conductor of federal APA Algodual-Maiandeuá and technician of the SEMA (2011b), was asked, why she didn't change the APA Algodual to a RESEX Algodual as similar to its counterpart close by, the RESEX 'Marinha de Maracanã'. She answered that a change would be an option if one could show her one RESEX<sup>416</sup> that is functioning properly. (cf. Appendix 3) Furthermore, the debate about RESEX must be also seen in the context of competence and domination struggles between Brazilian institutions, since APA is mainly controlled by federal state institutions and most of RESEX areas are under national control. On the other hand, experiences with stronger executive penetration by the national government must be considered regarding one of the most pressing problems in the whole Amazon: The problem of land tenure entitlement undoing. Those, who say 'undoing is not possible' probably only bare non-capability, due to unwillingness or lack of capacity, of institutions in charge, as this answer demonstrates: Regarding the situation of RESEX, according to the Report of Technical Process 02018.00453/01-26 CNPT / IBAMA, the notary survey

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<sup>416</sup> Here is no space to properly discuss this matter, even though is to consider that RESEX indeed is seen as an alternative, or rather, as a solution to the environmental problem set in Brazil. In consideration of the named principle problem set, solution approaches like choosing a new institutional frame to better deal with the upcoming environmental questions would by no means turn the theoretical question raised at the begin. Nevertheless, within this piece neither academic propositions by Brazilian researchers in the Amazon can be refused nor accepted due to lack of information and proper case studies by now. Governmental studies have shown that it was assessed together with RESEX communities to measure the real importance of forest's ecosystem in the way of living, in culture and in the generation of local populations. (MMA/ICMBio 2008: 17)

indicated the existence of a rural property, the Fazenda Espírito Santo subdivided into the following properties: Tirirical, Ponta Fina, Bacuri, Laguinho, Marinheiro, Joaquim Antonio, Anilzinho, Rego do Ubim e Madeira. However, the rural property located in Baião had annulled their deeds before the Federal State Court cancellation of the public record, brought by the Land Institute of Pará (ITERPA). By doing so, these properties have been defrauded by illegal expansion of its limit. (MMA/ICMbio 2008: 20)

#### 4.4.4 Empirical Facts of UCs: national, federal, municipality

In 2011 Brazil has 895 declared conservation units, with 310 under direction of the national government, 503 run by federal states and 82 controlled by municipalities. Four hundred and fifty-three of these UCs belong to the classification UUS whilst the rest (442 units) are part of the UPI. One hundred and twenty-four of the total are declared marine units and 771 conservation units defined as land units. Sixty-eight units belong to the 'Projeto Corredores Ecológicos' [Project Ecological Corridors], 60 are in the 'Programa Áreas Protegidas da Amazônia' [Program Protected Areas of the Amazon] and 5 are located in the 'Programa de Turismo nos Parques' [Program of Tourism in the Parques]. Of all Brazilian UCs, 24.36% are located in the Legal Amazon, 218 in number. Consequentially, 119 national, 97 federal and 2 municipality owned conservation units are located in a territory that represents 61% of Brazil's total. (MMA 2011f) In the Brazilian Amazon, nine categories of conservation units are identified. There are no natural monuments (MNs), particular and natural heritage reserves (RPPNs) and fauna reserves (REFA) in the Legal Amazon, but forty-five parks (PARs), eleven biological reserves (REBIOS), fifteen ecological locations (ESECs), forty-seven forests (FLOs), five area of relevant ecological interest (ARIEs), twenty-eight area of environmental protection (APAs), one Refúgio de Vida Silvestre [wildlife refuge], forty-seven extracted reserves (RESEXs) and nineteen sustainable development reserves (RDSs) (data source: MMA 2011f). In opposite to the equal nation wide relation between UUS and UPI, 32.9% of all 'Unidades de Uso Sustentável' [unit of sustainable use] (UUS), 146 of 453 units, but just 16.3 % of all 'Unidades de Proteção Integral' [unit of integral protection] (UPI), 72 of 442 units, are found in the Amazon region. In the Amazon region, consequently, 218 protected areas are located in the Legal Amazon, which are 24.4% of all UCs in Brazil. (data source: MMA 2011f)

As mentioned, Brazil's federal republic distinguishes in law between three different responsibilities (âmbito): National, federal and municipality. On the national responsibility level predominance in quantity is given to the federal responsibility, which holds 56.2% of all UCs in the country, followed by 34.6%, hold by the national government and 9.2% that are under direction of municipalities. (data source: MMA 2011f) Assuming municipality as the superstructure's basis, which has less resources and consequentially less political and economic power, this empirical difference of ca. 9.1 to 0.9 in relation gives both reason to considerations of 'distance' which was discussed above and evidence to the possible problem of excluded

communality<sup>417</sup>, which is seen as one of the most central issues in Environmental Justice research to outline from the overruling conception of Sustainable Development. As Schubart states, the failure of resources constituted main problems in realizing effect and control over the declared areas. (Schubart 1989: 98 et seq.) In the following, a look back to the development of UCs according to available quantitative facts shall give possibility to file present 'status quo'.

Table 15: Number of protected areas in Brasil<sup>418</sup>

Period	Brasil
Before 1930	0
1930 – 1939	3
1940 – 1949	0
1950 – 1959	3
1960 – 1969	8
1970 – 1979	11
1980 – 1989	58
1990 – 1996	117
1997 – 2000	429
2000 – 2005	914
2006 – 2011	895

Source: various (cf. note 418 below)

The data in Table 15 aren't coherent, but gives a rough overview about how strong the growth of environmental legislative process has been in the different periods of time. As Quaresma points out, the data set she used (MMA 2000) only counts PARNAs, REBIOs, EEs and APAs managed by the national government, whilst the project of MMA and PP7 counts federal and national UCs. As Cunha et al. note, in the area of Atlantic Forest<sup>419</sup> “a definição de 13 unidades de proteção (...), de um total de 26 criadas no período, demonstrou ser esta a área objeto de maior atenção no período” [the definition of 13 units of protection, of a total of 26, created in this period, showed to be an area object of major attention in the period] from 1930 to 1971 (2003: 47). Beginning in 1971 to 1985 seventy-six conservation units have been

<sup>417</sup> This term might be confusing on the first view, but is used to express the fact that as a result of 'distance' all different forms of 'basements' are overruled by the superstructure. Communiality as a term includes therefore a conception of locality representing grassroots movements, NGOs, governmental municipality bodies and other forms of association located at the basement. In this context one has without any doubt to distinguish between 'superstructural NGOs' (like WWF or Greenpeace) and 'basement NGOs', such as movements or associations that use the legal frame of NGOs to better accomplish their tasks.

<sup>418</sup> The data of the table accrue from four different sources. The distance 2006-2011 result from official information of the Brazilian ministry of the Environment (MMA 2011f), 2000-2005 are adopted from Table 2 in this piece (cf. p. 19), the period of 1997 – 2000 was collected from the IBGE by Quaresma (2000: 43), the time from 1990 – 1996 was taken by Quaresma from the Project „Parques e reservas: abordagens inovadoras para conservação da biodiversidade do Brasil“ [Parks and reserves: innovative approaches to biodiversity conservation in Brazil] (MMA / PP7 1997) and all information from 'Before 1930' until 1989 are found in MMA 2000.

<sup>419</sup> Mata Atlântica, Brazil's coastline rainforest, stretched from Rio Grande do Norte to Rio Grande do Sul, and occupied an area of 1.3 million square kilometers. It was the second largest tropical rainforest in Brazil, only comparable to the Amazon Forest, having today a total surface of approximately 52,000 km<sup>2</sup> left. (Martins et al. 1999)

created by the national government. (Ibid: 52) The entry she added for line 1997 – 2000 represents all UCs on the level of the national, federal and municipality government. In 2000 have been 192 (one-hundred-ninety-two) UCs of the federal government as Quaresma presents in Overview 2 (2000: 43). The data line 2000 – 2005 is the sum of table 16, provided by Rylands (et al. 2005, see below). The composition of this data will be discussed in the following. Most recent information based upon information given by the 'Ministério do Meio Ambiente' [ministry of the environment] (MMA 2011f). Even in consideration of the strong bias in the quantitative data, and therefore hardly comparability of single data in detail, one can state that in accordance to the table, that the “tres grandes momentos na história das políticas ambientais no Brasil” [three great moments in history of environmental policies in Brazil] (1930 to 1971, 1972 to 1987 and 1988 until today) (Cunha 2008: 46) found representation in the empirical data in the form of a ever accelerating of creation. The list of data breaks down the first time from 2005 to 2011. In this context, one has to ask, if Schubart wasn't right, who claimed in 1989 already, that often UCs have been created without accurateness and just for representation purposes. (Schubart 1989: 98 et seq.) This claim, or rather, this unanswered question will be followed down to the local level, but to this theoretical thoughts more in the chapter about the chosen field. In order to better understand the decline in number, a deeper look to the table from which the data are taken is necessary. Furthermore, as said, Rylands and Brandon's table didn't consider the municipality responsibility area for some reason, but even though, they count more UCs in number than can be counted now, 6 years later on. Rylands and Brandon, who can show (see table 16), that the totality of 252 UCs is run by the national government, but more than double that much (662) are under the administration the various federal states (state of the art February 2005).

Table 16: National and Federal Conservation Units

	Conservation units of the national government		Conservation units of the federal government	
	Integral Protection (indirect use)			
	No	Area (ha)	No	Area (ha)
PARNA	54	17,493,010	180	7,697,662
RB	26	3,453,528	46	217,453
EE	30	7,170,601	136	724,127
RVS	1	128,521	3	102,543
MN	0	0	2	32,192
<b>Subtotal</b>	<b>111</b>	<b>28,245,729</b>	<b>367</b>	<b>8,773,977</b>
	Direct Use			
FLONA	58	14,471,924	58	2,515,950
RDS	0	0	9	8,277,032
RESEX	36	8,012,977	28	2,880,921
APA	29	7,666,689	181	30,711,192
ARIE	18	43,394	19	12,612
<b>Subtotal</b>	<b>141</b>	<b>30,194,984</b>	<b>295</b>	<b>44,397,707</b>

<b>Total</b>	<b>252</b>	<b>58,440,704</b>	<b>662</b>	<b>54,171,684</b>
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Source: Rylands et al. 2005: 32

6 Years later, the national government had 137 UPIs and 173 UUSs under its direction, which is 123.4% of the previous UPI number and 122.7% of the previous amount of UUSs. On the federal level, first reasons can be seen for the decline. Federal UPIs declined by a number of 107 in total, mainly by the ESECs, that went from 136 to 52 and the REBIOs (from 46 to 19), but 13 federal parks were lost (180 to 167), whilst RVSs increased as well as MN by 5 and 12 respectively. The UUSs lost at the first place 35 FLO units that declined to 23, then – and this is interesting to mention – 21 'Reservas Extratevistas' in federal responsibility (just 7 (seven) left) and 18 APAs, remaining 163 units. On the other side, the number of RDSs and ARIEs increased by a total of 22 (17 RDS, 5 ARIE), which reduced the UUS loss to a number of 52 units. In total, 159 UCs were lost within this period. So it can be seen, that the federal government is giving up power in number of conservation units whilst the national government is able to overtake more responsibility. Besides ARIEs, which drops by 2, the number of all UCs mentioned by Rylands et al. are increase from +1 to +23 as the following table can show:

Table 17: Wins and Losses of National UCs compared 2005 and 2011

	<b>Conservation units 2005</b>		<b>Conservation units 2011</b>	
	<b>Integral Protection (indirect use)</b>			
	<b>No</b>	<b>Area (ha)</b>	<b>No</b>	<b>Difference</b>
PARNA	54	17,493,010	67	13
RB	26	3,453,528	29	3
ESEC	30	7,170,601	31	1
RVS	1	128,521	7	6
MN	0	0	3	3
<b>Subtotal</b>	<b>111</b>	<b>28,245,729</b>	<b>137</b>	<b>26</b>
	<b>Direct Use</b>			

Source: Rylands et al. 2005 and MMA 2011f

Concluding, since the number of federal run conservation units declined by 159, whilst the national run units increased by 58 in total, one must acknowledge a shift from federal authority in environmental legislature to the national government, which – once again – gives some evidence to the reasoning that a 'distant' perspective is inherent part of the Brazilian regime regarding the Amazon, concerning the environmental regime in particular. In any case, in 2005, the number of conservation units, that are run by federal state authorities was more and the protected area was less in quantity, but not all categories of conservation units are represented on the two presented administrative levels. National Parks (PARNAs) and Forests (FLONA) represented in dimension more than 50% of the whole protected areas of national conservation units. In case of the state based UCs, 57,76% of all UC areas have been declared Área de Protecáo Ambiental (APA), as

the chosen field Algodual-Maiandeuá. (Rylands et al. 2005: 32) Contemporary PARNA and FLONA areas dropped to 42.6% whilst APAs fell by more than 25% to a percentage of just 32.4% of all federal conservation units. (MMA 2011f) According to the given data, the sum of all APAs have 38,377,881 ha covering 4.508% of the whole territory of Brazil (851,421,500 ha). The APA contingent of all nation wide direct use UCs (74,592,691 ha) represent 51.45% of the total (111,612,397 ha), 69.2% of all by 'Direct Use' classified UCs, run by the national government and 25.4% of all by 'Direct Use' classified UCs of APAs, that are run by federal governments. Without going to deeply in a very special category of UC, but for the sake of completeness, five units are contemporary areas in the federal state of Pará, whose responsible entity is not the ICMBio, but local enterprises or individuals as listed in the following table.

Table 18: PCUs of particular Initiative by the ICMBio

No	Category	Responsible Entity	Area in ha	% of total	Decree of creation	Location in the federal state Pará
1	Reserva Particular do Patrimônio Natural Nadir Júnior	NADIR PINHEIRO DO NASCIMENTO	2000	0,0016	PN No 7/93-N, 02.02.93	Município de Moju
2	RPPN Fazenda Pioneira	Companhia Siderúrgica do Pará -COSIPAR	400	0,0003	PN No 119/98-N, 21.08.98	Highway PA 150, Km 422
3	RPPN Tibiriçá	QUERUBINA ARRAS ALMEIDA	400	0,0003	PN published 25.11.99	Municipality of Marabá
4	RPPN Samaúma	Hotel Samaúma	6	0	PN No 12/00-N, 25.02.00	Municipality of Barcarena
5	RPPN Klagesi	Iracy Corecha Jauffret	23	0	PN No 56/05-N, 22.08.05	Municipality of Santo Antônio do Tauá
	<b>TOTAL</b>		<b>2829</b>	<b>0,0022</b>		

Source: SEMA 2011a

In order to more completely grasp the role of federal run conservation units in the whole environmental protection concept of Brazil's governmental bodies, the following table (18) shows all conservation units (UCs) managed by the national government in Brasília.

Table 19: Conservation Units in the federal state Pará under direction of the national government

No	Category	Area in ha	% of total	Decree of creation	Location in the federal state Pará
1	PARNA of Amazônia	1.128.069,00	0,904	19.02.1974	East, river Tapajós, highway Transamazônica
2	PARNA Montanhas do Tumucumaque	34.427,00	0,028	08.22.02	Municipality of Almeirim and Laranjal do Jari
3	PARNA of Serra do Pardo	445.392,00	0,357	02.17.05	Municipality of Altamira and São Félix do Xingu
4	PARNA of Jamanxim	852.616,00	0,683	02.13.06	Municipality of Itaituba and Trairão
5	PARNA of river Novo	537.757,00	0,431	02.13.06	Municipality of Itaituba e Novo Progresso
6	REBIO of river Trombetas	385.000,00	0,309	21.09.1979	Northeast, river Trombetas, municipality of Oriximiná
7	REBIO of Tapirapé	103.000,00	0,083	05.05.1989	Southeast, river Itacaiunas, municipality Marabá
8	REBIO Nascentes da Serra do Cachimbo	342.477,00	0,275	05.20.05	Municipality of Altamira and Novo Progresso

*Environmental Justice and Sustainable Development*

9	ESEC of Jari	163.754,00	0,131	12.04.1982	North, river Jari, river Paru, Municipality of Almerim
10	ESEC of Terra do Meio	3.373.111,00	2,704	02.17.05	Municipality of Altamira and São Félix do Xingu
11	FLONA of Caxiuanã	200.000,00	0,16	28.11.1961	West, Municipality of Portel, Melgaço, Gurupá
12	FLONA of Tapajós	600.000,00	0,481	19.02.1974	East, river Tapajós, highway BR 316, Km 50
13	FLONA of Tapirapé-Aquiri	190.000,00	0,152	05.05.1989	Southeast, Serra dos Carajás, Municipality of Marabá
14	FLONA of Saracá-Taquera	429.600,00	0,344	27.12.1989	Northeast, river Trombetas, Municipality of Oriximiná
15	FLONA of Itacaiunas	141.400,00	0,113	02.02.1998	Southeast, rivers Itacaiunas and Aquiri
16	FLONA of Itaituba I	220.034,00	0,176	02.02.1998	East, rivers Tapajós and Jamaxim, municipality Itaituba
17	FLONA of Itaituba II	440.500,00	0,353	02.02.1998	East, rivers Tapajós and Jamaxim, Gleba Aruri
18	FLONA of Altamira	689.012,00	0,552	02.02.1998	Southeast, river Curuá, Terra Indígena Baú
19	FLONA of Carajás	411.949,00	0,33	02.02.1998	Southeast, rivers Parauapebas and Itacaiunas, PA-275
20	FLONA of Mulata	212.751,00	0,171	08.01.01	East, Municipality of Monte Alegre and Alenquer
21	FLONA of Amaná	540.417,00	0,433	02.13.06	Municipality of Itaituba and Jacareacanga
22	FLONA of Crepori	740.661,00	0,594	02.13.06	Municipality of Jacareacanga
23	FLONA of Jamaxim	1.301.120,00	1,043	02.13.06	Municipality of Novo Progresso
24	FLONA of Trairão	257.482,00	0,206	02.13.06	Municipality of Rurópolis, Trairão and Itaituba
25	RESEX Tapajós-Arapiuns	647.611,00	0,519	11.06.98	Left border of river Tapajós and Igarapé-Açu, Santarém
26	RESEX Marinha de Soure	27.463,00	0,022	11.22.01	Municipality of Soure
27	<b>RESEX Marinha de Maracanã</b>	<b>30.018,00</b>	<b>0,024</b>	<b>12.13.02</b>	<b>Municipality of Maracanã</b>
28	RESEX Marinha de São João da Ponta	3.203,00	0,002	12.13.02	Municipality of São João da Ponta
29	RESEX Marinha Chocoaré-Mato Grosso	2.785,00	0,002	12.13.02	Municipality of Santarém Novo
30	RESEX Marinha Mãe Grande de Curuçá	37.064,00	0,03	12.13.02	Municipality of Curuçá
31	RESEX Verde para Sempre	1.288.717,00	1,033	11.08.04	Municipality of Porto de Moz
32	RESEX riverzinho do Anfrísio	736.340,00	0,59	11.08.04	Municipality of Altamira
33	RESEX Marinha de Tracuateua	27.153,00	0,022	05.20.05	Municipality of Tracuateua
34	RESEX Marinha de Caeté-Taperaçu	42.608,00	0,034	05.20.05	Municipality of Bragança
35	RESEX Marinha de Araí-Peroba	11.479,00	0,009	05.20.05	Municipality of Augusto Corrêa
36	RESEX Mapuá	94.463,00	0,076	05.20.05	Municipality of Breves
37	RESEX de Gurupi-Piriá	74.081,00	0,059	05.20.05	Municipality of Viseu
38	RESEX de Ipaú-Anilzinho	55.816,00	0,045	06.14.05	Municipality of Baião
39	RESEX Arióca Pruanã	83.445,00	0,067	11.16.05	Municipality of Oeiras do Pará
40	RESEX Terra Grande- Pracuúba	194.695,00	0,156	06.05.06	Municipality of Curralinho e São Sebastião da Boa Vista.
41	RESEX river Iriri	398.938,00	0,32	06.05.06	Municipality of Altamira
42	RESEX river Xingu	303.841,00	0,243	06.05.06	Municipality of Altamira
43	RDS Itatupã-Baquiaá	64.735,00	0,052	06.14.05	Municipality of Gurupá
44	APA of Igarapé Gelado	21.600,00	0,017	05.05.1989	Southeast, river Itacaiunas, Municipality of Marabá
45	APA of Tapajós	2.069.486,00	1,659	02.13.06	Municipality of Itaituba, Jacareacanga, Novo Progresso
46	RESEX Renascer	211.741,00	0,17	06.05.09	Municipality of Prainha
	FLONA of Xingu			02.02.1998	East, rivers Xingu and Iriri, TI Kararaô
	<b>TOTAL</b>	<b>20.167.811,00</b>	<b>16,164</b>		

Source: SEMA 2011a

Some further information needs to be added to the table in order to be complete: First, there are three (3) areas listed in the table, that are incomplete in territory, since their total areas stretch across the border of state Pará. These are the PARNA of Amazônia with a more of 33,310 ha, so totally 1,161,379 ha, the PARNA Montanhas do Tumucumaque with 3,832,573 ha out of Pará and 3,867,000 ha in total and, last but not least, the ESEC of Jari has 63,372 ha across the state border, containing in total 227,126 ha. These are examples that UCs can encompass areas that belong together because of their natural interdependencies, but not because of their legal borders (further examples will be shown on the state level too). This is even more important when considering the problem of waste management in coastline areas (such as field Algodoal) as demonstrated by Maria Araujo (2007). As she points out, the distribution of riverine waste at Brazil's beaches are caused a long way upstream the river, but damage other areas, especially when they are isolated.

(2007: 7) Without the possibility of the governmental bodies to control, monitor and research these areas, the mentioned problem of waste, as one concern on the islands Algodoal-Maiandeuá as will be seen later on, can hardly be approached properly. Second, the bold line classifies the second conservation unit in the area of research, which is the 'Reserva Extratevista Marinha de Maracanã', which is why special attention is given to the legislature of RESEX in this piece too. By looking for the UUS development on the national level within the last period (2005 to 2011 AC), empirical data show clearly the expanding role that is played by national run RESEXs, since 71.9% of the total UUS growth (32 units) is represented by RESEX areas (23 units). (MMA 2011f) RESEX Marinha de Maracanã was declared December 13<sup>th</sup> 2002 and published three days later. It has a direct border with the research field APA Algodoal-Maiandeuá for which reason this work will take a quick side-look on the controversy between governmental (state vs. federal) bodies as well as within the Brazilian (Amazon) academic community. All federal run conservation units in the state Pará are under the direction of the ICMBio (in consideration of the named limitations). One area is not. Unconsidered in the table as provided by the Secretary of the Environment (SEMA) in Pará is the Scientific Station Ferreira Penna of the Museu Paraense Emílio Goeldi (MPEG) [Estação Científica Ferreira Penna do Museu Paraense Emílio Goeldi], located in the FLONA of Caxiuanã – Municipality of Melgaço. This area contains 33.000 ha and is controlled by the Conselho Nacional de Desenvolvimento Científico e Tecnológico (CNPq), IBAMA and MPEG, as object of Convention IBAMA/CNPq/MPEG No 065/90, published at July 7, 1990. The next big governmental stakeholder is without any surprise the state Pará in the shape of the Secretary of the Environment (SEMA).

Three remarks have to be made in regards to the following Table 20. First, the table is completed by two further areas (cursive) which are declared UCs, but haven't been mentioned on the SEMA website yet, so the provided percentages and 'Subtotal' and 'Total' don't consider this gap: These are – as confirmed by the Ministry of the Environment – the Parque Estadual Churupucu [State Park of Churupucu] and the Refúgio de Vida Silvestre Metropole da Amazonia [Wildlife Refuge of Metropolitan Region of the Amazon]. Second, the APAs of Região Metropolitana de Belém [Metropolitan Region of Belém] and Lago de Tucuruí [lagoon of Tucuruí] have territory across the border too (as seen by some examples of federal run conservation units). The former adheres to another 1,206 ha and has a total area of 7.226 ha, while APA of Lago de Tucuruí with a total amount of 568.667 ha has 65,177 ha outside of state Pará. As can be seen on table 20, eight of 19 UCs are APAs representing 7,778,452 ha and 6.23% of the total state's landmass, and Pará has in total 19 state based UCs with a totality of 21,135,431 ha, which represents 16.94 % of its surface<sup>420</sup>. In comparison with just 5,566,836 ha in 2000 according to Quaresma (2000: 66), the data show a growth of environmental protected area of about four times within 11 years. Third, the area of research, to which will be referred in much more detail is described in the bold line nine: 'Área de Proteção Ambiental' Algodoal-Maiandeuá.

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<sup>420</sup> 124,768,950 ha according to the IBGE census of 2002 (SEMA 2011a)



Table 20: Conservation Units in the federal state Pará under direction of the state

No	Category	Area in ha	% of total	Law . Decree of creation	Location in the federal state Pará
<b>Group: UCs of Integral Protection (UPI)</b>					
1	PARES of Utinga	1206	0,001%	Decree No 1552, 03.05.93, No 1330, 02.10.08	Municipality of Belém
2	PARES of Serra dos Martírios.Andorinhas	24897	0,020%	Law No 5982, 25.07.96	river Araguaia; municipality of São Geraldo do Araguaia
3	PARES of Monte Alegre	5800	0,005%	Law No 6412, 09.11.01	Municipality of Monte Alegre
4	PARES of Charapucu				
5	REBIO Maicuru	1151760	0,923%	Decree 2610, 04.12.06	Municipalities of Almerim, Monte Alegre.
6	EE of Grão-Pará	4245819	3,403%	Decree 2609, 04.12.06	Municipalities of Alenquer, Monte Alegre, Óbidos, Oriximiná
7	RVS <i>Metrópole da Amazonia</i>				
	Subtotal	5429482	4,350%		
<b>Group: UC s of Sustainable Use (UUS)</b>					
8	APA of Arquipélago do Marajó - APA Marajó	5500000	4,408%	Art. 13, § 2 Constitution of state Pará, 05.10.89	Atlantic, river Amazonas, Marajó bay
9	APA of Algodaal-Maiandea - APA Algodaal	2378	0,002%	Law No 5621, 27.11.90	Municipality of Maracanã
10	APA of Região Metropolitana de Belém	6020	0,005%	Decree No 1551, 03.05.93, No 1329, 02.10.08	Municipalities of Belém and Ananindeua
11	APA of São Geraldo do Araguaia-APA Araguaia	29655	0,024%	Lei nº 5983, 25.07.96	River Araguaia, municipality of São Geraldo do Araguaia
12	APA of Ilha do Combu	1500	0,001%	Law No 6083, 13.11.97	Municipality of Belém
13	APA Paytuna	56129	0,045%	Law No 6426, 17.12.01	Municipality of Monte Alegre
14	APA of Lago de Tucuruí	503490	0,403%	Law No 6451, 08.04.02	Municipalities of Breu Branco, Goianésia do Pará, Itupiranga
15	APA Triunfo do Xingu	1679280	1,346%	Decree 2612 04.12.06	Municipalities of São Félix do Xingu and Altamira.
16	RDS Alcobaca	36128	0,029%	Law No 6451, 08.04.02	Municipalities of Novo Repartimento and Tucuruí
17	RDS Pucuruí-Ararão	29049	0,023%	Law No 6451, 08.04.02	Municipalities of Novo Repartimento and Tucuruí
18	FLOES of Faro	635935	0,510%	Decree 2605, 04.12.06	Municipalities of Faro and Oriximiná.
19	FLOES of Iriti	440493	0,353%	Decree 2606, 04.12.06	Municipality of Altamira.
20	FLOES of Trombetas	3172978	2,543%	Decree 2607, 04.12.06	Municipios of Oriximiná and Óbidos.
21	FLOES of Paru	3612914	2,896%	Decree 2608, 04.11.06	Municipalities of Almerim, Monte Alegre, Alenquer, Prainha
	Subtotal	15705949	12,590%		
	<b>TOTAL</b>	<b>21135431</b>	<b>16,940%</b>		

Source: SEMA 2011a

To sum up the discussed matter, most recent data of the SEMA about all kinds of UCs in the state of Pará show the number of 46 federal administrated UCs in Pará (Table 20), with a totality of 20,167,811 ha<sup>421</sup>, which close to 2.5 as much (8,256,940 ha) as in 2000 (cf. Quaresma 2000: 65) and more than 2.5 as much as the 5 RPPNs (see table 18) as particular conservation units (PCU) are included (another 2829 ha). Altogether, these 51 federal UCs protect 16.186% of the territory of Pará. When adding the remaining 0,064% of Pará's territory which are the 13 declared municipality owned UCs as shown in table 21 (see below), containing 79,392 ha, one can calculate the total sum of 41,385,463 ha declared as UCs of all responsibility levels or 33.17% of the territory. Of these ca. one-third (12,795,537 ha) is declared of units of indirect use (UPI) while 28.587.097 ha are UUSs of direct use, whilst the 5 particular initiatives RPPNs carry no weight in this context.

As stated, the municipality's responsibility is quantitatively the lowest. This is, because of two reasons: On the one hand, as the creation of a legal structure for an environmental municipality legislature was the last created of all three responsibility levels, on the other, because of the 'distance' problem set as mentioned. As recently as in 1989 AC, the creation of UCs under direction of the municipality in the federal state Pará was regulated in the federal constitution, Art. 353, inception V, “que delega competencias ao Poder Público de criar UCs”, and Environmental Law No 5,887 of May 9, 1995, that disposes the federal politic of the environment and other provisions. (Quaresma 2000: 67).

<sup>421</sup> 12.802.208 ha of this amount belong to the group of UUSs, representing 10,26% of the total territory of Pará, whilst 7.365.603ha (representing 5,9% of the whole territory of Pará) are UPI declared, so conservation units of indirect use. In table 19, positions 1 (one) – 10 (ten) stand for the UUS and 11 – 46 for the UPI.

Table 21: Conservation Units in the federal state Pará under direction of municipalities

No	Category	Area in ha	% of total	Decree / Law of creation	Location in the federal state Pará
<b>Group: UCs of Integral Protection (PI)</b>					
1	PAREC Municipality of Belém	35	0,000	Law No 7539, 19.11.91	Together with Médici II, município de Belém
2	PAREC Island of Mosqueiro	182	0,000	Decree No 26138, 11.11.93	Island Mosqueiro, Municipality de Belém
3	RESEC of Bacurizal forest and Lagoon Caraparú	235	0,000	Law No 109, 19.06.87	Island Marajó, Municipality of Salvaterra
	Subtotal	452	0,001		
<b>Group: UCs of Sustainable Use - US</b>					
4	APA of Barreiro das Antas	153	0,000	Law No 031, 20.11.90	Municipality of São Geraldo do Araguaia
5	APA of Ilha do Canela	230	0,000	Law No 3280, 29.10.97	Municipality of Bragança
6	APA of Jabotitiua-Jatium	14254	0,011	Law No 002, 07.04.98	Municipality of Viseu
7	APA of da Costa de Urumajó	30618	0,025	Law No 1352, 05.08.98	Municipality of Augusto Corrêa
8	APA of Bom Jardim/PassaTudo	-	-	Decree No EB. 060, 19.04.99	Municipality of Itaituba
9	APA of Praia do Sapo	-	-	Decree No EB. 105, 05.05.99	Municipality of Itaituba
10	APA of Praia de Aramanáí	10985	0,009	Law No 097, 30.05.2003	Municipality of Belterra
11	APA of Praia de Alter-do-Chão	16180	0,013	Law No 17771, 02.07.2003	Municipality of Santarém
12	ARIE Reserve Nordisk	2999	0,002	Decree No 435	Municipality of Marabá
13	ARIE Ecological Reserve Pedro da Mata	3521	0,002		Municipality of Itupiranga
	Subtotal	78940	0,063		
	<b>TOTAL</b>	<b>79392</b>	<b>0,064</b>		

Source: SEMA 2011a

The available data in regards to municipality managed conservation units demonstrate clearly the favour of this governmental level for the group of conservation units with sustainable use (UUS) with 78,940 ha (0.063% of the landmass of Pará). UCs of Integral Protection (PI) contain just 452 ha. In 2000 there were eight UCs with a total area of 11,471.418 ha, so the size has increased by 6.92, whilst the number of declared areas has increased by five. Not in any list are Indigenous Territories (TI), which are identified in accordance to Program Raízes in 2003 by the Fundação Nacional do Índio [National Foundation of Indean] (FUNAI). Of the sixty-four identified areas in the state of Pará, 45 have been registered, accounting for 30,902,743 ha (24.80%) of Pará's territory<sup>422</sup>. “Essas Terras Indígenas somadas às UCs (40.866.360ha - 32,75%) perfazem 71.769.103ha, correspondendo a 57,52% da superfície do Estado do Pará” [These Indian Territories, added to the conservation units (40,866,360ha – 32.75%) make up 71,769,103ha corresponding to 57.52% of the surface of federal state of Pará] (SEMA 2011a). Concluding, one can emphasize APA's important position in the environmental concept and regime of Brazil, but in particular in federal state of Pará. Ten<sup>423</sup> of eighty-two conservation units in Pará are considered as APAs, 72,420<sup>424</sup> ha under municipality direction, 7,778,452 ha state owned and 2,091,086 ha hold by the federal government, in total 9,941,958 ha, which is 49.3% of all conservation units in Pará and 7.97% of the territory of state Pará. Since the field of research, the islands Algodoal-Maiandeuá, as emphasised in Table 20, is an APA, the following chapter will present in more detail the regulating legislature on the applicable level. So in the following consideration, APA is used in the meaning of the law as managed by the federal state Pará and its institution SEMA. This paper aims at this point to turn attention not just to the specific problem on the islands Algodoal-Maiandeuá, but on an environmental regime, that since 1990 attempts to establish environmental protection using APA sparing no efforts as the quantitative data could show imposingly. The field will serve as a mirror for these attempts, in

<sup>422</sup> The remaining 19 haven't a defined area. (SEMA 2011a)

<sup>423</sup> Excluded those under direction of municipalities.

<sup>424</sup> By which there is to consider that available information about the areas of municipality controlled APA, as shown in Table 21, are incomplete, since the 'Área de Proteção Ambiental Bom Jardim/PassaTudo' and the 'Área de Proteção Ambiental Praia do Sapo' aren't included or separately listed.

which this research hopes to understand, inasmuch underlined goals like Sustainable Development or Environmental Justice could be achieved.

#### 4.5 Concluding description of the problem set

Describing the problem set at this point, this paper seeks to approximate *formal* problems definition and let them faced researched field reality. In presenting the principles of Brazilian environmental regime, certain gravity of precaution has been mentioned. Hereto, substantial question is, “como se repara a extinção de uma espécie? O corte de uma árvore centenária? A secagem de um rio” [how to repair the extinction of a species? The cut of an ancient tree? The drying of a river] if deadly damage is caused and has to be repaired integrally? (Brandão 2011: 2)

Another, be the named competence regularity between IBAMA and ICMBio, which could generate a non-serviceability of necessary action. A further debate on the abstract level doesn't seem to be gainful, since this has to be identified in concrete cases of environmental damage as will be outlined in the case study. In particular, of interest will be the raised frustration as Quaresma poses, because the state has created countless programs to develop the Amazon region, but such programs didn't obtain the expected outcome in the majority of the cases. (2003: 62) Even more, as Filho points out, “[r]ecentes estudos do Museu Goeldi (...) demonstram que áreas críticas ainda estão de fora do programa” [recent studies of the Goeldi Museum (...) show that critical areas are still out of the program] (2006: 87). Furthermore, the author states, that many UCs are just existing on paper, recognised as 'parks of paper'. Consequentially, he carries on, problems accrue from a failure of a line of demarcation, failure of permanent monitoring, conflicts between rural property owners and neighbours, daily invasions of drug dealers, *biogreiros*, gold seekers, wood cutters, trappers, land register and property fakers. The number of public services specialised in the management of conservation units is minimal, and finally, opposite to other countries, such as Argentina and Canada, there is no training facility for rangers. (Ibid)

Generally, the deforestation is another pressing problem in the Legal Amazon. In 2005, the 'Instituto do Homem e do Meio Ambiente da Amazônia' [Institute of Human and Environment in Amazon] (IMAZON) presented their study about the alterations of the natural areas of the conservation units in state *Rondônia*. IMAZON could show, that, notwithstanding about 45% of the territory is declared as protected areas, TIs and UCs, 6.3% of these areas were modified. Ten conservation units have been deforested by more than 20%. Furthermore, “no caso do Parque Candeias, ultrapassa 68%, e no RESEX do rio São Domingos, se o ritmo de desmatamento continuar, o total passará de 62% para 100% em menos de uma década” [in the case of Park Candeias, it exceeds by 68%, and in RESEX of river São Domingos, the rate of deforestation continues, the total from 62% to 100% in less than a decade] (Filho 2006: 88). *Rondônia* is the most advanced state in the Legal Amazon in this regard and as the study can show, the deforestation problem is not limited to a certain type of UC, but applies to all areas in general. The specifics of deforestation must be

seen in the context of a monitoring problem, basically as a problem of incapacity of institutions to observe and control the whole area. This is not only true in the Brazilian context, but in all countries. No government can protect all legal areas by executive forces and legal action, but bases on the commitment of the society, or rather, on the agreement of the affected population. According to Figueiredo and Santana, the problems faced on the islands Algodual-Maiandeuá aren't an isolated situation, but one example for the entire worldwide economic model. Transformations are common for all communities in the Amazon due to their global(ized) entanglement. Because of impacts to social life and environment of traditional communities such as those of fishermen, *quilombolas* and indigenous people in the world, this model is seen as non-sustainable and unable to satisfy the needs of today without sacrificing the needs of tomorrow. (2010: 217)

On the abstract level, the piece could show by now some reasons for that, based on history (colonialism) and present societal structure (coloniality) in Brazil. Furthermore, as presented, the global, international constitution of the environmental frame work, the conception of central terms – such as nature and development – demonstrate a one sided view on the topic, favouring a certain understanding. When nature is seen as a reservoir of resources existing to form unlimited development, measured in monetary terms, the term of sustainability cannot extend these defined borders too. So, concepts – such as Sustainable Development – could and cannot reach a higher level of definition as the loomed limits of its components. Consequently, the unclear determination of the concept of Sustainable Development is the fragile framework, in which environmental regimes are developed. This fragility emerged to a definition based on the assumed condition of maximum consensus, which created difficulties to both discussing the environmental problem between all kinds of stakeholders and applying proper legislature using the concepts.<sup>425</sup>

The general difficulty of law implementation is enforced by the difficulties to clearly outline undertaken environmental legislature when using the unclear concept that inherently understands its components in a specific way. Finally, the impossibility to include sustainability ideas into a market economy based on short-term profit thinking disables at the end all different approaches of eco-economical thoughts. As long monetary terms and the reduced appliance of the Pareto Optimum (Hicks Model) are the basis of measuring development and – therefore – progress, the unclear broader definition of the concept isn't an advantage as such, but turns all back to the single stakeholders involved and their economic and political power. Another crucial point lies in a concept as an accepted institutional, legal and scientific term that comes nowadays from a top-down perspective, which – considering the 'distance' problem set – has a structural problem too, to consider and recognize a different understanding on the ground. When, as demonstrated, Sustainable Development conceptions of the Brundtland report and the following gave legal frame to Brazilian environmental regime by Constitutional Law, so are inherently basis and part of all environmental law in

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<sup>425</sup> This certainly is an entangled problem, since society must be seen as the most important stakeholder in the legislature process too.

either way, the different understanding of this concept by stakeholders involved and/or affected by this law is crucial. If this is true, that, if society does not share the same understanding of an environmental law, this law rather tends to fail, if it is true, that Sustainable Development as a legal concept takes part directly or indirectly in environmental legislature, then the analysis of existing discourses and understandings of Sustainable Development in a certain field will reveal, whether (a) there is a connection between understanding of the concept by different stakeholders and failure or success of the environmental law in question, (b) what are the ideal types in the existing field in consideration of the four ideal types describes (market liberals, institutionalists, bioenvironmentalists and social greens), (c) what is and what should be discussed in the field in order to develop a more appropriate Sustainable Development frame. Closing the Sustainable Development aspect, one has to see two aspects in their entanglement: When those stakeholders with more economic power have more influence to dominate the debate, whilst the also powerful political institutions cannot overcome the 'distance' to better know and understand the weaker counterpart, the not so economically powerful stakeholders, environmental legislature cannot function as intended. Adding to this points to the assumed weakness of Brazil's civil society and political culture, as mentioned above, by the claim of the Economic Intelligence Unit (2010: 12), a solution to the problem seems rather unlikely. Referring to the mentioned critique on Inglehart's World Value Survey (WVS) (Kaufmann/Hurtienne 2011), one has to mistrust the general information value of EIU's democracy index. Furthermore, since the more recent concept of Environmental Justice challenged the broad consensus in the Sustainable Development debate by asking clear questions – such as 'Who pays the environmental costs?' - and provoking conflicts by accusing institutions and big enterprises of Environmental Racism, one can just guess the importance of influence of it by now.

As seen in the Environmental Justice chapter, the struggle about the new conception or the 'new paradigm' is also a struggle between the institutionalised concept of Sustainable Development and the final definition and information value of the 'new paradigm'. This struggle is enforced by the fact of grassroots, bottom-up based predefinition of the Environmental Justice concept, which charges the named institutional, top-down approach of the Sustainable Development concept. Anyhow, the bottom-up conception is challenged by attempts of the existing institutional frame which unintentionally try to incorporate the 'new paradigm' without changing the existing frame, since the stakeholder groups, their influence and power in traditional institutions and institutions created on top of established concepts, haven't been modified. But the struggle about the Environmental Justice concept includes the two distinguishing parts, so may bare the true character of the specific conflict. Even more, the analysis of the Environmental Justice concept can be seen as a (non statistical) test of the WVS based EIU results. The comparison of the two discourses, the concepts of Sustainable Development and Environmental Justice, can give evidence about the state and strength of either discourse and which one is more diversified or distinguishable in factors in order to test the principle hypothesis of this piece again, on the local level. If even in the field the question can be answered in the

same manner as hypothesised, if the struggle about the Environmental Justice concept definition<sup>426</sup> includes more discourses or, first and foremost, different discourses of more equal strength (quantitatively and qualitatively) than the Sustainable Development discourse does, than the main hypothesis can be seen as answered within the given conceptual frame work. The following field research will contribute to the aspect that Azevedo states in regards to the Provisional Measure (PM) 2.186-16/01<sup>427</sup>. He criticises, that “scientific research is not considered (...) as an activity entailing previously identifiable potential economic use” (2005: 4). What counts for the expressed 'economic use' of traditional knowledge in terms of the applied PM, is also true for the process of environmental legislature. Therefore, the following field research assumes this non-consideration as another part of the environmental question: The certain view on the legislation process by the responsible governmental bodies, that less considers possible contribution of science. On the other hand, science in general, social science in particular, has often failed to provide new paths of research that can be of use for all parties involved, be they enterprises, governmental bodies of different responsibilities, scientific society and local society<sup>428</sup>, so, this piece seeks to offer in its last chapters the results of the applied new tool, a combination of the above named three methodological approaches, to analyse the specifically asked questions as well as to provide answers for all.

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<sup>426</sup> The answer to the first part of the question to both Environmental Justice and Sustainable Development has been given in the two related chapters, that have shown that the struggle about the institutionalization and definition of the former concept is not yet decided whilst the same struggle is decided, that existing institutions and definitions of the Sustainable Development concept aren't anymore in question as a basic principle.

<sup>427</sup> The PM regulates the treatment of traditional knowledge.

<sup>428</sup> In consideration of the emphasized discourses about the controversy concepts such as traditional population, the concept of 'local society' describing the whole branch of people living and acting as involved stakeholder (in any way) in the field.

## 5. Case Study on Island Algodual-Maiandeuá

*“Jeder Intellektuelle hat eine ganz spezielle Verantwortung. Er hat das Privileg und die Gelegenheit, zu studieren. Dafür schuldet er seinen Mitmenschen (oder 'der Gesellschaft'), die Ergebnisse seines Studiums in der einfachsten und klarsten und bescheidensten Form darzustellen.”*  
Carl Popper

The environmental protection area of Algodual-Maiandeuá, also called just APA Algodual, is the location where the discussed research questions and hypotheses will be finally tested. According to the executing organ, intention to create the APA was to reconcile human activities and the conservation of the wildlife and natural resources by bettering the well-being of the people, always looking for “o desenvolvimento baseado, principalmente, no ecoturismo” [development mainly based on ecotourism] (SEMA 2010: 1). APA Algodual-Maiandeuá was declared a conservation unit, more precisely a federal area of environmental protection by the federal law No 5,621 at November 27<sup>th</sup>, 1990. The area has 19 km<sup>2</sup> or 2,378 hectares (SEMA 2011a) inhabited by approximately 2000 people inhabiting four villages.

### 5.1 Location and Environment

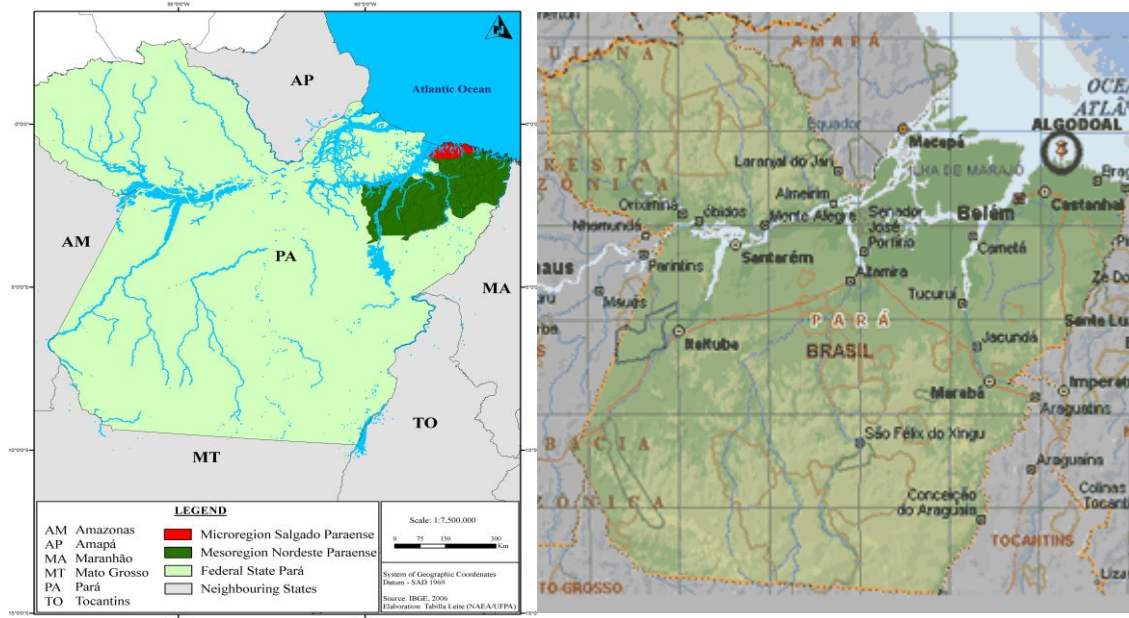
Located in the Legal Amazon, the federal state Pará is bordered by the Atlantic Ocean to the North, the countries Surinam and Guyana as well as the federal states Amapá and Roraima to the Northwest, federal state Amazonas to the West, the state Mato Grosse to the South and the two federal states of Tocantins and Maranhão to the East.

Map 4: Area of field research on macro perspective



The field is geographically located in the Northern part of Amazônia Legal<sup>429</sup>. *Municipality Maracanã is located in the Microregion Salgado Paraense*<sup>430</sup>, within the *Mesoregion Nordeste Paraense* of the federal state of Pará in Brazil.

Map 5: Area of field research on meso perspective



Source: IBAMA 2011, Kaufmann 2003: 50

The characteristics of the area are a hot and wet tropical climate, caused by geographic proximity to the equator. Temperature varies over the year between 24.1°C to 32.7°C depending on season (Quaresma 2000: 20) with an annual temperature of 25°C on average, influenced by the InterTropical Convergence Zone (ITCZ) by a monthly average precipitation amount of 440 mm.<sup>431</sup> Torrential rainfall occurs in March whilst wind comes predominantly from Northeast in the time from January to July and from East the rest of the year. The sea height is 74 meters max., changing between the tides at up to 7 meters (Souza 1999: 23). Vegetation of the region is at the coastline, where the island Algodual-Maiandeuá is located, dominated by mangrove zones that are part of a belt of up to 30 km in amplitude. According to 2006 information provided by Muehe, the mangrove zones in the region represent approximately 53% of mangroves in all federal state Pará, which makes these zones even more important to protect. (2006: 288) The coastline is further

<sup>429</sup> Amazônia Legal [Legal Amazon] contains the federal states Acre, Amazônia, Roraima, Amapá, Pará, Rondônia, Mato Grosso do Norte, Tocantins and half of Maranhão.

<sup>430</sup> The microregion reaches 500 km from the Marajó bay (0°30' southerly latitude and 4° longitude) to the bay of Gurupi (0°30' and 46° northerly longitude) (Souza 1999: 23)

<sup>431</sup> According to Souza, 95% of the annual precipitation amount is in the period between January and May whilst in the period between June and October it is not noticeable. (1999: 22-23)

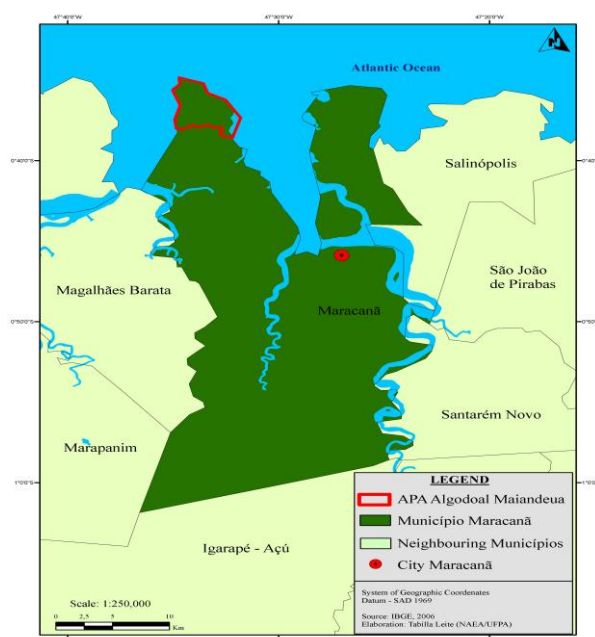


categorised by A. T. Guerra and A. J. T. Guerra as a flash flood coast with lots of lakes inclusively waterfalls. (2003: 543)

## 5.2 Municipality Maracanã

The researched area is in the northwest of the municipality of Maracanã, which is enclosed by the municipalities of Magalhães Barata and Marapanim to the East, municipality of Igarapé-Açu to the South and bordered by Santarém Novo, São João de Pirabas and Salinópolis to the West as the following map shows.

Map 6: Area of field research on micro perspective



The capital of municipality Maracanã is called, as said, Maracanã too and is located 147 km from federal state's capital Belém. The municipality contains nine districts: Maracanã (city), Algodual the researched area), Boa Esperança, Bom jardim, Santa Maria, São Roberto, Tatuleua, Km 19 and Km 26 (Nascimento 1993: 30) and is located between 00° 46' 03" southerly latitude and the 47° 27' 12" northerly longitude. According to most recent IBGE Census of 2010<sup>432</sup> 0.37% of the total population of Pará are living in the

<sup>432</sup> There is to mention that the IBGE focuses in its survey on urban population and doesn't elevate data below the municipality level. For the sake of contextualisation and in consideration of the lack of more recent data about APA Algodual is to be pointed to the results of the field research in 2003, which demonstrated an unexampled population growth on the islands (cf. Kaufmann 2003: 55).

municipality of Maracanã, in number 28,376 inhabitants<sup>433</sup>. (IBGE 2011c) This can be seen as a linear growth as seen in the following table.

Table 22: Population growth in Municipality Maracanã

Year	Population	Growth in %
1980	21,129	
1991	25,535	20.85
2000	27,571	7.97
2011	28,376	2.92

Source: Loureiro 1987: 9, Nascimento 1993: 29, Kaufmann 2003: 55, IBGE 2011c

Besides the obvious fact of a decline in growth, consideration of IBGE data from 2007<sup>434</sup> as used by Barros (2010: 34) shows a growth of just 0.28% in the last 4 years, so one can speak of a decline towards zero growth in population, preconditioned the trend goes on.

Putting in comparison actual population and the following table, it belongs to the 15% of biggest municipalities in Brazil<sup>435</sup>:

Table 23: Municipalities classification

Classification by population	Amount of municipalities	Amount in percentage
<b>up to 2,500</b>	260	4,67%
<b>2,500 – 8,000</b>	1,912	34,36%
<b>8,000 – 20,000</b>	1,749	31,43%
<b>20,000 – 500,000</b>	1,604	28,82%
<b>more than 500,000</b>	40	0,72%
<b>Sum</b>	<b>5565</b>	<b>100,00%</b>

Source: IBGE 2011e

In the federal state, Maracanã is the 67<sup>th</sup> biggest municipality of totally 143 municipalities in Pará. According to the IBGE (2011i) 8,696 domiciles in the municipality are mainly private property (99%). Of all private domiciles, 78.9% (8,611 units) are occupied whilst just 18.8% of publicly held domiciles (85 units) have inhabitants.

<sup>433</sup> The municipality is listed under the Código do município [municipality code] 1504307 in the IBGE Census of 2010; the total population of 2000 was 27,571 inhabitants distinguished by gender in 13,682 women and 14,694 men and by location in 16,717 in rural regions and 11,659 in urban areas.

<sup>434</sup> 28,296 inhabitants in an area of 781 km<sup>2</sup> and population density of 36.23 inh./km in municipality Maracanã in 2007 according to Barros (2010: 34), which is more than 2.5 as much as it has been in 1996 (14.77 inhabitants/km<sup>2</sup>) (Souza 1999: 23).

<sup>435</sup> Within the 40 municipalities or 5% of the total, categorized as the highest populated municipalities, are 15 municipalities within Brazil, which have more than one million (1,000,000) inhabitants. (IBGE 2011f) One of this is the municipality of Belém, the capital of federal state Pará. (IBGE 2011d)

### 5.3 Islands Algodual-Maiandeuá

The research field contains two islands that are called Algodual and Maiandeuá, separated by the channel Igarapé das Lanchas, and provides huge ecological diversity, such as century old trees, dunes, freshwater lakes, beaches, mangrove woods and areas, that feed a broad variety of animal wildlife species. (SEMA 2010: 1) Altogether they are named Algodual-Maiandeuá. Algodual-Maiandeuá is bordered by the Atlantic in the north and by a river like channel called 'Furo do Mocooca' (Quaresma 2000: 150, figure 30) at village Mocooca in the South. The islands are located between two bays<sup>436</sup>, the bay of Marapanim in the West and the bay of Maracanã in the East. The whole area of the islands is protected by the APA law and located in the north of the state Pará between the 00° 35' 03" and the 00° 38' 29" southerly latitude and the 47° 27' 42" and the 47° 34' 57" northerly longitude (Bastos 1996: 11). The next and closest island is Marudá, about 5 km in the West, with about 20,000 inhabitants according to Cunha (1998: 10). Island Algodual is much smaller in size, representing just 385 ha of the whole APA whilst island Maiandeuá has more than 5 (five) times the size (1993 ha) (Kaufmann 2003: 50, Souza 1999: 13)

Map 7: Area of field research on detailed perspective I



Source: Googlemaps 2011

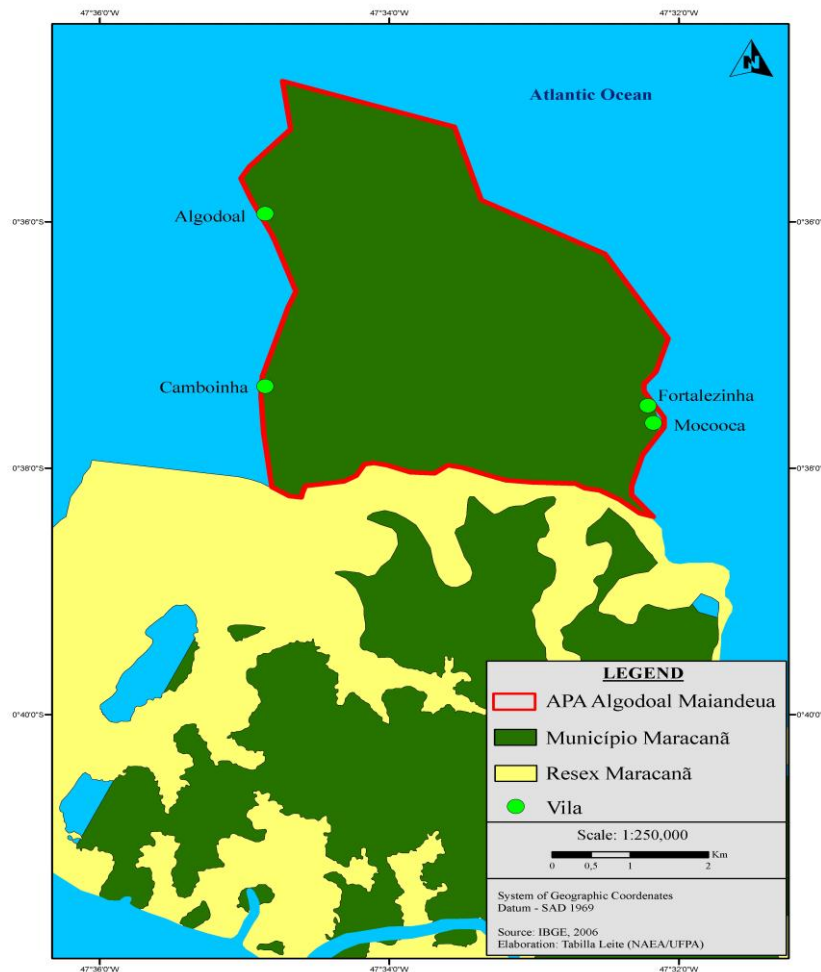
Furthermore, the unit is a one of the rare places of refuge for Scarlet Ibis' (*Eudocimus ruber*), Common Squirrel Monkeys (*Saimiri sciureus*), Capibaras (*Hydrochoerus hydrochaeris*), Oncillas (*Leopardus tigrinus*), Pacas (*Cuniculus paca*), Agoutis (*Dasyprocta aguti*), Chameleons (*Chamaeleonidae*), parrots, toucans, woodpeckers, egret sparrow hawks among others. (SEMA 2010: 1)

On the two islands are four 'Nucleos Urbanos' [villages]. The island Maiandeuá has three villages, called Camboinha, Mocooca and Fortalezinha (see Map 8 above which has been drawn from IBGE data but

<sup>436</sup> As Cardoso stresses, the „forma atual da ilha [Algodual] vem surgir com uma diputa política entre os municípios de Maracanã e Marapanim pela posse da ilha” [current form of the island [Algodual] has come up with a policy Deputies between the cities of Maracana and the possession of the island Marapanim] (1997: 13).

unfortunately doesn't show the separating river). Island Algodoal has one village named after the island. As described below, just the village Algodoal can be reached easily, which is why the impacts of human development are at this place more obvious, or rather, this part of the island realizes modifications and changes five years earlier than the rest of the island (cf. Kaufmann 2003: 68, Quaresma 2000: 168).

Map 8: Area of field research on detailed perspective II



### 5.3.1 Population structure and professional occupation

As the history of the islands will explain, three categories of population, not races, can be located in Algodoal: Natives or indigenous people, tourists and those which I want to call 'new population', which have moved to the islands since 1960. Tourists can be distinguished between two types: First, tourists, who settled on one of the two islands and second, tourists, who are visiting. The former category will be considered under the classification of 'new population'. The latter will be excluded in this piece as a clearly definable category for two reasons: On the one hand they aren't homogeneous, some come from places around such as Belém during New Yve, others from Rio de Janeiro, so any classification based on qualitative research must

be strongly biased. As will be outlined in the Q Analysis chapter, this group has been recognized by statement. The racial distinctions on the island in accordance to the named categories show representation of all, *preta* (see above), 'brown', 'white' and 'indigenous', but a majority in physiognomy by indigenous (on the overall scale), but especially in Camboinha, Mocooca and Fortalezinha (in this order). To this statement is to say as a limiting factor, that the evidence of this is just based on subjective observations made in 2003, 2005 and – most recently – 2010-2011, but cannot be fleshed out by statistical data. Interestingly, the classification of *caboclo* was used already in 1757 as the chronicle of São Miguel can prove (Chronicle 1902: 5). No answer can be found to the question whether or inasmuch the connotation has been these days as negative as it is today, but in reference to Brazil's colonial history, one can assume it meant the transformation from 'wild' to 'civilised' as in the rest of Brazil.

It can generally be stated that racial aspects by nature aren't a distinguishing factor, whilst fellowship to hegemonic religions (Protestants and Catholics) are more important (cf. Kaufmann 2003: 55, 66). As can be seen from the following Table, based on most recent available information by Quaresma, the origins of inhabitants<sup>437</sup> vary importantly by location:

Table 24: Population structure in the villages<sup>438</sup>

	<b>Algo doal</b>	<b>Fortalezinha</b>	<b>Camboinha</b>
<b>Algo doal</b>	<b>40,00%</b>	0,00%	11,11%
<b>Camboinha</b>	2,00%	0,00%	<b>33,33%</b>
<b>Fortalezinha</b>	0,00%	<b>71,87%</b>	0,00%
<b>Belém</b>	4,00%	6,25%	0,00%
<b>Maracanã (sede)</b>	14,00%	6,25%	0,00%
<b>Boa Vista (Maracanã)</b>	0,00%	3,12%	0,00%
<b>Mocooca</b>	0,00%	3,12%	0,00%
<b>Quatro Bocas (Maracana)</b>	0,00%	3,12%	0,00%
<b>Santarem Novo</b>	0,00%	3,12%	0,00%
<b>Maranhão</b>	6,00%	3,12%	0,00%
<b>Nova Timboteua</b>	0,00%	0,00%	11,11%
<b>Marapanim</b>	4,00%	0,00%	11,11%
<b>Sao Francisco de Maracana</b>	0,00%	0,00%	11,11%
<b>São João do Seco</b>	4,00%	0,00%	11,11%
<b>Serrinha</b>	0,00%	0,00%	11,11%
<b>Bragança</b>	12,00%	0,00%	0,00%
<b>Igarapé-Açu</b>	8,00%	0,00%	0,00%
<b>Ceará</b>	2,00%	0,00%	0,00%
<b>Salinas</b>	2,00%	0,00%	0,00%
<b>Amazonas</b>	2,00%	0,00%	0,00%
<b>SUM</b>	<b>100,00%</b>	<b>99,97%</b>	<b>99,99%</b>

<sup>437</sup> Quaresma has talked to the principals (men) of the families, fifty persons in Algo doal, nine in Camboinha and thirty-two in Fortalezinha, so the percentages express just the origins of the male principals of the family excluding the women.

<sup>438</sup> As a limiting factor – beside of the bias of using a 8 year old data set – is the problem that comparable data for village Mocooca aren't provided by Quaresma.

Source: Quaresma 2000: 163 (Fortalezinha), 176 (Camboinha), 186 (Algodual)

As can be seen in the table, more than two-thirds of the population in Fortalezinha has its origins there, whilst in Algodual and Camboinha are just about one-third of the family's principals born in the village they live now. Even though the percentages in both villages are nearly equal, the population structure is very different, in colour and *habitus*. This can clearly be seen in the correlation between the three locations. People obviously move to village Algodual from Camboinha and also from Algodual to Camboinha, but the percentages are misleading in this point. Considering the number of persons, one can state that there isn't a movement from one to the other, but an exchange (both are just 1 (one) principal of therefore one family). Fortalezinha on the other hand has the less exchange with the other two named villages (equal zero), even though – as Quaresma stated – 90% of the inhabitants in Fortalezinha wish to move to another city. (2000: 163) Referring to the economic structure of the population, in the past on Maiandeua more than two-thirds of the population's heads of family have declared themselves as fishermen: seven or 77.77% in village Camboinha (Ibid.: 136), seven as well in Mocooca, or 87.5% (Ibid. 137) and twenty-three or 82.14% in Fortalezinha. In Algodual the structure has been much more diversified, just nineteen family heads have defined themselves as fishermen (38%). According to recent information by Cuíra, the fisherman in Algodual where I lived during the field research, just two persons in the village Algodual and four persons in Fortalezinha are fishermen. As he states further, even helping hands for fishing are coming from Camboinha or from outside the islands. The president of the 'Associação dos moradores de Fortalezinha' [association of inhabitants in Fortalezinha] agreed partly, when I asked him regarding this matter, stating that most of the people nowadays try to establish tourism related businesses and use their fishing skills very little. As he assumed in the interview, in Camboinha most of the people still go fishing all day. Most recent research by Elida Mopura Figueiredo of the Secretaria de Estado de Desenvolvimento, Ciencia e Tecnologia (SEDECT-pA) and Graça Santana of the Museu Paraense Emílio Goeldi (MPEG) demonstrates in addition that more than two-third of the interviewed inhabitants (80%) of Mocooca, Fortalezinha and Camboinha have their principal income source in fishing, only “em Algodual, está concentrada no comércio e nos serviços” [in Algodual, it is concentrated in supermarkets and services] (2010: 223), which is also congruent to what the president of the 'Associação dos moradores de Camboinha' [association of inhabitants in Camboinha] told, but furthermore adding, that this is, why they don't have access to the tourists, since there is no direct, even not to pass by, transport to the village. So, the concentration is based on the lack of options. As Quaresma stated and my research in 2003 and 2005 (revisited) shows, people want to leave due to “dificuldades de recursos, de trabalho, do atraso da ilha e da necessidade de dar continuidade aos estudos dos filhos” [difficulties of resources, labor, the delay of the island and the need to continue the studies of children] (2000: 163). Another indigenous inhabitant of Algodual-Maiandeua, who was one of the first persons years

ago, who established one<sup>439</sup> of the first bars in village Algodual, and is living now in Fortalezinha (having a bar and restaurant), told me that he buys the fish in Maracana. Asked why, he confirmed continuance of fish stock declined and therefore change of professional occupation by many in order to fulfil the family's basic needs, a process that began in the 1960s as F. M. and K.M. Teixeira told in 2003. Reasons for the decline have been named such as growing boat traffic in general and industrial fishing that makes the fish stock migrate and leads to overfishing as M. O. Senado de Nazaré told. (Kaufmann 2003: 68)

### 5.3.2 Island Algodual

Village Algodual is the biggest of the four villages of the island siblings. It is located at the coast of the bay of Marapanim, between the feeder of Muniz and Furo Velho. According to the 1999 field research 898 inhabitants lived there in 166 houses. Furthermore, 191 mainly coastal estates, built by regular tourists, have been counted. Most of the annual tourists that come to Algodual-Maiandeuá visit the village Algodual, which is why the village is most advanced in infrastructure<sup>440</sup> and environmental dispute. (Barros 2010: 43) The village's origin is traced back to the 1920s by Cardoso (1997: 12) based on information given by the oldest inhabitants at this time (Quaresma 2000: 182). It was used as an entrepôt for fish (Ibid., Barros 2010: 43) by fishermen coming from areas close to the island Algodual, Vista Alegre and Camará (Marudá and Marapanim) (Quaresma 2000: 182). As Quaresma continues, referring to the named inhabitants, at the beginning of 1930 the island had just approximately 30 houses. (Ibid) Contemporarily, village Algodual is the most important place on the island from the perspective of environmental legislation, since most of the important and recognised stakeholders are located there, which is why the case study is settled mainly in this village like the most recent one of Barros (2010).

### 5.3.3 Island Maiandeuá

Fortalezinha, Mocooca and Camboinha are the names of the three 'Nucleos Urbanos' [villages] on the island of Maiandeuá. According to most recent data (Negrao 2003: I-III), the biggest village on the island is 'Fortaleza do Mocooca', as it is called by inhabitants of this village (Kaufmann 2003: 54), or 'Fortalezinha', and had 480 inhabitants, whilst the second biggest one is Mocooca, containing 170 people, followed by Camboinha, the most native village of all on Algodual, and the less modernised of all villages on Algodual, containing 137 inhabitants (Negrao 2003: I-III). Compared with the data as provided by Quaresma (FUNASA 1998), the population grew within five years about 4.6% in Fortalezinha (from 459 (Quaresma 2000: 158) to 480 inhabitants), about 3% in Camboinha (from 133 (Quaresma 2000: 172) to 137 persons),

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<sup>439</sup> A relative of the fisherman, living in village Algodual and owning a bar there too, told, that this bar was constructed close or inside of the mangrove zone and was finally destroyed by ground degradation.

<sup>440</sup> Opposite to the other three villages, Algodual's house construction is pure brickwork or wooden brickwork whilst in Mocooca, Fortalezinha and Camboinha construction rather is simply constructed of wood and mud. (Barros 2010: 44)

but in case of Mocooco by 50% (population growth from 113 (Quaresma 2000: 149) to 170). Contemporarily, one can see that Fortalezinha emerged to a second advanced place in infrastructure and housing construction on the APA Algodual-Maiandeuá (but certainly a long way after village Algodual), whilst Mocooco follows shortly after. Altogether, the three villages have 149 houses (28 in Mocooca, 104 in Fortalezinha and 27 in Camboinha) (Quaresma 2000: 149, 159, 172), which is less than half of the housings in village Algodual.

### 5.3.4 Accessing the field

There are two possible access ways to the field, first, the way from federal capital Belém, to the harbor of the city Marudá, about 163 km using the BR-316, PA-136 and PA-318, and another 40 minutes by boat, going directly to village Algodual, or, as the second option, to the harbor of the capital of the municipality, city Maracanã using the PA-316 and then PA-320, and another one hour trip by boat, that has a stopover close to Mocooca before its destination at village Algodual. Finally there is a third (less used and less known) option which uses PA-316, PA-320, PA-395 and PA-430 to city Cidade de Quarenta, where a boat goes to village Mocooca and back.

Map 9: Access to the field of research



Source: Kaufmann 2003: I



### 5.3.5 History and culture

#### Mesoregion

There is no clear data about first settlements in the region, but Nascimento assumes a time about 5,000 years ago<sup>441</sup> (1993: 24), whilst Souza estimates first inhabitants already 8,000 years ago (1999: 34). Studies show the existence of pre-colonial population in the meso-region Nordeste Paraense and also archaeological indications of human presence there like “Instrumentos líticos, resíduos de alimentos e de fogueiras, instrumentos de trabalho, raladores, moedores, restos de panela, carimbos corporias, osamentas humanas em enterramentos cerimoniais, grandes depósitos de conchas e valvas de moluscos, conhecidos como sambaquis; espinhas de peixe atestam, através de datações a partir do C14, a milenaridade da presença de povos pescadores-coletores no litoral paraense” [instruments, waste of food and bonfires, tools, graters, grinders, pot rests, stamps corporis in human osamentas ceremonial burials, large deposits of mollusk shells and valves, known as middens, fish bones attest, through dating from the C14, the presence of the millennial-gatherer peoples fishermen on the coast of Pará] (Furtado 2001: 172). As Barros points out, the Mesoregion Nordeste Paraense is recognised for its antique occupation, in particular important for archaeological research (2010: 34).

#### Municipality Maracanã

First documentation of this region shows evidence of investigation in 1513 by Diogo Leite and Baltazar Gonçalves. A century later, on August 17, 1613, French colonists, under direction of captain Daniel de La Touche, reached an indigenous village called Meron, which is called today Maracanã. Two years later, they were expelled by Portuguese troops, led by Jeronimo de Albuquerque. (Souza 1999: 20) On February 9, 1622, Spanish colonists occupied the nearby island of Marco (that contains the named beach of Marco-Marieta [see above]) and setup a small demarcation monument to take possession of it. But it lasted until the arrival of Pater Antonio Vieira (Barello et al. 1916: 13) and his friars from the Jesuit order at January 17, 1653 when the first Jesuit mission was founded in the region to catechize the Indians and – at the same time – to enforce presence and dominion of Portuguese colonists. (Souza 1999: 22) Maracanã's chronicle, found damaged by fire in church Sao Miguel and then refurbished during field research 2003, describes clearly the duty of the Indians living there: “1 a: - Para ficar nas mesmas aldeias, tratando de suas lavouras e familias” [To stay in the same villages, dealing with their crops and families], 2 a: - Para servir aos moradores (senhores) e familias [To serve the residents (lords) and families], 3 a: - Para acompanhar os missionários nas missoes” [To accompany the missionaries on missions] (Chronik 1902: 4). Municipality Maracanã has its origins in expanding actions of the Jesuits starting in Belém towards to coastlines of present state Pará and

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<sup>441</sup> The author refers at this point to the location relatively close to the islands Algodoal-Maiandeuá, a beach called Marco-Marieta. (Kaufmann 2003: 58, note 113)

along the rivers. (Barros 2010: 35) Hereby the indigenous simple village ('aldeia'<sup>442</sup>) Maracanã became mission of the Jesuit order that established there the church of São Miguel. From 1700 on, it was named 'Vila de Cintra' [village Cintra] until 1757 AC. (Muniz 1904: 1) In 1755 Maracanã became the status as village by governor of the province of Grão-Pará, Francisco Xavier de Mendonça Furtado, (Maracanã 2011: 6) improving the name to 'Vila de Nova Cintra' [village New Cintra] (Muniz 1904: 1). “Na mesma ocasião” [At the same time], as Barros puts it “aquela ordem religiosa foi expulsa do domínio português” [that religious order was expelled from Portuguese rule] (2010: 35). So, whilst Maracanã improved in structure and status, the political regime took its chance to get rid of an order was seen as a possible threat to their royal power in Europe too<sup>443</sup>. The mentioned expulsion of the Jesuit order is told by the Secretaria de Estado de Planejamento, Orcamento e Financas (Maracanã 2011: 6). Maracanã's chronicle tells a different story:

“Wenngleich auch das am 06.06.1755 durch den Provinzgouverneur von Pará, Francisco Xavier Mendouca Furtado, erlassene Gesetz, welches die Umbenennung von Maracana forderte, im Zusammenhang mit der 'Vertreibung der Jesuiten' in dieser Region stehen soll[,] (...) ließ sich allerdings [weder] durch die gefundene Quelle, die akribisch die Aktivitäten des Ordens in dieser Region erfasste, die Chronik der Katholischen Kirche in Maracanã, noch durch von mir geführte Gespräche eine wirkliche Vertreibung nachweisen. Es gibt allerdings Berichte einer 2 jährigen Vertreibung von 1700 bis 1702”

[Even though the law of June 6, 1755, enacted by province governor of Pará, Francisco Xavier Mendouca Furtado, which proposed renaming of Maracanã and allegedly was connected to the 'expulsion of Jesuits' in the region, is proven neither by the given source, which gathered the activities of the order in the region with meticulous precision, nor by interview. There are however reports of temporary expulsion between 1700 and 1702] (Kaufmann 2003: 59, note 120). Rather, as the chronicle can show, is there a “ununterbrochene Liste von Kirchenvorstehern seit 1753 bis zum heutigen Tag (...). Demnach war der erste Primeiro Padre dort der deutsche Katholik Pater Pedro Decker” [continuing line of churchwardens since 1753 until today. Therefore, the first one was the German Father Pedro Decker (Ibid., cf. Chronicle 1902: 87). In 1833 Cintra was elevated to municipality and two years after achieved formal status as city. Cintra got back its original name Maracanã in 1897 by federal law No 518, May 28, 1897 (Barros 2010: 34-35, Muniz 1904: 87) and has had it ever since.

### Islands Algodual-Maiandeuá

Earliest esteems in regards to the settlement of the islands Algodual and Maiandeuá are made by historian Carlos Roque who assumed, that Maiandeuá was first inhabited by the Maias. According to his assumption, they founded a city called 'Mayandeuá' at the place where today the 'Lago da Princesa' [lagoon of the princess] is located. (Souza 1999: 32) For geomorphologically unconstructable reasons the city was overwhelmed by flood and the Maias migrated elsewhere. Elizel Nascimento shows in his ethymological

<sup>442</sup> This term, as used by Muniz (1904: 1), describes – in opposite to the word 'village' – a smaller and more simple unit.

<sup>443</sup> This was why the order was liquidated in 1773 by Pope Clemens XIV until its reestablishment in 1813 by Pope Pius VII. (cf. Kaufmann 2003: 59, note 119)

exegesis some reasonable interpretations of this first denomination used for the area. As he confirms, regarding the term 'Maiandeuá', the word “mãe (...) foi traduzido para Maya<sup>444</sup> (...). Dentro dessa estratégia do colonizador que interagiu entre as duas raças, encontramos termos linguísticos que evidenciam esse aspecto cultural: Mayaduva, ou Mayaduba, onde 'Duva' ou 'Duba' significam 'Cheio’” [mother was translated to Maya. Part of colonist's strategy, that interfered with two races, we find linguistic terms which give evidence to this cultural aspect: Mayaduva or Mayaduba, where 'Duva' or 'Duba' means 'well-nourished'] (1993: 64, cf. also Souza 1999: 32 et seq.). Nascimento provides two further interpretations. In his understanding 'deua' bases on '*muitos*', so meaning 'a lot', created the name such as 'location of lots of mothers'. The second interpretation is based on the assumption that 'Maya' refers to the indigenous people of the Maia nation, so the name of the island means “Lugar do Maias” [place of the Maias] (Nascimento 1993: 66). The lagoon, as Loureiro stresses, is still the most beautiful or at least best known place on Maiandeuá (1987: 11), the centre of legends and myths about magic (Kaufmann 2003: 47) as will be outlined later on. In these times, as Souza concludes, Maiandeuá was “um lugar plural de misteriosos acontecimentos” [a place of mysterious events] (1999: 33).

Island Algodoal on the other hand, got its name from the Portuguese words *algodão* [cotton] and *algo-dor* [some pain] as Cunha points out (1982: 31). The construction of the name is guessed by Souza in the coincidental exploration of the island by sailors which thought of cotton when seeing the white beaches and crystalline surf (1999: 31). More legendary and mythically influenced, but not necessarily less true, are stories about the magic of the island that makes those feeling pain when they have to leave the island, especially men. So, in consideration of these etymological assumptions, one could translate the name of the island as 'Islands of the cotton like surf and well nourishing mother, to which all want to return'.

Both islands were inhabited by indigenous people long before first colonists came to this territory, which can finally be seen when connecting indigenous legends, as told in the chapter about the cultural regime, to the legends told on the island. This must be seen as an obviously distinctive part within the population Algodoal-Maiandeuá: The indigenous, native population on the one hand, and on the other hand the 'new' [incurred] population. As Figueiredo puts it, the major part of the population consists of “pescadores artesanais e de pessoas de outros lugares que se estabeleceram na ilha as quais vem contribuindo para mudar o perfil de uma comunidade tradicionalmente pesqueira” [fishermen and persons from other locations which have settled on the island and changed the character of the traditional fishermen community] (et al. 2010: 216). In consequence, the difference between 'new' and 'old' population holds an influential position in the field, in particular in institutional terms.

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<sup>444</sup> By orthography reform, the indigenous 'y' in the description of 'Mayandeuá' was exchanged by an 'i' as Souza adds. (1999: 23, note 14)

### 5.3.6 Indigenous tribes and the native population on Algodual-Maiandeuá

For characterising the indigenous origins of the native population, some cultural hints can be outlined. Hereby is to mention, that official institutions (like FUNAI) do not label Algodual-Maiandeuá and their inhabitants as Indians, but the culture of the indigenous population on Algodual-Maiandeuá based on various other myths, such as the legend of the *caranguejo* [crab] and a song and dance called *carimbó*<sup>445</sup>. In this music, legends are told, for example the one about the princess, speaking about romance in the moonlight, the beauty of nature and the magic of the princess of Algodual-Maiandeuá. (cf. Nascimento 1993: 59-63, Kaufmann 2003: 46). One can see an interesting coincidence between these and the central legend of Algodual-Maiandeuá, as it is told by the indigenous population: The myth about the princess of Algodual-Maiandeuá, which can be seen in names (such as beach of the princess, lagoon of the princess) and genesis of the island's most famous lagoon by the magic of the blond princess with green eyes.<sup>446</sup> Nascimento tells the legend of a fisherman who met the princess at the lagoon. She was terrifying, since she appeared in the shape of a great cobra, but then she changed shape to the named beautiful woman that tried to seduce the fisherman. The fisherman was scared and ran away. When he returned she was already gone. (Nascimento 1993: 63-64) Indigenous people from the village Fortaleza (or Fortalezinha) spoke about a siren that lived on the bottom of lagoon who was waiting for men to seduce and to take them down forever. (Kaufmann 2003: 48-49) This is another example of how the legend of the Great Cobra (see above) is reproduced in regional myths, mixed with other ideas and cultural adaptation. Nowadays it is much more difficult to find people that know and/or are willing to tell stories about the legends. But you can see some interesting art there too, that show the princess of Algodual-Maiandeuá not as white, but as a black women. This may refer to new-heathen interpretations of the Black Madonna, very popular in Brazil too, that – as argued by Cronenburg – follow a scheme of dark equal old equal wise equal death equal transformation, combining magic and the roots of all “Weltreligionen einschließlich ihrer heidnischen Vorgänger” [world religions inclusively their heathen ancestors] (1999: 11).

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<sup>445</sup> For more information about music and cultural influence in general in Northern Pará read Loureiro et al. 1987, Nascimento 1989, and in Algodual-Maiandeuá Kaufmann (cf. 2003: 62-64).

<sup>446</sup> This happened by the 'Enchantment of the Princess': “Na mágica e nos mistérios de uma noite de luar a princesa, de olhos verde e cabelos loiros, apareceu tomando banho no lago e pediu a um pescador que a desencantasse, em troca de algumas jóias preciosas de seu castelo. O pescador foi tomado por um impulso cósmico, como se transportado para outra dimensão e ao reincarnar-se do susto, fugiu. Frustrada, a princesa chorou, pois estava triplicado seu encanto e uma onda gigantesca se lançou com impetuosidade sobre as dunas do lago, destruindo em parte seu paisagismo, que, de longe, aparecia um monte de algodão.” [In magic and mystery of a moonlight night, the princess with green eyes and blond hair, appeared bathing in the lake and asked a fisherman to disenchant her, with some jewelry in exchange for his castle precious. The fisherman was seized by a cosmic impulse, as if transported to another dimension and reincarnated from the shock, and fled. Frustrated, the princess cried because it was tripling its charm and a tidal wave rushed with impetuosity on the dunes of the lake, destroying part of its landscaping, by which a hill of cotton appeared.] (Algodual 2002).

### 5.3.7 The 'new' population

As impossible as it is to sum up the group named as tourists under one very general cultural or rational consideration, also impossible is this task in regards to the 'new' population. Because of this heterogeneity both origins and culture of these will be shortened to that what generally can be said about them. The distinction is nevertheless important, since their economical power and influence in the existing institutions is undeniable, or rather, seminal for the analysis of the field.

Certainly, one must take into consideration, that the distinction which is made, is artificial, since behaviour is fluent. Some 'new' inhabitants have adopted the indigenous myths and way of living, arguing that this island “é uma relação mágica com a natureza, é um paraíso, por motivos pessoais as pessoas moram nesse paraíso, mas buscam, principalmente, a qualidade de vida, a fuga da violencia dos outros lugares” [is a magic relation with nature, it is a paradise, where people are living due to personal motives, but principally looking for life quality, a way out of violence in other locations] (Barros 2010: 52).

#### Origin

As said, the development on Algodual took place in the same named village, which since then holds leading position in economical development and transformation. (cf. Kaufmann 2003: 68, Quaresma 2000: 168) “Com o crescimento da vila [Algodual], surge na década de 1960 as primeiras casas de alvenaria, possivelmente de propriedade de pessoas de fora do local.” (Quaresma 2000: 182) This process is sometimes located in the 1970s too and in the most recent study about Algodual-Maiandeuá accurately described as “turistificação” [touristification] (Barros 2010: 56). This was the time when people moved to Algodual not just from nearby fishing villages, but from Pará's countryside too, first they came temporarily, then permanent. When opening the new paths to the islands, “certa facilidade de meios de transporte e nas maneiras de acesso, a APA recebe constantemente, e cada vez mais, pessoas de fora, que ali se fixam” [relative ease of transportation and ways of access, the APA receives constantly, and increasingly, people from outside, that settled there] (Figueiredo et al. 2010: 221). These people, as they continue, are principally from urban areas looking for a preserved environment and an improvement of their socio-economical situation, based on more free time (Ibid, 218) among other aspects, such as better climate and a closer beach than in the cities, as the president of the 'Associação dos Canoeiros' [Association of Canoeists] told in the qualitative unstructured conversation. In this context, the difficulties of defining 'traditional population' – as mentioned – must be considered. In the following this piece will therefore use the concept of 'native' and 'indigenous' as described by the Christiane Nogueiro, executive director of the Secretary of the Environment (SEMA) for APA Algodual, who stressed that “um nativo é uma pessoa que nasceu lá. Não é importante se você está lá 18... 20 anos. Se você é não nasceu lá, você é de fora”<sup>447</sup> [a native is a person who was born

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<sup>447</sup> The creation of an internality and externality as developed by Mignolo (2000: 33, cf. p. 263 in this work) was part of other qualitative conversations and was answered similarly by local native inhabitants in their own way, but refused

there. It is not important whether you are there for eighteen or twenty years. If you are not born there, you are outside] (Appendix 3).

### Culture

The cultural difference must be seen as linked to their economical possibility. Reasons for these people to come are different from neighbouring fishermen that came in the past. As stated, the so called 'new' population comes, as said, for other purposes: As Figueiredo points out, they come to buy land and to construct houses for holidays or to open a hostel for tourists (et al. 2010: 221). In consequence, a permanent growth of new inhabitants, from outside takes place as they establish their businesses according to the models of large cities, where they come from, which is hindering enormously, culture and local traditions (Ibid, 219). Culturally these people share, what can be called 'occidental rationalism', learned by originally growing up in cities much more developed than Algodual. Consequentially, they know how to deal with institutional structures created by the SEMA in order to develop the area much better than those that grew up under traditional, indigenous conditions. Based on the different conditions different forms of inequality or, more specifically, unequal distribution of environmental burdens and access to the available environmental goods can be observed and explained. In the following chapter it will be demonstrated, inasmuch as how most recent legislative configuration reflects the intended approach, and why not.

#### 5.3.8 Creation of the APA Algodual-Maiandeuá

APA Algodual was created in 1990 by state law 5,621 on November 27. In 2000 federal law 9,985/2000 set a requirement of participation of residents in certain UCs, one of them APAs, (§2) to create a 'Plano de Manejo' [management plan] within 5 (five) years from creation. This participation was regulated on July 30, 2007 in Law 7,026, the law that created the 'Secretaria do Meio Ambiente' (SEMA) in changing dispositions of Law No 5,752, „que dispõe sobre a reorganização e cria cargos na Secretaria de Estado de Ciência, Tecnologia e Meio Ambiente - SECTAM, e dá outras providências“ [providing for the reorganization and creation of jobs in the State Secretariat for Science, Technology and Environment - SECTAM, and other measures], created on July 26, 1993. Most importantly Art. 2 of the law gave direction over the environmental police forces to the SEMA in incentive VI<sup>448</sup>. Furthermore it defined the creation of a "Conselho Estadual de Meio Ambiente" [state council of the environment] in Art. 4, incentive A. Since 2008 the discussion about the management plan for APA Algodual/ Maiandeuá continued, many times without

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by representatives of the 'new' population. For this reason, the two questions of acceptance and representation of the indigenous part of the population has been considered in the Q methodology analysis.

<sup>448</sup> “exercer o poder de polícia ambiental, através de aplicação das normas e padrões ambientais e do licenciamento e da ação fiscalizadora de projeto ou atividade, que possa colocar em risco o equilíbrio ecológico ou provocar significativa degradação ao meio ambiente“ [to exercise the police power performance through application of environmental norms and standards and licensing and supervisory action project or activity that may endanger the ecological balance or cause significant damage to the environment] (Law 1993)

presence of the inhabitants, as Figueiredo and Santana state. As they continued, the management plan was at the start of 2010 not concluded and far from publishing (2010: 216) In time of the present research, the plan was concluded according to information given by the responsible representative for the APA Algodoal of the SEMA Christiane Nogueira, but still in legal processing. In consideration of the fact, that was told by the SEMA too, that the management council haven't met in 2010 and wouldn't meet until this field research was concluded (February 2011), one must assume that there was no progress with the state of what the authors discussed."A ausência desse documento e de ações que estejam intimamente ligadas à utilização da área de forma sustentável dificulta a adequação e/ou solução dos problemas evidenciados na ilha desde a sua criação" [The absence of this document and actions that are closely linked to the use of the area in a sustainable manner hinders the suitability and / or solution of the problems highlighted in the island since its inception] (Figueiredo/Santana 2010: 216). Finally, even before, on September 22, 2005, legal action was undertaken in way of motion (moção) No /2.005. (cf. Appendix 7) to push certain environmental and social action. This will be a topic later on.

#### Management Council

The Management Council was created in June 6, 2006 to create a 'Plano de Manejo' [Management Plan] by the 'Secretaria de Estado de Tecnologia e Meio Ambiente' (SECTAM) by governmental directive [portaria] No 291 in order to give a framework to meetings, two or three times a year, to discuss problems such as "a gestão dos resíduos sólidos, proibição de veículos automotores na APA, sinalização da Unidade, segurança pública local, destinação da madeira do desmatamento ilegal realizado na ilha, apreendida pela SEMA" [solid waste management, prohibition of motor vehicles in the APA, the signaling unit, local public safety, disposal of illegal logging of timber carried out on the island, seized by SEMA] (Figueiredo et al. 2010: 217). The council is located as part of one of five directorates of the SEMA: The directorate of protected areas. This directorate contains the coordination of the conservation units that includes 13 programs, in which the administration of the APAs is one part. The management council in Algodoal should meet four times a year and ideally has 20 institutions as members, 10 are associations and another 10 are governmental bodies. The first problem was the evaluation of the members, since the Council hasn't met since 2009 and there was no final certainty, whether all non-governmental institutions (associations) still exist. Eleven governmental stakeholders in the Management Council are or have been representatives for APA Algodoal-Maiandua: Christiane Nogueiro for the state's secretary of the environment (SEMA), Marcia Godesh, coordinator of 'O Projeto de Gestão Integrada da Orla Marítima' (ORLA) [the project of integrated management of maritime margin] and part of the 'Superintendência de Patrimônio da União no Estado do Pará' (SPU/PA), a representative of the 'Delegacia Especializada em Crimes contra o Meio Ambiente' (DEMA) [representation specialised in crimes against the environment], the 'Instituto Brasileiro do Meio Ambiente e dos Recursos Naturais's representative (IBAMA) [Brazilian Institute of Environment and Renewable Natural Resources], a representative of the 'Secretaria de Estado e Saúde Pública' (SESPA)

[secretary of state and public health], prefecture's representative of Maracanã, prefecture's representative of Marapanim and – last but not least – Mello, the mayor [vereador] of Algodual, who represents not just all inhabitants in Algodual-Maiandeuá, but the whole countryside of municipality Maracanã too<sup>449</sup>. Furthermore two scientific research institutions have been considered in the panel. The 'Museu Paraense Emílio Goeldi' (MPEG) [Museum of Pará Emílio Goeldi] represented by Prof. Graça Santana<sup>450</sup>, who founded in 1997 the NGO GAF (see below) and the 'Universidade Federal do Pará' (UFPA) [Federal University of Pará]. Mentioned is further the representative of the official tourism organisation in the state Pará, called PARATUR. Twelve non-governmental representatives have been assembled in the council, which are Marcinha, president of the 'Associação Comunitária do DESEnvolvimento e Preservação da Ilha de Maiandeuá-algodoal' (ACDESPIM) [Common Association of Development and Preservation of Island Maiandeuá-Algodual], Kakaio, president of the 'Associação dos Barcheiros' [association of skippers], Janaina Faria, president of the 'Associação dos Canoeiros' [association of canoeists], Bedengo, president of the 'Associação dos Carroceiros' [Association of Coachmen], Perreu, president of the 'Associação de Empreendedores de Turismo de Algodual' (AETA) [Association of Entrepreneurs of Tourism on Algodual], Paulão, president of the 'Associação dos Moradores de Fortalezinha' [Association of Inhabitants of Fortalezinha], Gefeson, president of the 'Associação dos Moradores de Camboinha' [Association of Inhabitants of Camboinha], Mãe, president of the 'Associação Comunitária Pescadores Artesanais da Vila de Algodual' (ACPAVA) [Common Artesan Fishermen Association of village Algodual], 'Cooperativa dos Lancheiros da ilha de Algodual – Marudá' (CLIMAM) [Cooperative of food sellers on island Marudá-Algodual]<sup>451</sup>, Ivan as coordinator of the 'Grupo Ambiental de Fortalezinha' (GAF) [Environmental Group in Fortalezinha], Marcelo Costa represents the 'Associação Pró-Ilha de Algodual-Maiandeuá' (SUATÁ) [Association Pro-Island of Algodual-Maiandeuá] and the 'Grupo Ecológico Maiandeuá' (GEMA) [Ecological Group Maiandeuá]. The Management Council is meant to discuss problems and questions on the island, but does not have any financial power in itself. Decisions made by the members are discussed in the institutional framework of the SEMA further and decided then on a higher level with adequate financial competence and power. So, no member of the Council is receiving funds for this institutional body, nor the representative of the SEMA in the council can do so by its own. Powerful also is the NGO SUATÁ, based in Belém, capital of federal state of Pará, and led by an argumentative advocate, who already has changed conditions on the island by legal action against the municipality government. Whilst SUATÁ focuses in its activity mainly on

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<sup>449</sup> According to Mello, municipality Maracanã has 9 (nine) mayors, 8 (eight) are coming from the cities and one represents the countryside, which is him. Therefore he is not always in his house in village Algodual, but traveling to the other communities he represents.

<sup>450</sup> Santana is a professor of anthropology and native from Algodual-Maiandeuá, in particular from Fortalezinha, who has done much research in Algodual and opened access to the field Algodual-Maiandeuá, Fortalezinha, for my first research in 2003.

<sup>451</sup> Formerly known as 'Associação dos Lancheiros Marudá-Algodual' [association of speedboat captains Marudá-Algodual] (ALMA), but then transformed into the above named cooperative.



village Algodual, important to mention is the NGO GAF, that is the oldest<sup>452</sup> existing NGO nowadays, based and focused on Maiandeuá, in particular on Fortalezinha and the close Mocooca. Last, but not least, importance and responsibility, and at the end power too, lies by the police on Algodual-Maiandeuá. The named 'Delegacia Especializada em Crimes contra o Meio Ambiente' (DEMA) couldn't be found on the islands, but two police men that defined themselves as members of the military police as the only executive authority there. For the purpose of the Q sorting, they have been taken as representatives.

### 5.3.9 Analysis of the local problem set

The created theoretical and legal framework has given some evidence to some general problems existing in that area, which are unequal distribution of environmental goods in the shape of a certain path (or understanding of the term) of development, such as less access to education, water etc., (mainly) because of social class but also because of race, gender, age among other things. Central to this piece is to face the abstract theoretical problem set, evolved from the territorial, cultural and development regime, reality in the field. As could be seen, the three regimes influence strongly the environmental regime in general, the Brazilian environmental regime especially and the environmental regime in the Amazon in particular. The translation of the theoretical global problem into an operationalized local problem description is done – as outlined in the methodological chapter – by applying Girtler's ethnographic approach of ero-epic conversations to the field, in the way of free unstructured participant observation, and in consideration of most recent researches as well as results of earlier field researches done on my own (cf. Kaufmann 2003). Hereby worth mentioning may be the connection of Girtler to the methodological approach of the discussed Chicago School, in particular Robert Ezra Park and W. I. Thomas, who researched socially mediated environments in urban areas by studying, what was called 'informal social relationships'. Therefore, application of this methodological approach can refer back to the beginnings of the – even criticised – first hints to an environmental sociology. Even more, the 'social nature' context of the environmental problem cannot be properly understood and interpreted, if the way by which the problems are mediated, are all-embracing researched and analysed. In the following, the local situation will be briefly described in the context of its history to grasp as much relevant environmental discourses as possible. The management council on Algodual has been evaluated as crucial to this study, which is why stickiness of the members to the council is as much important to this study as the institutional framework. There is to mention, that, according to the protocols of the Council's meetings, participation of Council representatives is not stable. Representatives from Maracanã, Marapanim and the SESPA have not been participated regularly (SUATÁ 2006). Even more, one very active stakeholder in the field isn't even represented in the management council: The project, run by national government, here represented by Centrais Elétricas do Pará S.A [Central Electrics of Pará] (CELPA), called 'Luz para Todos' [Light for All], which installs electric connections to all

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<sup>452</sup> Founded in 1997 (Kaufmann 2003: 82)

houses, regardless of their location. This project takes certain action on island Algodoal, and on Maiandeuá too. As Christiane Nogueiro (SEMA) said in the conversation, the project installs electric connections even in the ecological zones, where the mangroves are if a house is built there, even illegally (Appendix 3). Then, there is the group of the very affected, but less active, persons: The natives. As the SEMA confirms, what can be perceived today, not many natives are organised in associations. The majority of the persons leading associations aren't natives which must be recognised as a local resistance<sup>453</sup>. First of all, as she continued, “as associações de fora expressão menos da comunidade da ilha” [the associations from outside express less of the island's community] (Appendix 3). The problem caused by this argument must be considered in particular in the interpretation part of the data analysis at the end of the chapter: Just two presidents of the associations, the president of the association of inhabitants of Fortalezinha, and the president of the association of inhabitants of Camboinha, can be counted as natives. If the other associations organized in the management council express very little for the island's community, what are the chances for implementation of a functioning environmental law if the participative organisation is that management council? Furthermore, what is the significance of the executed Q study when most of the Q sort are the 'white' people while the indigenous people are excluded? The former question must be taken in consideration of later interpretative analysis, the second one is considered by adding some representatives from the local population to the Q sort and special consideration of this topic in the Q samples. Another stakeholder, for which non-consideration is true, is the 'Diretoria do Meio Ambiente do Município' [Board of the Environment of the Municipality], that was established for two years in Maracanã. Its spokesman said, the directory had never been invited to the meetings of the council on Algodoal. He told further about lack of interest to do so by the prefecture, since creation of the directory was under pressure from above. Concluding, a general problem in the institutional field is the failure of communication; a broad ray of institutions are working in the field, but having less communicative connection than appropriate. This is linked to Barros' conclusion, that the most the urgent problem is the political failure to resolve the problem, even if he constructively must agree that increasing mass tourism made the problem more evident, but more complex too. (Barros 2010: 62) Others, such as the president of the association of canoeists, and the president of the association of inhabitants of Camboinha, stated in the conversations, that many groups have been denied participation, first of all because the management council is not able to realise any of the decisions made. As Barros adds at the same place, the majority expressed the problem of waste, which has to be resolved for each involved actor in the village. This is supported by the representative of CLIMA, who sees “grande potencial do turismo, mas esse turismo trás problemas como a presença de drogas no interior da ilha, o lixo que fica depois dos feriados e, principalmente, a água encanada” [great potential of tourism, but

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<sup>453</sup> At this point Jason Sharman's statement of global governmental approaches that are powerless against the 'weapons of the weak' (2003: 2), as quoted above, shall be considered in terms of the general approach to apply a functioning environmental law. Obviously, there is not much one can do against this way of resistance beside of recognition that attempts will not satisfy as intended the local requirements and needs without the indigenous, local stakeholders.

this tourism creates problems like drug presence in the island's outback, waste after the holidays and, principally, piped water] (Barros 2010: 58). Therefore, with the contemporary approach, he sees no benefit for Algodual, since the garbage is still in the mangrove zones (Barros 2010: 64). As the director of the infant school in Algodual concludes, Algodual has like all places in Brazil various necessities, “mas o que tem dado mais trabalho é a questao do lixo: coleta seletiva que nao é feita corretamente e, principalmente o acumulo nas altas temporadas” [but what has given more work is the issue of garbage: selective collection that is not done correctly, and especially the accumulation during high season] (Barros 2010: 62). All researches showed or even mention the waste destination problem as a major concern (Bastos et al 1995, 1997, 2001, Endres 1996, Bastos 1996, Cunha 1998, Rocha/Bastos et al 1999, Quaresma 2000, Furtado/Quaresma 2002, Kaufmann 2003) caused by both tourists and inhabitants. As a matter of fact, efforts have been undertaken to better manage the problem. One was undertaken by cabinet member Anaice of the PMDB (Partido do Movimento Democrático Brasileiro) at 'Assembléia Legislativa do Estado do Pará'. Proposal No /2.005. was signed at September 22, 2005 and claimed “implementação do Projeto de Micro-Usina de Compostagem de lixo (Algodual)” [implementation of a project of micro-waste composting plant] (Appendix 7). In 2011 a representative of the Council gave me the paper as a proof that existing institutions are not willing or capable to better the situation ever. No governmental representative in the Council (SEMA, SPU/PA-ORLA) had ever heard of this paper. The SPU/PA declared not to be in charge of this matter, but the SECTAM (today SEMA). Finally it was found out, that this part of the proposal was refused by the SEMA for some reason, even though the costs have been just by about 5,000 R\$ according to information of the SUATÁ. Other resolutions in this piece such as 2 - finalizing of water supply, 3 – construction of a bore, construction and structuring of an agency of Banpará (Bank) (4 –), of the post (5 –) and of the DEMA (6 –) as well as noticeable police supervision in Algodual have been transferred (upon request) from one institution to another (SPU/PA, SEMA and municipality prefecture in Maracanã). As an obvious conclusion, the communication and coordination between the different institutions on the one hand, and with the people in region on the other hand, must be seen as a crucial point, which disappoints expectations of one and the other. Another approach in the past has been the 'Campanhas contra o lixo' [Campaigns against waste] and environmental education of the community by NGO GAF, founded in 1997, and formerly active in the field. (Kaufmann 2003: 82) These campaigns contained the collection waste and conversations with the other inhabitants as well as a yearly event called 'birthday of GAF' (Ibid: 83). But the mentioned 'distance' problem applied even there and in that time, in 2003, since GAF had more members in the capital Belém than on Algodual and all structural meetings were held there, more than 200 km away from the area they want to protect. (Kaufmann 2003: 84) This is also true for the second NGO SUATÁ, who has successfully taken legal action against the prefecture in Maracanã, succeeding in the point, that after the high tourist seasons the prefecture has to pay and does pay for the cleaning of the beaches. The problem still remains, as said, since the waste is produced at other places too, as a result of migration (as mentioned) but because of enterprise

expansion to the beaches, namely the princess beach, too. From the institutional perspective of the two NGOs, the solution is concluded as the following: “Primeiro” [First] a representative of GAF said, “temos que ter o apoio da Delegacia do Meio Ambiente, IBAMA, Secretaria Estadual do Meio Ambiente e, principalmente fiscalizacão desses órgãos, ou sim podemos caminhar em frente” [we must have the support of the Environmental Police, IBAMA, the State Department of Environment and especially supervision of such organisations, but can move forward] (Barros 2010: 63). The DEMA, which was invited to the Council's meetings has a branch with two policemen like an executive authority. These two aren't permanently located there, but are always just temporarily there, changing every two-three weeks as the municipality representative of the environment's board said. As he continues, they are part of the military police of federal state Pará with objective to catch drug criminals. There is certainly a need for regulation, since the process of 'anti-socialisation' could be observed as a process of increasing drug-related crimes and abusive drug usage, which didn't just only concern the extension of traditionally used drugs such as the consumption of Delta 9-tetrahydrocannabinol, but of drugs mixtures containing cocaine too. (Kaufmann 2003: 64-65, 79-80, 95-97) As Quaresma points out, since “o colapso do modelo de valorização da Amazônia, (...) ela ficou entregue a um conjunto de atividades 'marginais', entre as quais se destacam o garimpo e o narcotráfico” [the collapse of the valuation model of the Amazon, (...) was delivered to a set of 'marginal' activities, among which stand out gold mining and drug trafficking] (Quaresma 2000: 62). Truly, these activities do less damage to the rain forest than the former projects, that failed, but just opened precarious surviving conditions for the population, such as child prostitution (Kaufmann 2003: 80) and destruction of social relationships. The representative of the military police in village Algodual, at the time I was in the field, refused to be part of the environmental police, but his answers to questions regarding most recent activities showed a focus on civil crime matters instead of environmental crimes or crimes against the SEMA law. He expressed difficulties to consider the environmental problem as a concern for the police because of the lack of an institutional framework for doing such work. This can be seen in line with that which Ivan as representative of GAF concludes in compliance with Marcelo Costa (SUATÁ), who confirmed this in his interview too: “Os problemas existem com a falta de estrutura, e porque só tem reuniões<sup>454</sup> e nada é resolvido, e ainda trouxe a proibição de várias coisas” [Problems exist with the lack of structure, and because it only has meetings and nothing is resolved, and even brought the prohibition of various things] (Barros 2010: 65). This aspect is furthermore confirmed as a fact by the president of the Association of Community Development and Preservation of the Island Maiandua-Algodual, who refused further participation in the management council, reasoning comprehensibly that the hours spent there could be spent a better way when doing what the association did before. On the contrary, an indigenous fisherman, living in Camboinha ever since, shares the critique on institutional inefficiency, but has a different interest for the community he represents: Strengthening the preservation of cultural heritage, such as carimbó, and

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<sup>454</sup> of the Management Council

giving village Camboinha better access to the money making opportunities created by tourism in village Algodual. Associação dos Moradores de Camboinha: Environmental education has been successfully implemented, but “pouca coisa mudou depois da criação da APA, mas trouxe muitas oficinas para nós moradores”[]. Another inhabitant of Camboinha confirmed, saying that very few benefits have been transferred by APA creation. (Barros 2010: 65) “Em Camboinha, o nosso modo de vida é muito importante, é um dos lugares de paz para sobreviver” [In Camboinha, our way of living is very important, it is one of the places of peace to survive] (Barros 2010: 53). Both sides, 'new' and indigenous population, have pointed out, that a communication problem exists within the management council<sup>455</sup>, between those who are called 'new' population<sup>456</sup> and the indigenous people, which is basically a conflict at educational and cultural borders. Occidental rationality as well as institutional thinking come from different understandings of reality, priority, importance and behaviour. They all agreed that there is difficulty understanding each other in the way language is used, language is known and conversations are structured. To this inner-institutional problem comes a very practical one: illegal territorial extraction. As Quaresma stated already in 2000:

“Hoje, tais padrões de habitação são difíceis de serem encontrados, as poucas que ainda existem estão localizadas em áreas consideradas marginais (áreas de mangue), geralmente pertencentes a nativos que venderam suas casas para veranistas ou a pescadores migrantes oriundos de outras localidades, principalmente de Bragança”

[Today, these housing standards are hard to find, the few that still exist are located in marginal areas (areas of Mangue), usually belonging to natives who sold their homes to vacationers or migrant fishermen from other locations, mainly Bragança] (Quaresma 2000: 182). This process continued during the last decade, which can be seen when approaching village Algodual where one nowadays passes on the way to the village on the right hand side a slum like area, where just the indigenous people are living. Constructions can be found not only in the mangrove zones at princess beach, but also on the way (per pedes) from Camboinha to village Fortalezinha. Signs show willingness to sell land, even though environmental legislature forbids land ownership and only grants land use rights to the traditional population, whoever that is, under certain circumstances or requirements.

As a conclusion with reference to the described territorial regime one can combine two statements which are identical with the facts seen during the field research 2010/11: Illegal change of land ownership, selling and buying of land takes place in front of both the SEMA office and the police office in village Algodual. Indigenous people, that have the right given by law to use, but not to own, that land, are selling it to complete strangers. As SPU/PA representative of the management council added, the superintendency of nation's heritage in state Pará (SPU/PA) cannot do anything without a confirmed management plan. Furthermore, when asked for 'resocialization' of illegally bought land, she expressed the opinion, those people that sell their land for a couple of thousand Reais and subsequently waste the money the year after in a bar, should

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<sup>455</sup> Which is confirmed by the SEMA representative

<sup>456</sup> It is to add, that this is a hypothetical abstract term, which is not used in literature. This notion is introduced to describe a difference, not to give one or the other a certain loading.

not be helped anyway. This raises questions about the content of environmental legislature on Algodual-Maiandeuá. The president of ACDESPIM defined<sup>457</sup> the conservation unit's obligation as not determined by preservation of natural resources, but by local environmental training and sensitisation of the community. She said that “nenhum benefício e inclusive o desmatamento vem aumentando no interior da APA” [no benefit and just increased deforestation within the APA] (Barros 2010: 64) have been the result. Once again the already mentioned representative of the unknown association of inhabitants of island Maiandeuá claimed environmental education as the principle requirement to take care for the island realized by both associations and schools. (Barros 2010: 63) The director of the school in village Algodual disagrees, stressing that school has done its part since working on environmental conscience in school (Ibid: 62). Barros concludes that the obligation for more environmental education is now up to the 'poder público' and to do the local associations in order to do the same. (Ibid: 64) As a result, two perspectives have to be considered for the following Q analysis: First, impacts the mentioned problems have on the Management Council, and second, on the population in general. To the first point is to say, that not all registered members still exist, such as GEMA. Others, such as GAF, are only taking part in the administrative, structured program. This can be seen as a process of institutionalization, in which local groups and communities reduce local activity in favour of legal action, or action by lawyers that overtake the problem solving, such as SUATÁ president Marcelo Costa. Different to SUATÁ, the representative of GAF, Ivan Teixeira, is still living on island Maiandeuá, in Fortalezinha, but the group of activists I knew in 2003 and 2005 have been spread out, most in cities in the countryside. A side effect of the institutional weakness and the retreat of local grassroots activities are the defensiveness of the (economic and political) weakest parts of the community.<sup>458</sup> As Barros points out, inhabitants from different villages reveal that there is quasi no evidence for benefit and positive changes on Algodual-Maiandeuá. All inhabitants expressed the following aspects to conserve Algodual-Maiandeuá, such as (a) not to extract sand and stones at the beach, (b) investing in infrastructure, (c) no deforestation, (d) no processing of great constructions in the villages, and (e) preserving the environment. (Barros 2010: 62) On the other side, and criticised by mainstream institutional views, “[e]rroneamente ou até por falta de informações, é comum ouvir de alguns moradores o seguinte: se aqui não fosse APA íamos ter a melhoria no transporte” [mistakenly or even a lack of information is common to hear of some residents of the following: APA were not here we would have to improve transport] (Barros 2010: 65), as the director of the children's school in the village Algodual said. This distinction in perspective refers to the very basis of consideration

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<sup>457</sup> According to Barros, this statement is made by the representative of the 'Associação dos Bares e restaurantes da praia da princesa' [association of bars and restaurants at beach of the princess], which is not known in the management council, but was quasi identically stated by Marcinha, who owns the most famous bar at princess beach and is representative of ACDESPIM in the management council.

<sup>458</sup> On the other hand, GAF and SUATÁ have elaborated the 'Projeto Cultura Ambiental' [Environmental Cultural Project], promoted and patronized by the 'Fundação de Telecomunicações do Pará' [Foundation of Telecommunication of Pará] (FUNTELPA), with capacity to teach up to 80 „agentes ambientais“ [environmental actors] of the four villages in environmental topics such as environmental education. (Figueiredo et al. 2010: 220)

regarding environment and development. In terms clearly introduced in the Environmental Justice conception, these are determined by the evaluation of Environmental Goods and Bads on Algodual-Maiandeuá, and how they are perceived and distributed by different parts of the population. In order to show the problem set regarding these terms on Algodual, the distinction of 'Goods', 'Bads' and Environmental Risks plus considerations about Environmental Racism will be used as text structure.

### Environmental Goods

The Environmental Goods sub-chapter here asks for the benefit: What are the benefits obtained by development process? This will be differentiated in Economic Development, such as Income Opportunities and Electrification, on the one hand, and Human Development, such as Access to information and Access to materials and financial resources, on the other. Within this paradigm this aspect will be outlined and analysed. When speaking about economic development or socio-environmental changes, we must consider highest frequency in village Algodual, followed by the communities of Camboinha, Mococa and Fortalezinha. (Figueiredo/Santana 2010: 221) Obviously, the most evident factor in changing all conditions, is tourism. Hotels and hostels, at least *redários*<sup>459</sup>, are built for the 20,000 to 30,000 tourists, which are visiting the island all year, in particular during the holiday seasons. This was made possible by public transport paths carrying people to the islands and back on a regular basis. Nowadays most of the houses are marked as such and increasing income opportunities come from selling products required by the tourists too. As Barros points out, the resident, who now is in fishing adds other activities. (Barros 2010: 67) The tourism reduces necessary physical work (like fishing, agriculture a.s.o.) of the local population in favour of sharing freedom and environment with the tourists. The demand to satisfy the needs of these tourists that come from all over Brazil<sup>460</sup>, better the life conditions of all inhabitants too, because more and more products from the cities have become regularly available in the local commerce. Added income opportunities also balance seasonal non-availability of fish and give opportunity to further develop business ideas, so more liberty, more options and a better well-being, in particular are possible to some. (cf. Figueiredo/Santana 2010: 219) Most elevated has been the standard of living by electrification. Central project for electrification on islands Algodual-Maiandeuá have been the national project 'Luz para Todos'<sup>461</sup> (LTD) with objective to “acabar com a exclusão elétrica no país” [bridging power in the country] (MME 2011b) This process began in 2004 installing electronic supply of about 7 km and 438 poles connecting approximately 500 people in the four

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<sup>459</sup> This is a kind of a hostel in which one can stay when having or borrowing a hammock. So the owners just have to provide a place to install your hammock. This system is well received in Northern Brazil.

<sup>460</sup> Proper evidence can be found by looking up the membership of the group 'Ilha de Algodual' on Brazil's most used social network Orkut (21,804 members). (Orkut 2011)

<sup>461</sup> This project was initiated by law No 10,438, at April 26th, 2002 and then further qualified by law No 10,762, November 11, 2003 AC. At the same time decree No 4,873 of November 11, 2003, that instituted the National Program for Universal Access and Use of Electricity, called Luz Para Todos [Light For All], came into power, which was considered then in the government ordinance No 38 of March 9, 2004 in reference to Constitution Art. 87, §1, incentive II and IV. Most recent modifications have been done this year by decree No 7324 at January 18th, 2011. MME (2011a)

communities to energy by drawing a line from 'Cidade de 40' [city of 40 (fourty)] over the channel. As Figueiredo and Santana conclude, the community life in the time of lamps was one, today, in time of electricity, it is another. (2010: 222-223) This is convincingly confirmed by a fisherman in village Algodão who stated that you cannot compare the time before they had no opportunity to store fish somewhere since they had no fridge. He further continues that just cold water to drink bettered life a lot. When Algodão-Maiandeuá was electrified, opportunity to use electrical devices raised possibility to get access to information. Not true on the other hand is the claim that by energy installation “os aparelhos de televisão com seus programas trazendo informações sobre novas maneiras de viver e influenciando de forma definitiva a vida do nativo de Maiandeuá, em especial das crianças e adolescentes, que agora querem consumir as roupas e calçados da moda, enfim, objetos de uma cultura completamente diferente da sua” [television sets with their programs bringing about new ways to live permanently and influencing the life of the native Maiandeuá, in particular children and adolescents, who now want to consume the clothes and fashion shoes, short, objects of a culture completely different from your] (Figueiredo/Santana 2010: 223). As Quaresma pointed out, quasi all inhabitants own a battery operated radio (2000: 164).

Qualitative interviews in 2003 have demonstrated that the first television in Fortalezinha (on island Maiandeuá) was established by the mayor when the first diesel fuel generator was established (Kaufmann 2003: 74), which was about 1999 or 2000 (Ibid, 73). The opportunity to gather information isn't equal to how this opportunity is used as will be discussed later on. Nevertheless, the electrification was the requirement for the second big issue, human development, such as the Internet, mobile networks, public phones, and environmental education. Growing opportunities bared also differences within the community. As Figueiredo states, the implementation of electricity divided the community in two groups, one that supported the totally and those which have been against illumination in the streets, accepting just energy in the residences (et al. 2010: 222). As well, education in general and environmental education in particular is named as a major concern to proceed on the path or discovery for environmentally sustainable society (Ibid, 226). This supported by empirical data of 2008 and 2009, which argues that 44.78% of the interviewed representative participants rank environmental protection as very important but just don't know how to do it. (Ibid, 225) On the other side, this data would mean also that the majority (55.22% of the interviewed persons) believe that environmental protection isn't very important. The degree of importance as well as the representativity of the sample isn't finally answered in the published article, but even the provided data open questions towards the claim of primary importance of environmental education in the field. There might be a subjective difference between what is perceived as important by researchers and by the local population. In any case, the management council has under all conditions taken efforts in this regards, such as a course to educate tourists guides on the island which was established hand in hand with the plan to formalize the proceeding, such as providing uniforms to make them recognizable. Finally, access to resources via institutions is without any



doubt an environmental benefit of the development. In the shape of the management council, but also by attendance in the official bureau of the SEMA, easy access to the responsible institution is given. More problems come from the (geographical) distance to final decision making processes, which take place in the federal capital Belém. Another limit is certainly the way how to apply to funds or access to resources by the native population with an educational background based on fishing and agriculture and a low rate of alphabetization. As Barros adds: “Ainda mais, com a frequencia que é debatida, por seus moradores, a efetividade dos orgaos governamentais coordenando as acoes na APA” [Moreover, the frequency with which it is debated for its residents, the effectiveness of government agencies coordinating the actions in the APA] (2010: 67).

### Environmental Bads

As Figueiredo states, “[c]omo o turismo no local vem crescendo, anualmente, isto aumenta a renda dos moradores, mas, também, os problemas associados a eles” [as tourism has grown at the site annually, this increases the income of residents, but also the problems associated with them] (et al. 2010: 20). Therefore, this subchapter asks for these problems, which can be properly named as the costs of the above discussed development. A question is, what are the human and environmental costs of development? When knowing the 'What' we can ask for the 'Who', which will be part of the Environmental Risk chapter. Five aspects are found in the field and will be discussed further on: Income inequality, land loss, waste, drugs, and environmental degradation. The first one will give answer to the construction of social disparities on Algodual-Maiandeuá. As can be confirmed, opportunity raises on Algodual via tourism, providing opportunity to more differentiated work as well as to more free time. Income inequalities come from the division of labour and there is to ask, if opportunity is shared equally among the whole population, and if not, inasmuch this takes effect. As a matter of fact, nowadays fishermen face more difficulties to access and extract environmental resources, so that they “passaram a trabalhar como carroceiros, caseiros, cozinheiras, garçons, faxineiros de hotéis, restaurantes e bares” [started to work as teamsters, home, cooks, waiters, cleaners of hotels, restaurants and bars] (Figueiredo et al. 2010: 219). Also, many locals work as housekeepers, domestic workers, gardeners, etc., employed by people that bought large tracts of land in the center of the island to plant coconut, papaya, beans, and build small inns. These are built without any planning and environmental care. Others, from both 'populations', began selling barbecue, snacks or meals, mostly on weekends when the tourists come. (cf. Ibid: 223) Those who have less in resources get less benefit from the profit gained by tourism than those who have constructed the hotels. As Christiane Nogueira (SEMA) told, “a gente percebe uma supervalorizacao dos produtos no julho e os hoteis e pousadas tem prezos altissimos abusaviseis” [we perceive an overvaluation of products in July and the hotels and inns have very high and abusive prices] (Appendix 3). This must be seen in interconnectivity with the absence of valorisation opportunity for local fishermen by fishing, which as well makes professional fishermen shift their activities into the field of inordinate tourism. (Figueiredo/Santana 2010: 217) This change is – as the

research of 2003 could demonstrate – due to diesel engines in fishing boats and – in earlier times – diesel generator engines to produce energy (Kaufmann 2003: 68). The second problem mentioned is connected to the former and implies more than one influencing side-effect. One is the electrification process. Nowadays, energy is provided by Eletronorte as mentioned. CELPA<sup>462</sup> is the federal organ executing the national project in federal state of Pará. Problems arise from mentioned communication failure as the responsible coordinator of APA Algodoal-Maiandeuá, Christiane Nogueiro (SEMA), points out:

"[O] que faz a CELPA? Que é um órgão do Estado. Ela coloca os pontos de luz em toda casa que está sendo construída. Antes disso, ela não pergunta a SEMA ou a SPU, se essa casa tem autorização para ter sido construída. Eles simplesmente colocam os pontos de luz. Quando você fixa o ponto de luz, você fixa uma moradia. Então, é uma controvérsia, por quê? Como é, que depois que uma família se instalou, que você vai tirar a família de lá, para onde? Em que condições? Você tem que dar, no mínimo, a mesma condição em que ela está, só que ela está numa condição subumana em cima do mangue, sem rede de luz nem de água e muito menos sanitária. Isso é um problema em todo o Brasil em relação às áreas de manguezal. Mas dentro da unidade da conservação isso se torna bastante grave, porque você sabe que biologicamente qualquer rejeito que contamina as áreas de manguezal, ele tem uma vazão muito rápida de contaminação"

[What is CELPA? It is an organ of the state? It puts light to all houses being built. Before doing so, it does not ask the SEMA or the SPU, whether these houses are allowed to be built. They just connect them with an electric line. When you get such a line, you have established your home. This is the controversy. Why? After a family has moved in, who will pull them out, and whereto? Under what conditions? You have to give them at least the same living conditions, in which they are now. That they are in human conditions, and not live upon the swamp, without light or water and much less health. This is the problem in all Brazil, but within units of conservation it becomes very serious, because any waste, that is biologically contaminated areas of mangroves, as it has very fast impact due to contamination] (Appendix 3). These conditions apply to both those who benefit from development and those whose don't. This must be seen in connection to the already mentioned land property challenge in the Amazon in general, in APA Algodoal in particular. As SEMA confirms, all land of the APA is part of state Pará and only the state can give concessions to families. Consequently, no one can buy and sell land on the islands Algodoal, but as a matter of fact, they do buy and sell land illegally. The question remains unanswered as to what to do after people moved to illegal locations such as mangroves or other ecological zones and after they got permission by fact. As SEMA asks rightfully, what can you do afterwards? Furthermore, in response to the fact that natives sell the land in the village (speaking about Algodoal mainly) with high value and move to mangroves, the question arises, what will happen if SEMA or SPU/PA just permit this process? The result would be that all mangrove forests would become crowded with costs for natural resources and the environment. (Ibid)

A less considered problem in scientific research is also drug-trafficking and informal prostitution. As a matter of fact, people, especially very young people, use drugs in the street, nonetheless (the two) local

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<sup>462</sup> The Centrais Elétricas do Pará S.A [Central Electrics of Pará] is running the Light For All project of the national government in federal state of Pará.

policemen see their main challenge in catching those who sell and buy drugs. This even happens in the street where the police station is located. In Fortalezinha, some have stated that these are linked to certain families that commit crimes, drug-related thievery and drug usage, mainly related to another drug called 'pasta', a mixture of Brazilian marijuana and Columbian cocaine, being a serious threat to local culture, even more dangerous than alcohol. (Kaufmann 2003: 79-80) Impact of the growing drug usage and abuse is that what was called 'informal prostitution', even infants. (Ibid: 80) Others have told recently, that this factor is not due to contemporary development, but has been a problem since a long time. Mothers state the problem of pregnancy of young girls, that have had unprotected contact to older men, but added unisono, that these have all been relations to locals that they have always known, not tourists.

Quality of living is also influenced by external circumstances, first of all by the waste problem set. As mentioned, efforts (of GAF for example) and legal action (by SUATÁ) have changed a lot. As Figueiredo shows, 69.56% of those which have been interviewed have answered that they have perceived changes, principally regarding the waste question. 78.12% have told that the community is more clean than before, although a great part of the inhabitants don't participate in these activities "pois uma grande parte dos moradores não participa, e pelos mais absurdos motivos (não sabia, estava ausente, não quis, não pode, entre outras respostas)" [because a greater proportion of people don't participate, and for the most absurd reasons (did not know, was absent, did not want, could not, among other responses)]<sup>463</sup> (Figueiredo et al. 2010: 224). What Figueiredo calls 'absurd motives' will be centred in the Q study, since – as we could already see by now – subjectivity and visibility of problems are closely connected. Absurdity of priority is certainly connected to the inherent logic of the participant answering. Opposite to Figueiredo and Santana, the result of my field research regarding deficient commitment has been drug abuse (Kaufmann 2003: 88), probably another example of subjectively perceived problem hierarchy. A obvious impact of the development is the environmental damage to the islands since human development began. Environmental degradation intensified after connecting the island to electricity since natives and newcomers demarcated and encircled parcels inland clearing the way. Particularly mentioned are persons from outside that deforest traditional areas of fruit and mussel collection by the native community. Constructing all types of enterprises in mangrove areas, dune regions and at shorelines, many of them abandoned after the end of vacation season. (Figueiredo et al. 2010: 224)

### Environmental Risks

As stated, this term deals with the problem of unequal distribution of environmental burdens, or rather, the question, which factors are influencing the distribution? As said, the research environmental justice problem

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<sup>463</sup> A problem of the published research is that participants, location and time aren't outlined clearly. Even though the authors seem to write (without stating this clearly) about the three communities on Maiandeuá, the failure of information regarding participant's selection (such as 'only the patriarchs of all families in community X') makes consideration of the results difficult. Therefore interpretative results of this study have influenced the statements but not final considerations of the qualitative analysis. Even the methodological chapter of the article couldn't bare how collected data have been analyzed and which efforts have been undertaken to avoid 'over-identification' biases.

set on Algodual-Maiandeuá does not stand alone, but must be seen in the global context of a specific economic model (cf. Figueiredo/Sanatana 2010: 217). Barros delivers a more concrete analysis of the specific situation of those which would be – by definition – in the centre of environmental justice analysis: The people of colour. He made remarks in context and connection to the interior position of traditional population in the globalized economy posing it is obvious that there are some others goodies of this world, especially in the heart of the Amazon issue] (Barros 2010: 68). In consideration to the mentioned environmental goods and environmental bads this subchapter seeks to show to what extent these are distributed. In the words of the SEMA representative: “O que me preocupa hoje é isso: Desenvolvimento para quem? Desenvolvimento para que? Para onde que vai? Isso são as grandes questões do Desenvolvimento Sustentável. Qual caminho para as instituições?” [What preoccupies me today is the following: Development for whom? Development for what? These are the big questions of Sustainable Development. Which way for the institutions?] The concept Sustainable Development fails to give proper answer to that question since – as outlined – on the top (and down to the bottom) the 'what' is so clearly defined that the question for the 'whom' cannot be discussed openly in this term. Environmental Justice in general, in particular Environmental Risks choose a different approach to ask the same: Who pays the costs, and who earns the benefits? How far do which group of people suffer and benefit from the process of development. In opposite to the SD term, the analysis of Environmental Risks doesn't focus on the environmental issue as such, but on the question how environmental change challenges human society, in particular those who cannot defend themselves. Answers to the central questions can just be found when considering the whole system of inequality, the inside and outside. So, in the Environmental Justice context, the question is not which is a way for institutions to resolve the problem, but rather: What is the problem set? Analysing the problem set and showing – then – the inherent discourses in the field by using Q methodology will at the end reveal opportunities to all stakeholders. Finally, critically discussed in theory has been the rating of Environmental Racism as a term of use for describing the problem set. Considering the central status shared by racial concerns in the Amazon and Brazilian context and in order to give ground to proper future analysis, evaluation of disadvantaged stakeholders, and stakeholder groups in particular, will refer to the analysed frame of two populations on Algodual-Maiandeuá. This circumstance hasn't been considered in the examination of the land speculation problem as part of the environmental bads. Certainly, people that already have moved to ecological zones or areas of permanent preservation (APP) are an unanswered problem since the SEMA can impossibly dispel them aggressively from the land! (Appendix 3) This assumption is very important to mention since in this understanding, consideration of difference in population is neglected or at least underestimated. The whole proceeding applies differently to the two named populations. For sure, each one gets access to energy by applying for it in accordance to the procedure of the Light for All project, but a question is, who pays the costs of this development. First of all, energy is not for free, but must be paid for. Second, life conditions or rather quality of life are different in the

village and outside (such as in mangrove forests, dunes, ecological zones). In the mangrove forests for example are more mosquitos, therefore risk of infection<sup>464</sup> is higher, you live in more distance to the environmental benefits, such as the mini commerce, provided by the progress and, consequently, you have to invest more resources (such as time and efforts) to get access to the most valuable resources on the island for which the environmental costs are payed: The tourists. When looking in the field itself, population selection can clearly identified in village Algodual, not so as such in the other three communities. Very few people I met and spoke to in the street around the 'centre'<sup>465</sup> of the village Algodual are born there. On the other hand, close to the landing stage simple housing has grown and further construction can be seen. Housing is close to the beach on the way from the landing to the 'centre' and are owned by tourists whilst at the landing place and towards the mangroves is a conglomerate of simple housing where natives live. This process is connected to real estate or rather land ownership speculation on the islands which increased since electric energy is connected there, creating a process called "favelização" [ghettoization] on the island (Figueiredo et al. 2010: 221). Where (mainly) the natives live, it is loud (diesel engines of the fishing and transport boats) when in the morning at 6 am the first boat arrives, in tourist season more often, on the way to the village it is calm since the wind doesn't carry the noise so far. As SEMA adds, "na vila de Algodual tem duas familias que controlam tuda parte da terra da vila e tem tambem na praia da princesa uma pessoa que tem uma area que é conservada que ela diz que ela vai fazer um hotel. (...) Quase 50% das edificacoes sao para as turisticas.. ou seja, alguem que nao mora na vila tem uma casa e vai para lá, uma vez ou dois por ano, e essa casa de veraneio é um problema social" [in the village of Algodual have two families that control packs all of the land of the village and the beach is also a princess who has an area that is conserved she says she will do a hotel. (...) Almost 50% of the buildings are for tourist .. ie, someone who lives in the village has a home and going there once or twice a year, and this vacation home is a social problem] (Appendix 3). For sure, other people, that are poor, coming from the outside too, working there are as poor as the others in precarious conditions. In the other three communities, this is much more difficult. One example happened in the short time during the conversation and the Q sorting in Fortalezinha was the chopping down of an old tree in the protected area by some natives on command of one of the 'new' population who had built a house there. Even protest by neighbours could not make them stop, even though they claimed the tree was not on his ground. Even though police are not available in Fortalezinha, people said he would be charged but have been as angry as helpless because of the environmental abuse. Another example was given by the SEMA after stating that the mangroves have no owner. She told of a case in Camboinha where there is a woman who nevertheless owns all mangroves in the village and takes the village as a liberalized area like a rural oligarch headed by rich landowners. Cases like this are conflicts, that don't appear openly, since located in an area of subjectivity, but undeniably there are landowner problems on Algodual-Maiandeuá. Non-appearance or

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<sup>464</sup> Malaria, yellow fever and dengue virus

<sup>465</sup> There is no official 'centre' of the village, but an urban centre. This is around the central place where the adult school is also.

invisibility comes from the stakeholders themselves which are considered invisible and which are not yet discovered. (Appendix 3) The truth of these words can be found in all publications and field research about the island. Even qualitative field research on the islands could not even name the problem (Barros 2010; Kaufmann 2003) or could not discover the names of these persons (Figueiredo and Santana 2010). In any case, of all the villages on Maiandeuá, Camboinha is the poorest. For going to the adult school even the children have to cross the channel by boat or walk for a very long while. First of all – as Gefeson told in the first unstructured interview – they don't get access to resources such as for a Carimbó event in Camboinha as Gefeson, president of the 'Associação dos Moradores de Camboinha', stresses. In Camboinha as well as beside the 'touristified' villages, for example on the way from one village to another, lots of unreleased waste can be seen and found. This applies also to the locations of 'favelização'. Epidemic threat to human health is also connected to the waste problem, since the garbage, non-organic in particular, creates permanent reservoirs, that are filled with rain water during the wet season from December to May and provide ideal conditions of mosquito breeding, which then distribute even faster the mentioned diseases (cf. Kaufmann 2003: 78).

#### 5.3.10 Conclusion

When considering now discussed topics in regards to racial related inequality and the so called Environmental Racism, one can conclude by now, that the distribution of environmental burdens is related to racial concerns, but only in connection to social status. Race affiliation as such doesn't create inequality. Marginalisation results from social weakness, insufficiency of resources to which must be counted economic and political power but education too. Proper request for governmental funding is based upon specific writing skills (which indigenous fishermen more likely never required to have and therefore never properly ascertained), but a certain way of thinking too. This thinking is related to the criticised occidental rationalism as one basic constraint in western based sustainability and environment thinking. At this point, the environmental question reaches an area beyond education and funding but the value of culture and traditional knowledge. According to most recent research and governmental institutions conclude, the main problem on islands Algodoal-Maiandeuá is the failure of monitoring, as municipality's director of the environment told in the qualitative interview (cf. Appendix 5) and Barros confirms in his interview with the vice-president of GAF. GAF who asks for Environmental Police (DEMA), IBAMA, and SEMA to take control in order to proceed (cf. Barros 2010: 63). As Figueiredo and Santana add, even the SEMA as a supervisory institution of the environment in Para and responsible for the implementation of the APA doesn't act properly in this regards even though they surveyed constructions in the three communities of Mocooca, Fortalezinha and Camboinha in 2008 (2010: 222) and in Algodoal “já foi em 2007, feito um levantamento, então já se sabe quantas casas tinham em 2007 para o plano de manejo” [already in 2007, a survey, then you know how many

houses had in 2007 for the management plan], as the officer of the SEMA confirms (Appendix 3). Adding to conclusions of Figueiredo and Santana, the problem arises mainly from the failure of monitoring, in particular in regards to landownership speculation. The critique touches the problem of illegal occupation, so occupation without authorization of the SEMA, the monitoring institution of the environment in Pará, that – as the authors demand – must act more strictly. (2010: 222) The SEMA told me that for the land ownership mainly the 'Superintendência de Patrimônio da União no Estado do Pará' (SPU/PA) are responsible for answering questions in this regards. Marcia Godesh, SPU/PA representative person in the management council on Algodual-Maiandeuá, told by contrast in this regards that SPU/PA cannot take any action before the 'Plano de Manejo' [management plan] is adopted and published. A competence or at least a communication problem can be assumed between these two main institutions<sup>466</sup>. In accordance to Barros' conclusion, monitoring should focus on both federal action to maintain the ecosystem well-being of the local population executed by complete monitoring to handle environmental crimes that could occur interior of APA. (Barros 2010: 63/64) The target therefore is to keep people outside of the so called 'risk areas'<sup>467</sup>, which are in all four villages already defined (Appendix 3). Even more difficult would be the handling of those that already moved there and constructed housing. As said, from 2007 to 2008 the SEMA initiated a survey of construction in the area of the APA to identify construction in improper locations such as in dune areas, mangroves and steep banks or ravines. Still until 2010 no construction has been made undone (Figueiredo et al. 2010: 222) even though the island's performance that emerged by intervention of the 'new' population believing completely the landscape and natural aesthetics of the island (Ibid: 221). Whilst all considered research about APA Algodual refers to more efforts by government institutions, another very important seems underestimated. Taking into account all information gathered so far to better understand the environmental question in the context of Algodual-Maiandeuá, from the local perspective and in consideration of theoretical examination, one thing is missing in this context: The community. As mentioned above, community as an actor has no standing in the discourse, nevertheless the role played by them is more important than all others. Why is that? Considering that environmental law can only be functioning if law is accepted, the question arises, what is accepted by the local people? And what is accepted by which part of inhabitants? Coming back to the given example of land ownership in Camboinha, the responsible coordinator of the SEMA was asked why such illegal land ownership can take place. She answered:

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<sup>466</sup> Competition between the two institutions of two institutional levels (national and federal) regarding service and duty in particular in the Amazon is a specific problem set, which cannot be proven here in detail, but should be considered for the following Q methodology research. Subjective impression in the conversations with the SPU/PA had been that they are less concerned in regards to federal areas than they would be regarding conservation units under national direction. This remark cannot be proven here but influenced the selection of statements for the Q sorting.

<sup>467</sup> According to the SEMA „áreas de risco são as áreas de beira, são áreas de APP que são as áreas de preservação permanente, são as margens dos igarapés ou então braços de águas continentais e mangues” [risk areas are the border areas, are areas of APP de preservation areas that are permanent, are the banks of creeks or arms of inland waters and wetlands] (Appendix 3).

"Alí é uma área de conflito subjetivo, tipo um conflito que não aparece. Então, em Algodual nós temos sim problemas fundiários e conflitos com atores que ainda são considerados invisíveis, que ainda não explora por quê? Porque as pessoas aceitam esse 'coronelismo'? Isso é uma relação 'coronelista', é uma relação que estabeleceu de muito tempo. Por exemplo, na vila de Algodual a gente tem duas famílias preeminentes que controlam toda a parte das terras da vila e a gente tem também na praia da princesa uma pessoa que tem uma área imensa, que é conservada e que ele diz que ela vai fazer um hotel ou algo assim... E aí fica a reflexão: Como é que você vai fazer esse ordenamento? De novo, ordenamento para quem?"

[There is a subjective area of conflict, such a conflict that does not appear. Then, in Algodual we do have land problems and conflicts with actors who are still considered invisible, yet not explored, why? Why do people accept this 'coronelism'? This is a 'coronelism' relationship, a relationship that is established for a long time. For example, in the village of Algodual we have two prominent families that control all of the land of the village and we have also at the beach of a princess who has a vast area, which is conserved and it says it will make a hotel or something ... And there is a thought: How are you going to do this planning? Again, planning for whom?] (Appendix 3) Plans and actions to both environmental protection and human development are undertaken under the assumption of acceptance of the people. After twenty years of existence of the law APA many problems haven't been resolved yet, new problems surfaced. The question is, if what scientific research and governmental institutions believed to be important to the field is understood in the same way by those which are to live under this law? Can we therefore conclude, that the twenty years APA law exists on Algodual have not bettered the conditions of life there? The presented data doesn't give evidence to answer to that entity yet. Of problems that are addressed, some are specifically named, but are they a controversial problem for the local inhabitants? What do better life conditions mean in the context Algodual-Maiandeuá? Doubts are indicated that metropolitan, academic, abstract approaches such as those coming from institutional areas (SEMA, SPU/PA, SESPA) are able to properly grasp subjective understanding or priorities of that what is necessary to do, of what is favoured and what is not, especially by the indigenous, native inhabitants on the islands, but regarding those that moved from different rural areas to the APA too.<sup>468</sup> The 'distant' problem appears in the shades of what is probably not properly emphasised, expressed and (re)presented. As could be shown by looking at the qualitative data set as provided by structured (Barros 2010) and unstructured interviews, discourses in the field come from very different points of view and demonstrate differences in the perception of what is in the field and what should be done. Last but not least, one must ask, who speaks in the name of the natives? Who are the people addressed by a proper law that seeks to regulate the wish for human development and better life conditions, concerns to protect the environment, and a fair distribution of costs and benefits? In the highly politicized field of Environmental

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<sup>468</sup> For no means I want to say that especially a German researcher, grown up in a first world environment and educated in Germany's capital Berlin could do better. The problem rather lies in the tools used for researching such a problem about which will be spoken shortly. As mentioned, the methodological problem of 'over rapport' and 'over-identification' with the field as well as subjective perspective by the researcher cannot totally be avoided, but the bias can be limited and must be considered by all means.



Justice, question is 'Who has claim?' In consideration of the Legal Amazon problem set, the question must be transformed to 'Who is the traditional population?'

Again, Christiane Nogueiro (SEMA) asked the very central question: Sustainable Development and Environmental Justice for whom? Sustainable Development and Environmental Justice for what? What are the preferences, or rather, what are the discourses by the stakeholders in the field, what are the breaking points? This is what Q methodology analysis in the next chapter will show.

#### 5.4 Q Methodology Analysis

As outlined in the methodology chapter, Q methodology can provide the two results: First, an answer to the main hypothesis of this piece, second structuring the discourses there. In the following, two Q Methodology analyses will be conducted and compared. The chosen discourses (in the predefined understanding of Foucault) of interest are around the two concepts: Sustainable Development and Environmental Justice. As could be seen from the theoretical part of this work, these concepts have had strong impact on environmental legislature in the past (Sustainable Development). Part of contemporary consideration and debate about a more equal distribution of environmental benefits and costs and debates about global inequality inclusively, are considered in the Environmental Justice concept. Predetermined understanding of Sustainability, Development, Environmentalism and Justice have been analysed on a theoretical, global or international level, showing very distinctive ways of seeing things, or rather, reality. Different interests of governments faced the challenge of building a Sustainable Development compromise as well as different interests that are caused by different reality, different constraints and – therefore – different logical results. Now, using the two named concepts, the research will face the practical, so local level, by being applied to the field.

##### 5.4.1 Procedure

At the beginning, statements have been drawn from both literature and ero-epic conversations of the two discourses in the field. The concourse considered twenty-nine (29) statements from international literature, twenty-five (25) from English literature (mainly Gosine et al. 2008; Clapp/Dauvergne 2005 among others), four from German literature (Kaufmann 2003), and forty-one (41) statements from Brazilian literature (mainly Romeiro 1999, Nobre 2002, Santana/Figueiredo 2010 among others). Seventy (70) statements in total could be gathered from literature. Further twenty-eight (28) statements could be extracted from twelve (12) ero-epic conversations, of which six have been made with participants who later on belonged to the Q sort. These have been the institutionalised representatives (governmental and non-governmental) in the management council on Algodoal-Maiandea (SEMA, SPU/PA, ORLA, SUATA, president of the association of canoeists). Others have been the poet and secretary of culture in Maracanã, Elizel Nascimento, and five native born Indians from villages Algodoal and Fortalezinha. The totality of 98 (ninety-eight) was then classified and reduced to two times nineteen (19) by the following concourse matrix. The matrix was

built in consideration of John Dryzek's (1997) concourse matrix, a 4x4 cluster distinguishing between four types of claim, and Jennifer Clapp's 4 discourse elements (et al. 2005) as shown in the following table:

Table 25: Concourse Matrix: Sustainable Development / Environmental Justice

<b>Total (SD/EJ)</b>	<b>Definitive</b>	<b>Designitive</b>	<b>Evaluative</b>	<b>Advocative</b>	<b>SUM</b>
<b>Market Liberals</b>	3 (2/1)	4 (3/1)	2 (1/1)	2 (1/1)	<b>11 (7/4)</b>
<b>Institutionalists</b>	2 (1/1)	3 (1/2)	3 (3/0)	2 (0/2)	<b>10 (5/5)</b>
<b>Social Greens</b>	3 (1/2)	4 (2/2)	3 (1/2)	3 (1/2)	<b>13 (5/8)</b>
<b>Bioenvironmentalists</b>	1 (1/0)	1 (0/1)	1 (1/0)	1 (0/1)	<b>4 (2/2)</b>
<b>SUM</b>	<b>9 (5/4)</b>	<b>12 (6/6)</b>	<b>9 (6/3)</b>	<b>8 (2/6)</b>	<b>38</b>

Source: Dryzek 1997: 53; Clapp/Dauvergne 2005: 14

Here, Dryzek's discourse elements have been replaced by Clapp's four environmental perspectives to properly classify Environmental Justice and Sustainable Development discourses. Whilst Dryzek seeks for “structural elements (...) to define each of the environmental discourses in more detail<sup>469</sup>” such as used by Barry/Proops (1999: 341), the four environmental perspectives “show the range of views subsumed under each of the four major worldviews” (Clapp/Dauvergne 2005: 3). Result of the combination of the two is a 4x4 matrix relating types of statements and ideal typed worldviews on the environment, in which Ontology, Agency, Motivation and (Un)Natural as categories have been replaced by Market Liberals, Institutionalists, Bioenvironmentalists, and Social Greens. Two reasons were responsible for this: First, the development discourse cannot be mapped as clear as necessary within Dryzeks discourse categories. Clapp and Dauvergne have put more emphasis on the specifics of this discourse and developed from this stage their 'ideal types'. Second, the two data sets must be comparable to give answers to the prime hypothesis. Since, by imperative, the two data sets must be structured under comparable conditions. In consideration of Environmental Justice's mapping in the broadest context of Sustainable Development framework (Hopwood et al. 2005: 41), stronger weight on 'Social Green' statements have been assumed and fulfilled in the category of Environmental Justice (see below). The measure for reduction based on the following priorities: Most important have been labelled statements given by the sorts to be used in the same wording. Second important has been the Amazon discourses as found in the local, scientific literature. At least a minimum representation of 1 (one) statement in each category for either the Environmental Justice or the Sustainable Development concern was considered as required. More important than equal distribution of statements in accordance to the matrix have been to use the matrix for showing the emphasis made between the two concepts: Special emphasis is drawn to designative statements, at least 30% more than the other three, and less considered is the environmental perspective of bioenvironmentalists. Both concepts have been equally provided with statements, but the viewpoint of market liberalism has an overweighting in defining different opinions (via

<sup>469</sup> They are (1) basic entities whose existence is recognized or constructed, (2) assumptions about natural relationship, (3) agents and their motives, and (4) key metaphors and other rhetorical devices. (Dryzek 1988)

statements) about Sustainable Development (63.6% of the statements), whilst 61.5% of the Social Greens' perspective statements belong to the Environmental Justice concept. These thoughts are important to be considered for the interpretation part since the provided conclusion at the end can give evidence just within the frame of the statements, so interpretative range and information value is limited by these preconditions. In accordance to the evaluated statements (cf. appendix 11 and 12), the classification of the Q sorts by statement number for both discourses was made in accordance to the above- created table:

Table 26: Sustainable Development Q sort (19 statements)

	Definitive	Designative	Evaluative	Advocative
Market Liberals	3 19	15 12 18	5	9
Institutionalists	10	7	6 11 17	
Social Greens	16	1 13	14	2
Bioenvironmentalists	4		8	

Table 27: Environmental Justice sort (19 statements)

	Definitive	Designative	Evaluative	Advocative
Market Liberals	11	3	14	17
Institutionalists	4	13 15		2 9
Social Greens	1 10	16 19	5 7	6 18
Bioenvironmentalists		8		12

Finally used statements (after the reduction in the concourse matrix) originated from four named sources: Conversation based on both guided interviews and unstructured conversations, whilst literature contains journals, books and other publications. Four (4) of the 38 statements have been developed based on results of the field research in 2003 (Kaufmann 2003) in consideration of most recent information such as interviews. Sixteen (16) have been directly drawn from the interviews of persons which have been planned to be asked in the sorting too, seven (7) statements each come from Portuguese and English literature, two (2) have been developed on the basis of German literature. The single statements set (Q sort of n=19) are differentiated as follows: The SD Q sort is composed of statements drawn mainly from interviews (9), followed by Portuguese literature (5), two (2) came from both German and English literature and one (1) was one of the four (4) named statements that came from the 2003 research. The EJ Q sort on the other hand uses seven (7) statements from the interviews, six (6) from English literature, three (3) based on the 2003 research, two (2) have been extracted from Portuguese literature and none came from German publications<sup>470</sup>. The management council<sup>471</sup> was taken as the first base in the field research for building the researched Q

<sup>470</sup> In consideration of the differences in the way the Environmental Justice matter is seen by German sociologists (such as Elvers 2007) in opposite to the global discourse, this is not that unexpected.

<sup>471</sup> Since the management council is built to create the management plan of development, existing 'world views' on the central terms, or basic principles of handling the developmental and environmental question, can bare perceptions of a problem less considered in literature and debate than necessary. As well, the understanding of different discourses will help to complete the image of the environmental problem set on the island Algodoal-Maiandeuá.

sample<sup>472</sup>. For the Q sorting, the chosen sample of participants was restricted to the representatives in the management council and representatives of the indigenous population, which aren't properly represented there for mentioned reasons. In total nineteen (19) participants have provided the so-called Q sort<sup>473</sup>. They have answered the two Q samples in accordance to the following Q pyramid. Further three, so twenty-two in total, have accomplished the SD Q sample. The Q sorting was realised in accordance to the same pyramid and at the same time, between October and December 2011.

Table 28: Q pyramid

Scale score	-4	-3	-2	-1	0	+1	+2	+3	+4
No of statements	1	2	2	3	3	3	2	2	1

#### 5.4.2 Testing with Principle Component Analysis (PCA)

For showing the general structure of discourse differences, PCA was used. Kendall's coefficient of concordance (W) and his rank-order correlation coefficient (T) have been considered as an option but discarded due to methodological coherence: Transmission of the data may rather produce a bias than enrich the outcome. In the analysis has been considered, that, in order to compare the two discourses, the three participants, which just have made one of the two Q sortings are neglected in accordance with scientific rigor.

Table 29: PCA Analysis<sup>474</sup> of Sustainable Development and Environmental Justice

Unrotated Factors	Sustainable Development			Environmental Justice		
	Eigenvalue	As Percentages	Cumul Percentages	Eigenvalue	As Percentages	Cumul Percentages
1	8.1316	36,9619%	36,9619%	5.3291	28.0479%	28.0479%
2	2.6560	12,0729%	49,0348%	3.1083	16.3594%	44.4073%
3	1.9724	8,9656%	58,0004%	2.1696	11.4187%	55.8260%
4	1.7308	7,8672%	65,8677%	1.8738	9.8623%	65.6883%
5	1.5427	7,0121%	72,8798%	1.4906	7.8452%	73.5335%
6	1.2365	5,6204%	78,5002%	1.3524	7.1179%	80.6514%
7	0.9495	4,3161%	82,8163%	0.7817	4.1143%	84.7657%
8	0.7516	3,4164%	86,2327%	0.7514	3.9546%	88.7203%
9	0.6639	3,0177%	89,2504%	0.6156	3.2399%	91.9602%
10	0.6176	2,8073%	92,0577%	0.4792	2.5222%	94.4824%

<sup>472</sup> This term describes the participants of the study.

<sup>473</sup> This notion means the (finally) chosen set of statements, which are to be sorted by the participants of the study.

<sup>474</sup> The 'As Percentages' column represents statements' proportion, represented in one single factor. The 'Cumulative Percentages' column displays the sum of all statements represented in all factors top-down. The percentage calculation is computed basing on the eigenvalues of each factor in which the total of all eigenvalues is set 100%.

<b>11</b>	0.5265	2,3934%	94,4511%	0.3366	1.7714%	96.2538%
<b>12</b>	0.4070	1,8498%	96,3010%	0.2430	1.2787%	97.5325%
<b>13</b>	0.2786	1,2663%	97,5673%	0.2173	1.1435%	98.6760%
<b>14</b>	0.2146	0,9756%	98,5429%	0.1735	0.9134%	99.5894%
<b>15</b>	0.1706	0,7754%	99,3183%	0.0531	0.2792%	99.8686%
<b>16</b>	0.0783	0,3561%	99,6744%	0.0207	0.1087%	99.9773%
<b>17</b>	0.0561	0,2548%	99,9292%	0.0041	0.0218%	99.9993%
<b>18</b>	0.0156	0,0708%	100,0000%	0.0002	0.0008%	100.0000%
<b>19</b>	0.0000	0,0000%	100,0000%	0.0000	0.0000%	100.0000%

Since PCA is just analysing the principle components in a give data set without any further precondition in a default manner, sufficient comparability is assumed. Variable for the given question is the allocation of statements for both terms in question. As can clearly be seen in both cases, the first four factors express about two-thirds (SD: 65.87% / EJ: 65.69%) of the whole data set. All existing differences between opinions of the Q sorts are expressed in the data cloud and consequentially all (possible) statement differences in the field, which can be expressed by one single factor, are displayed by the eigenvalue of the factor. Whilst factor 1 of the Sustainable Development Q sample has an eigenvalue of 8.13, standing for more than 36% of all statements, followed by a second factor with a representativity of just 30% of the first (eigenvalue 2.66), factor 1 of the Environmental Justice data set (eigenvalue 5.33) represents just a quarter of the discourses in the given Q sample. Factor 2 of the EJ Q sample is 58.33% as representing as its counterpart stronger factor 1, but even factor 3 of the EJ set has an eigenvalue 2.1696 which is 81.69% of the eigenvalue factor 2 of the SD data set has. The total eigenvalue of the SD PCA is 21.9999, so each point stands for 5.26% of all opinions expressed. The EJ PCA on the other hand expresses 19.0002 as an eigenvalue total, by which each point stands for 4.54%. The comparison demonstrates clear differences in allocation, which can be continued up to the 7th factor, from which then the eigenvalue of the factors in both sets become more and more similar and less distinguishable. Concluding is to say, that the discourse about the definition of the concept SD in the field are less differentiated than the discourses in regards to the concept of EJ. The debate about the definition of the concept of Sustainable Development has come to broad consensus meanwhile different factors in the EJ set, stronger than their SD counterparts, oppose each other.

#### 5.4.3 Q Analysis

Seeking Sustainable Development discourses in the field, the complete Q sample (22) has been used and nineteen (19) in regards to Environmental Justice. Furthermore centroid<sup>475</sup> rotation and VARIMAX have

<sup>475</sup> There is to add, that centroid rotation is another way beside of PCA to analyse data. Which shows in the given case no considerable difference. The explaining variance distinguishes between the factors mathematically rounded (factor 1: 37%, factor: 12%, factor 3: 9%, factor 4: 8%), explaining in accordance to the cumulative explaining variance 66% in total.

been used by factor loading the unrotated factors via automatic flagging. In consideration of the PCA results of unrotated factors and after testing other possibilities by rotating the factors manually, the four mentioned factors have been extracted from each Q sort.

In the following, two different results will be presented: First, the Q sort correlation will be analysed in a comparable manner. The correlation of all given answers by the participants will show their congruence and non-congruence in between. From this data it can be understood, how far (and how close) single sorts are to each other. Why is that important? When looking for the reasons of failure of the environmental regime on APA Algodoal, the correlation can give evidence for another mentioned problem: The problem of distance to the field by relevant (institutional) stakeholders in (and outside) the management council. Besides different perceptions of reality, different views on problems and solutions, provided by the factorising the answers to ideal types, three stakeholders or groups of stakeholder are of crucial importance for any activity undertaken in the field: These are the SEMA, the police and the inhabitants. Indeed, one person, as the questioned policeman, cannot give all the answers. The same is true for the most powerful, or rather influential, organisation in the area, the SEMA. One representative finally cannot decide alone, might be probably expressing not just the institution's opinion, but her own opinion too etc.<sup>476</sup> The other Q sorts will work as reference point with which the former are compared. Furthermore, these results will be completed and interpreted by using the qualitative data.

Then, ideal type discourses of each concept will be described as narratives in separated sections. Hereby, the correlation of the factors will initially be used to characterise the factors structure. The basis of the discourses' narratives will be the rank statement totals and normalised factor scores for each discourse of the two discourse sets. At least, the descending array of differences between factors<sup>477</sup> of the Q analysis output will be used to show how similar pairs of factors are, or rather, how close or distant the discourses are to each other.

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<sup>476</sup> Nevertheless, as a matter of fact, the representative's opinion counts and therefore existing congruence in consideration of the inherent variance could mean that the named distant problem doesn't exist as a perceived environmental problem on Algodoal-Maiandeua in terms of 'social nature'. Furthermore, police is the executive authority on Algodoal-Maiandeua, and even if the one police man, who participated in the Q sorting, expressed just his opinion in the specific moment, the advantage of the general concepts such as Sustainable Development and Environmental Justice gave him possibility to give the question a very different focus which certainly has impacts or influences his beliefs regarding his duty or what he stands for.

<sup>477</sup> The differences are simply calculated by measuring the difference between the Z scores of each normalized statement of the extracted and rotated discourses.

5.4.4 Matrix of the Q sort correlations

Looking for the results, provided by Q Analysis, the Q sort correlation matrix<sup>478</sup> of either the Environmental Justice set or the Sustainable Development set, attention turns first towards the SEMA. The 'SUM' column lists the statistical midpoints of all sorts whilst the 'SUM' row sums all values of the sorts (which is from a mathematical point of view basically the same, but differs in representation).

Table 30: Q Sort Correlation Matrix: Sustainable Development

Sorts	SEMA	PT 1	ORLA	Ass 1	Ass 2	PT 2	PT 3	GAF	Ass 3	SPU/PA	PT-MPEG	SESPA	Ass 4	Ass 5	Maracana	PT 4	Vereador	Policia	Ass 6	Ass 7	Ass 8	SUATA	Sum
SEMA	100	26	6	17	-13	-1	21	24	-6	-1	33	6	13	-24	41	12	1	28	7	-21	28	-30	12,14
PT1	26	100	50	53	37	22	51	31	40	-4	31	29	44	39	47	37	53	20	27	37	51	-4	37,14
ORLA	6	50	100	43	67	48	66	43	71	32	31	43	61	76	67	41	59	1	49	36	53	9	47,82
Ass1	17	53	43	100	13	21	33	17	39	42	-8	14	22	30	21	59	56	-16	22	33	73	-3	30,95
Ass2	-13	37	67	13	100	63	27	46	53	37	26	16	46	49	43	4	27	-17	39	28	31	2	32,91
PT2	-1	22	48	21	63	100	33	50	40	39	18	20	43	63	43	47	38	-14	58	61	53	20	39,32
PT3	21	51	66	33	27	33	100	46	56	7	58	48	39	54	62	59	18	-9	66	26	30	3	40,64
GAF	24	31	43	17	46	50	46	100	40	11	47	18	58	26	61	32	3	4	31	10	37	10	33,86
Ass3	-6	40	71	39	53	40	56	40	100	26	43	17	57	61	66	42	38	11	36	39	53	49	44,14
SPU/PA	-1	-4	32	42	37	39	7	11	26	100	-13	-17	17	21	-3	21	32	-17	14	24	44	-17	17,95
PT-MPEG	33	31	31	-8	26	18	58	47	43	-13	100	11	48	14	72	24	-19	19	30	18	-10	21	27,00
SESPA	6	29	43	14	16	20	48	18	17	-17	11	100	4	41	28	53	26	-12	41	34	26	-19	23,95
Ass4	13	44	61	22	46	43	39	58	57	17	48	4	100	53	76	42	49	22	31	27	33	18	41,05
Ass5	-24	39	76	30	49	63	54	26	61	21	14	41	53	100	50	56	63	-3	50	54	51	20	42,91
Maracana	41	47	67	21	43	43	62	61	66	-3	72	28	76	50	100	43	26	33	46	20	32	13	44,86
PT4	12	37	41	59	4	47	59	32	42	21	24	53	42	56	43	100	43	-24	40	57	56	11	38,86
Vereador	1	53	59	56	27	38	18	3	38	32	-19	26	49	63	26	43	100	24	28	57	69	-1	35,91
Policia	28	20	1	-16	-17	-14	-9	4	11	-17	19	-12	22	-3	33	-24	24	100	-4	3	4	1	7,00
Ass6	7	27	49	22	39	58	66	31	36	14	30	41	50	46	40	28	-4	100	29	30	-12	34,45	
Ass7	-21	37	36	33	28	61	26	10	39	24	18	34	27	54	20	57	57	3	29	100	44	39	34,32
Ass8	28	51	53	73	31	53	30	37	53	44	-10	26	33	51	32	56	69	4	30	44	100	13	40,95
SUATA	-30	-4	9	-3	2	20	3	10	49	-17	21	-19	18	20	13	11	-1	1	-12	39	13	100	11,05
Sum	267	817	1052	681	724	865	894	745	971	395	594	527	903	944	987	855	790	154	758	755	901	243	

Table 31: Q Sort Correlation Matrix: Environmental Justice

Sorts	SEMA	Ass1	Ass2	PT1	ORLA	PT2	GAF	PT3	SPU/PA	Ass3	Policia	Ass4	Ass5	Ass6	Ass7	Vereador	Ass8	Maracana	SUATA	Sum
SEMA	100	-27	8	50	30	7	13	-46	12	7	-11	0	-29	-22	-9	-9	-2	20	3	5,00
Ass1	-27	100	17	16	9	36	24	31	-1	56	30	32	70	69	37	32	47	23	40	33,74
Ass2	8	17	100	-6	-9	12	40	34	-10	32	-8	-12	-7	59	41	40	34	54	38	24,05
PT1	50	16	-6	100	-11	17	3	-23	6	34	17	27	21	-17	29	20	14	-18	-10	14,16
ORLA	30	9	-9	-11	100	51	16	20	34	-1	34	6	-23	-2	-30	9	14	8	7	13,79
PT2	7	36	12	17	51	100	7	32	32	41	39	36	14	21	29	81	43	10	19	33,00
GAF	13	24	40	3	16	7	100	-17	36	43	-17	-24	-1	44	16	0	32	71	49	22,89
PT3	-46	31	34	-23	20	32	-17	100	8	13	21	20	24	34	36	47	18	-11	-9	17,47
SPU/PA	12	-1	-10	6	34	32	36	8	100	9	-36	6	10	17	7	6	9	38	-8	14,47
Ass3	7	56	32	34	-1	41	43	13	9	100	22	30	37	57	72	46	77	21	52	39,37
Policia	-11	30	-8	17	34	39	-17	21	-36	22	100	23	3	3	-7	28	24	-39	-6	11,58
Ass4	0	32	-12	27	6	36	-24	20	6	30	23	100	52	2	22	49	41	-29	-16	19,21
Ass5	-29	70	-7	21	-23	14	-1	24	10	37	3	52	100	39	30	33	29	7	-4	21,32
Ass6	-22	69	59	-17	-2	21	44	34	17	57	3	2	39	100	51	24	46	54	43	32,74
Ass7	-9	37	41	29	-30	29	16	36	7	72	-7	22	30	51	100	50	48	0	12	28,11
Vereador	-9	32	40	20	9	81	0	47	6	46	28	49	33	24	50	100	46	4	11	32,47
Ass8	-2	47	34	14	14	43	32	18	9	77	24	41	29	46	48	46	100	18	38	35,58
Maracana	20	23	54	-18	8	10	71	-11	38	21	-39	-29	7	54	0	4	18	100	59	20,53
SUATA	3	40	38	-10	7	19	49	-9	-8	52	-6	-16	-4	43	12	11	38	59	100	22,00
SUM	95	641	457	269	262	627	435	332	275	748	220	365	405	622	534	617	676	390	418	

<sup>478</sup> The correlation shows in accordance to the given answers by the participants, how close their answers have been in range from '-100' (a 100% opposite answers) to '+100' (100% identical answers). Either one or the other extreme is pretty unlikely of course.

The tables have been analysed under the conditions of negative variance from the midpoints. This means, that generally sorts of a variance of >25%<sup>479</sup> below the overall midpoint average (OMA) in a correlation have been recognised as relevant. In the following, the evaluated Q sorts were cross-checked in both sortings. In consideration of a overall midpoint average (OMA) 32.69 in the Q sort correlation of the Sustainable Development sorting, three stakeholders were below the average, outside the stated acceptable variance of +24.52: SEMA (12.14), SUATA (11.05), SPU/PA (17.95), SESPA (23.95), and Police (7). Looking for the correlation if the Environmental Justice sorting under the same conditions, considering an OMA of 22.00, below the given variance of +16.50 have been: SEMA (5), SPU/PA (14.47) and Police (11.58) – again – and in addition ORLA (13.79). For all these stakeholders it can be said, that the 'distant' problem as mentioned above is the combining aspects of all and therefore most likely the decisive point. All named are governmental institutions. All of them aren't primarily located on Algodual, except one, the SESPA. Since SESPA is the closest to the defined relevance paradigm, and focuses by job description rather on health than on environmental issues or questions of Sustainable Development, the most crucial point is probably that the representative of the SESPA is one of the few living on the islands who has a fixed income which excludes him from many day to day problems faced by the others. Another aspect is, that – as people told – he is travelling a lot as part of his work, and therefore his problem perception is not that close to community day to day activity.

The second sort that just appears in the SD set, is SUATÁ. This NGO is – opposite to GAF - based in Belém, like the SEMA, and has a strong legal emphasis. It is relevant to mention that this NGO has a midpoint (11.05) of just 30% of the Fortalezinha based NGO GAF (33.86), furthermore, the understanding of what is Sustainable Development on Algodual differs – in relation to the politically and legislatively powerful SEMA – strongly. Whilst the SUATÁ-SEMA correlation demonstrates very few in common (-30), the GAF-SEMA correlation shows a much more congruent perspective in this regard (+24). Nevertheless, SEMA and SUATÁ are far from seeing the Sustainable Development problem any similar like inhabitant participants, but emphasising obviously different arguments. Comparing the midpoints of either GAF and SUATA with their correlation in between (+10), one can clearly see that SUATÁ agrees to the same extent with GAF as to all others at an average, but GAF is 23.86 points below its midpoint (33.86). Generally strong congruency between SUATÁ and SEMA would have been expected, because both are located in Belém, so they are most likely share the same 'urban' view on the problem of development and sustainability, and both representatives come from an institutional perspective emphasising legal proceeding, but they are not. Even more, SEMA and SUATÁ have less in common than both have in common with each other single sort. The other way around, they have more in common with each other sort in the panel than they have to each other. They

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<sup>479</sup> There is no statistical 'rule' for relevance of 25%, but this number is reasonable since the provided output gave space to proper interpretation whilst including all below the OMA had not given better interpretation than already are based on the smaller scale.



share<sup>480</sup> an average midpoint of 12.14 (SEMA) and 11.05 (SUATÁ) but their difference to the other participants obviously results from different non-congruency. Looking at the EJ Q sort correlation then, one can find some possible evidence for the correlation, since SEMA is at the absolute bottom of any congruence with the other sorts and 17 points below the OMA, whilst SUATÁ's midpoint is equal to the OMA. Even though in this correlation disagreement cannot be found, one can say concluding that there is no agreement too (+3). None of the two are coming from the grassroots and both are working within law institutions, but both agree to some others less than to each other, in opposite to the result of the SD Q sort correlation as mentioned. Coming to the EJ Q sort correlation's variance, ORLA's response shows (negative) variance just in this sort, not – as SPU/PA – in both Q sort correlations. This sort and its single variance cannot be seen without its entanglement with sort SPU/PA, since both belong to the same governmental body, the Superintendência de Patrimônio da União no Estado do Pará [superintendency of nation's heritage in state Pará] in Belém. ORLA is the representative of the superintendency in the management council. ORLA and SPU/PA have a similar non-congruence to the OMA in the field (difference between 8 and 9 below the OMA), varying at 0.68. When looking for the correlation of the two sorts in the responsible sorting, some evidence can be found, since the Q sort correlation between these two (+34) in the Environmental Justice set is about 20 points above the midpoint of each (SPU/PA 14.47; ORLA 13.79). This means that they agree much more with each other than they agree with the other sorts at an average. This is an interesting point, since SPU/PA significantly low congruency (below the OMA of both sets) must not be overestimated, since both Q sort correlations base mainly on its lack of regional knowledge and is not able to explain any distance problem of perspective<sup>481</sup>, but ORLA has much more inside knowledge. Nevertheless, ORLA expressed in free qualitative interviews no sympathy to self-inflicted social problems caused by illegal land taking.<sup>482</sup> The expressed individual responsibility<sup>483</sup> for illegal land selling by natives there, which at the end also legitimates illegal buying of land, is in accordance with typical urban, western centred rationality and understanding. Anyhow, this explanation is too simple. When looking at the SD Q sort correlation, ORLA shows the highest average congruence in understanding of Sustainable Development in the field, compared with all other sorts. This pole position (+47.82) of ORLA of all other sorts (sic!) is 15 points above the OMA (+32.69) whilst SPU/PA's midpoint is 15 points below (+17.95). The insight view of ORLA obviously makes a strong difference in the perspective on the Sustainable Development matter on Algodual, so a congruent viewpoint by both cannot be found in the empirical data. The two have as much in common (+32) as all sorts have in common with all other sorts in the set (OMA +32.69).

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<sup>480</sup> They also share consequentially the same variance below the OMA of 20.55 (SEMA) and 21.64 (SUATÁ).

<sup>481</sup> There is to consider that the understanding of both Sustainable Development and Environmental Justice was specifically related to the field Algodual-Maiandeuá, which was why all participants by setting up the concourse have been asked to tell their view on the two notions in the context of the field.

<sup>482</sup> I asked, whether illegal land taking on Algodual in the past will be undone by the SPU/PA when a management plan is established.

<sup>483</sup> and therefore the neglect of governmental responsibility for this problem.

Finally, a few words to the three who appear in the low congruence section of both sets SPU/PA, SEMA and Police. The SPU/PA is represented in the 'Conselho Gestor' [Management Council] by the participant named ORLA. The participant SPU/PA is the highest representative of this governmental body in federal state of Pará, but is himself rather indirectly confronted with the local problems on islands Algodoal-Maiandeuá, so this appearance doesn't surprise. More explaining are the results in regards to the SEMA and the Police as Q sorts. In the Environmental Justice (EJ) set the two Q sorts disagree to each other (-11) whilst in the Sustainable Development (SD) set (+28). Furthermore one must take in consideration that the midpoint of the Police sort in the SD set is the lowest of all (+7) whereas the SEMA 'just' holds the third weakest position (+12.14) after the SUATÁ (+11.05) as mentioned. The lowest agreement position of all, hold by the Police in the SD set, is hold by the SEMA sort in the EJ set (+5) in which the Police sort is on the second position (+11.58). Consequently, in the EJ set, disagreement between the two is 16 points below the average shared by the SEMA towards all other sorts in the set and 22.58 below that, what the Police sort has in common with all others at an average.

#### 5.4.5 Sustainable Development Discourse Analysis

Four discourses have been analysed in order to characterise what are the most simplified differences in the way to see Sustainable Development on APA Algodoal. These four discourses will be presented in following as discourses A, B, C and D, referring to the defining statements<sup>484</sup> in the so-called 'Normalised Factor Scores for each factor', as listed in the Appendix 11 and 12. The factor loading was realised by automatic flagging<sup>485</sup>.

Table 32: Factor Loading by Q sorts for the Sustainable Development discourses

Q sort / discourse	A	B	C	D
<b>SEMA</b>	0.1253	0.4348	-0.7142 X	-0.0233
<b>Ass1</b>	0.7993 X	0.0521	-0.1313	0.2054
<b>Ass2</b>	0.2198	0.3836	0.5153 X	0.2188
<b>PT1</b>	0.3703	0.2952	0.5254	0.3620
<b>SPU/PA-ORLA</b>	0.4828	0.5437	0.2801	0.3607
<b>PT2</b>	0.1329	0.5828	-0.0060	0.6555 X

<sup>484</sup> All statements of the discourses have a statistical error margin of  $p < .01$ , meaning that the chance for a statistical error in regards to the certain statement is below 1%, beside of the Asterisk labelled (\*) statements for which apply  $p < .05$ .

<sup>485</sup> PQMethod generally does flagging of „a sort anytime its factor loading is greater than  $ABS(2.58 \div \sqrt{N})$ .“ (Webler 2009: 31) ABS means absolute value [Absolutwert], but doesn't seem to be right. Rightfully this must be defined as a sort is flagged anytime its factor loading is  $> 2.58 \div \sqrt{N}$ .

<b>GAF</b>	0.0697	0.6644 X	0.1092	0.2048
<b>PT3</b>	0.4861	0.2338	0.0524	0.5900 X
<b>SPU/PA</b>	0.5464 X	-0.1213	0.2347	0.0272
<b>Ass3</b>	0.3713	0.6084 X	0.4610	0.0904
<b>Police</b>	0.1086	0.4449	-0.2573	-0.5514
<b>Ass4</b>	0.1640	0.3476	0.1203	0.6431 X
<b>Ass5</b>	0.5009	0.1144	0.4689	0.2310
<b>Ass6</b>	0.8645 X	0.2053	0.0446	0.1346
<b>Ass7</b>	0.3217	0.7367 X	0.2365	-0.0201
<b>Mayor</b>	0.8776 X	0.1245	0.1020	0.0257
<b>Ass8</b>	0.4768	0.3241	0.4961	0.4086
<b>Maracanã</b>	0.1474	0.9257 X	0.0292	0.1812
<b>SUATA</b>	-0.0405	0.2132	0.6389	-0.2681
<b>PT4</b>	0.5233	0.4954	-0.1755	0.1601
<b>PT5 (MPEG)</b>	-0.2843	0.8237 X	0.0307	0.1633
<b>SESPA</b>	0.1415	0.1127	-0.1126	0.7585

The loading to the four factors represents the influence degree of sorts, on which the ideal type of understanding is built upon. For further interpretation and analysis of the discourses one must take in consideration that the above imaged table shows also the congruence degree of this factor<sup>486</sup>, even though their loading hasn't been strong enough to load the factor in their direction. In this context a '+1.0' would mean a 100% agreement of a sort with a single factor, '0' means no agreement and '-1.0' stands for 100% disagreement. This is true for the correlation of the extracted factors too.

What can be answered from the above table as well is the degree of explaining variance for each factor. Since PCA created its principle components based upon unrotated factors, the explaining variance in the table above considers the loading. In comparison to the named simplified explaining variance by centroid method (cf. note 385) the four (4) discourses<sup>487</sup> still represent 66% of all answers given, but because of the simplifying loading discourse A just stands for 20% of all statements made, whilst discourse B represents

<sup>486</sup> This is, at least for the PCA extraction, a correlation of single Q sorts with the factors.

<sup>487</sup> Obviously the discourses are drawn from the factors, consequentially entangled, but not identically. When speaking about discourses, rotated and extracted factors are meant, whilst factors mean the factors without rotation and extraction.

22%, discourse C 11% and discourse D 13%. So, to create discourse A, factor 1 was loaded mainly (75%) by inhabitants on the island. The strongest loadings came from the 'new population', the mayor (0.8776) and the president of the Coachmen's Association (0.8645), followed by one of the few native indigenous representatives, the president of the inhabitants in Camboinha (0.7993), and the representative of the superintendency of nation's heritage in state Pará in Belém (0.5464). Discourse B has first of all been created by the strongest loading of all discourses, provided by the representative of the environmental directory in Maracanã (0.9257), followed by the university representation in the council, professor of the MPEG as well as a native born on the island Maiandeuá Graça Santana (0.8237), the president of the association of entrepreneurs of tourism on Algodual (AETA) (0.7367), the coordinator of Maiandeuá's oldest NGO existing nowadays, GAF (0.6644), and the representative of the Canoeists' association (0.6084). The third factor has been negatively loaded by the most important and most powerful stakeholder in the field, the SEMA (-0.7142)<sup>488</sup>, but supported to a certain degree by the representative of Fortalezinha's inhabitants (0.5153) and – at the strongest position – by NGO SUATA (0.6389). These loadings created discourse C. Finally discourse D, is loaded by two indigenous inhabitants, 0.6555 and 0.5900, the SESPA (0.7585), an association in the council (0.6431) and (negatively) by the police (-0.5514). In the following the narrative will be generated basing on the following table:

Table 33: Distinguishing Statements for each factor

Discourses	Agreement (RNK +2 to +4)	In between (RNK -1 to +1)	Disagreement (RNK -2 to -4)
<b>A</b>	7 (+2; 1.09), 8 (+2; 0.68)	18 (-1; -0.57)	3 (-3; -1.36)
<b>B</b>	10 (+4; 1.58), 4 (+2; 1.35)	17 (0; 0.09), 3 (0; -0.08)	13 (-3; -1.27)
<b>C</b>	18 (+4; 1.50), 14 (+2; 0.66)	12 (+1; 0.59), 19 (-1; -0.28)	17 (-2; -1.09), 10 (-3; -1.10), 3 (-4; -2.44)
<b>D</b>	3 (+2; 0.86)	-	-

*Discourse A: institutional eco-preservationist, market-skeptical, pro 'zero growth', evaluative*

This discourse agrees to statements 7, 8 and disagrees to 3, 5\* as 'strong'<sup>489</sup> statements, whilst statement 18 is considered as 'moderate'.

The most distinctive argument (7; +2/1.09) of this discourse and opposite to all others (B -1/-0.75, C -2/-0.72, D -3/-1.37) is its emphasis for the absolute limits to economic growth, which is why growth must stop at a certain point, since technical progress cannot relativize the environmental limits (5; -2/-0.98). This opinion sees increasing anthropocentrism in the community of inhabitants as one of the most defining negative impacts of Sustainable Development on Algodual-Maiandeuá (8; +2/0.68) and does not follow any

<sup>488</sup> As said, a negative loading shows the degree of disagreement. But, as Donner states, „Negative loads, although clear in theory, are difficult for participants to understand. Imagine this conversation: 'Well . . . Bill, Bob, and Mary belong to subgroup 2. But as for Joe, Joe's defining characteristic is how little he agrees with Bob, Bill, and Mary.'” (2001: 33)

<sup>489</sup> 'Strong' considers statements with a clear position such as 'Agreement' or 'Disagreement'. 'In between' statements are further on called 'moderate'.

of the market liberal arguments that see positive impacts of the economical development on an individual (18; -1/-0.57) and for no means on the societal level (3; -3/-1.36). The latter is of special importance as it is, like the first argument, the most distinguishing statement in the field and the only one, which is declared significant for all four discourses. In other words, all four discourses have labelled this statement as important to defining their opinion, but with a different loading (3; B: 0/-0.08, C: -4/-2.44, D: +2/0.86). This strong decline locates this discourse close to discourse C, who refuses the 'limits to growth' (C: -2/-0,72) and anthropocentrism (C: -3/-1.29) argumentation uncompromisingly.

*Discourse B: environmental admonisher, institutionalist, designative*

Agreement to 10, 4, disagreement to 13, 9\* and a position of no agreement without disagreeing towards 17, 3 frames this discourse. As usual, 'strong' statements, assembled in a discourse, are of higher relevance than the 'moderate' ones, since the clear position favours the distinction more than the position in between.

This viewpoint favours at the first place the understanding that SD is defined by an equilibrium of human and environmental development without giving priority to one or the other (10; +4/1.58), but also warns for a close catastrophe for humanity, because of economy's growth in non-consideration of the environment's absolute limits (4; +2/1.35). Very strong also, this perspective refuses the claim, that the abuse of drugs on the islands is caused by human development (13; -3/-1.27). Opinion between not just agreement and disagreement is given to the statement that economic growth is accompanied with felicity on Algodual-Maiandeuá (9; -1/-0.53)<sup>490</sup>. As the only one discourse of the four, this view on Sustainable Development assumes no agreement to the statements that claims creation of the 'Plano de Manejo' [management plan] rather by the inhabitants than governmental institutions (17; +0/0.09) and the to the argument, that economic growth is positive force able to eliminate social disparities to the extent of acceptable environmental costs, but no disagreement too (3; +0/-0.08). In regards to the latter, all other perspectives show a clear opinion to either agree or disagree (3; A: 3/-1.36, C: -4/-2.44,+2/0.86). Strong agreement can just be found in regards to statements that deliver a very 'technical' definition of the concept, whilst distinguishing arguments in regards to rather 'political' questions, or rather concrete than abstract considerations, are not refused but avoided in commitment. This 'technical' approach less considers very local, specific, ungeneralisable opinions in favour of a more abstract and scientific understanding of the problem. Nevertheless, this view has inside knowledge of the field problem too. Drugs aren't a phenomenon coming from contemporary human development, but from tradition, at least in Fortalezinha<sup>491</sup> (Kaufmann 2003: 64-65), but whether the abuse of drugs is a consequence of human development might be questioned. The case of Fortalezinha showed increasing conflicts regarding alcohol and THC consumption (Ibid. 79-80). One can assume that the distant perspective

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<sup>490</sup> Since this statement appears in the 'consensus statement's' section too, assumption is that significance of this statement is due to an error of P ' .05 and so the 5% error chance applied here. In the next section when the six (6) descending arrays of differences between factors are outlined, this possibility will be taken in consideration to find final answer. If significance applies, statement 9 would appear significantly in factor comparisons that include discourse B.

<sup>491</sup> And there is no reason by now why it should be different in the other villages.

on the SD concept in this discourse didn't consider this difference (existence of drugs vs. abuse of drugs) or did not assume this fact as important for defining the term.

*Discourse C: anti-capitalist, social-liberal, practitioner, definitive*

The third discourse has the clearest and strongest position, not just in number, but in loading on the single arguments too. Discourse C is balanced by both agreements (18, 14, 12) and disagreements (19, 17, 10, 3), even though one of each side is part of the 'moderate' statements, statement 12 for the agreement side, and statement 19 for the disagreement side.

Basically, this opinion is framed by the two strongest possible statements on each end of the scale, on the one hand it refuses the positive impacts of economic growth to eliminate existing social disparities by acceptable ecological costs (3; -4 compared to D: +2, B: 0, A: -3), the negative Z-score loading is also the most radical position within the extracted discourses (3; C: -2.44 vs. D: +0.86, B: -0.08, A: -1.36), not just in regards to the named statement, that is defined as distinguishing for all 4 (four) discourses, but compared to all other statements recognised as significant (ranging from +1.58 [discourse B] to -1.36 [discourse A]) and non-significant (ranging from +1.894 [discourse D] to -1.881 [discourse D]) for defining discourses in the field. The disbelief in free market forces is accompanied by strongest support (18; +4/1.50) for (assumed or real) practical experience of more options, liberty and a better wellbeing [in the socio-economical life]. None of the other discourses would disagree to this fact, but none would agree too and the one discourse that considers this statement as relevant for its opinion would rather disagree (18; -1/-0.57) than agree. Furthermore the discourse fairly agrees that prostitution is an impact of present Sustainable Development in Algodoal-Maiandeuá (14; +2/0.66) and agrees a bit to the viewpoint that nowadays (mass) tourism on the islands is the solution to develop the islands, especially because fishing isn't a source of revenue all periods of the year (12; +1/0.59). Interestingly, the discourse favours an opinion taken from qualitative interview with a tourist couple that visited Algodoal for the first time, stating that the only thing they miss would be cars on the conservation unit (19; -1/-0.28). On the other hand, the discourse doesn't agree with the idea that inhabitants of the islands themselves should create the management plan for development. By no means, Sustainable Development is seen as an equilibrium without priorities (10; -3/-1.10) and therefore this discourse opposes discourse B, that most strongly favours this argument to define Sustainable Development in the regional context of islands Algodoal-Maiandeuá (10; +4/1.58).

*Discourse D: market-liberal, definitive*

The last discourse is the weakest in defining a certain way to see Sustainable Development on Algodoal. Nevertheless, this position is very important for understanding the underlying differences in the field as the statement is also the most distinguishing statement in the whole field.

Since discourse D is only defined by his agreement to statement 3 (+2/0.86), which is rejected by the other three (3; A: -3/-1.36, B: 0/0.08; C: -4/-2.44), its importance results from obvious one-sidedness in defining

Sustainable Development, or rather, the expectations of it. In this understanding, the term stands for economic development without limits to growth in order to resolve the environmental as well as social inequality problem set. The predominance of the argument in this discourse bares favour of resolving the social inequality claim with accepted, since inevitable, non-recognition of the environmental challenge to obtain the benefits.

*Consensus in the field:*

Finally, Q Analysis provides the consensus two statements<sup>492</sup>. The first statement, for which differences have been too small to be relevant – and therefore couldn't be distinguished –, states that the result of the Sustainable Development process is a community focused on consumption (1; A: -1/-0.18; B: +1/0.19; C: -1/-0.51; D: +1/0.31). The second one recognises development, or economic growth, as accompanied by increasing felicity of the people (9; A: +1/0.30; B: -1/-0.53; C: +1/0.38; D: 0/0.21).

Factor Score Correlation of the Sustainable Development concept

The following displayed correlation between the extracted four discourses (or factors) characterises the extent of congruency and difference (Table 34). Here, similarities between all discourses can be found. As could be shown in the single discourse narratives, one (1) statement<sup>493</sup> has been recognised by all discourses as relevant, three (3) statements are considered by two (2) discourses<sup>494</sup> and two (2) statements have been acknowledged as being consensus<sup>495</sup> between all four discourses. For final interpretation at the end, special importance for discourse C - as the factor with lowest similarity with all the others - is required.

Table 34: Correlations between Factor Scores

Discourses	A	B	C	D
A	1.0000	0.2578	0.0068	0.3755
B	0.2578	1.0000	0.0146	0.4369
C	0.0063	0.0146	1.0000	0.0017
D	0.3755	0.4369	0.0017	1.0000

<sup>492</sup> When looking at the single correlations between discourses one cannot find statistical evidence for significance. Differences of statement 9 in all arrays have been below the defined paradigm of relevance, Z score difference of 0.831 in discourse A-B, -0.908 in B-C, and 0.738 in B-D. In consideration of this, delineated significance of statement 9 for discourse B must 'posthumously' be rejected.

<sup>493</sup> Statement 3

<sup>494</sup> Statements 10 (discourses B and C), 17 (discourses B and C), and 18 (discourses A and C)

<sup>495</sup> Interestingly, one of the two statements (statement 9), which are not distinguished between the discourses, is labelled significant for discourse B at the same time. Interpretation of this coincidence can't still be answered, but most obvious interpretation would be – as mentioned – that P ' .05 applied in the meaning that significance there is not given.

### 5.4.6 Environmental Justice

Four views on Environmental Justice have been found in the field of APA Algodoal. These four discourses will be – as before - named discourses A, B, C and D, referring to rank statements totals and normalised factor scores with each factor<sup>496</sup> in the appendix (11 and 12). For comparison purposes, scores of other factors are mentioned naming discourse letter, discourse sort classification number and Z-score<sup>497</sup>. Factor loading was done by automatic flagging<sup>498</sup> like for the Sustainable Development concept.

The four extracted factors in the following Table 35 represent ideal types of worldviews on the concept of Environmental Justice, but the congruence degree of the single sorts to the different discourses. This degree is measured in the same way as for all correlations, in which '+1.0' equals 100% agreement, '0' is no agreement and '-1.0' equals 100% disagreement. As self-evident, the non-cumulative explaining variance, as resulted from centroid factor rotation, is influenced by the number of sorts loading on a single factor or discourse. 100% of the discourse A 'loaders' are inhabitants from the island, opposite to discourse B (80%), discourse C (66%), and discourse D (33%). In running the Q analysis, based on these loadings, discourse A considers positions of the associations in the management councils to the extent of 85.71%, surely not equally, since the loading ranges from 0.6178 to 0.7916, but the island's and countryside's mayor, as well living in village Algodoal, loads the factor less (0.6534) than the midpoint loading of the 6 associations (0.7036) All other discourses take their strongest loadings always from institutional bodies such as municipality's directory of the environment (B: 0.9103), SEMA (C: 0.8207), and ORLA (D: 0.8907). This means that the unrotated factor 2 has much in common with the understanding of municipality's representative in the management council in regards to the concept of Environmental Justice , and the resul-

Table 35: Factor Loading by Q sorts for the Environmental Justice discourses

Q sort / discourse	A	B	C	D
<b>SEMA</b>	-0.1441	0.1299	0.8207 X	0.2216
<b>Ass1</b>	0.6952 X	0.2534	-0.2483	0.0996
<b>Ass2</b>	0.2579	0.6244 X	-0.1955	-0.0038
<b>PT1</b>	0.4540	-0.1999	0.7303 X	-0.0024
<b>SPU/PA-ORLA</b>	-0.2232	0.0863	0.0202	0.8907 X

<sup>496</sup> All statements of the discourses have a statistical error margin of P ' .01, meaning that the chance for a statistical error in regards to the certain statement is below 1%, beside of the Asterisk labeled (\*) statements for which apply P ' .05.

<sup>497</sup> The used formula is 'Letter: Rank/Z-Factor', such as – for example – 'C: +2/0.86'

<sup>498</sup> PQMethod generally does flagging of „a sort anytime its factor loading is greater than  $ABS(2.58 \div \sqrt{N})$ .“ (Webler 2009: 31) ABS means absolute value [Absolutwert], but doesn't seem to be right. Rightfully this must be defined as a sort is flagged anytime its factor loading is  $'2.58 \div \sqrt{N}$ .



<b>PT2</b>	0.4308	0.0591	-0.0121	0.7979 X
<b>GAF</b>	0.0611	0.8184 X	0.1940	0.0731
<b>PT3</b>	0.3240	-0.0568	-0.7033 X	0.3068
<b>SPU/PA</b>	-0.0544	0.3114	0.1661	0.3728
<b>Ass3</b>	0.7916 X	0.3920	0.1752	0.1121
<b>Police</b>	0.2777	-0.3535	-0.1387	0.4720 X
<b>Ass4</b>	0.6178 X	-0.3932	0.0789	0.2373
<b>Ass5</b>	0.6955 X	-0.0750	-0.1556	-0.1602
<b>Ass6</b>	0.4974	0.6487 X	-0.3717	-0.0120
<b>Ass7</b>	0.7546 X	0.1941	-0.0192	-0.1387
<b>Mayor</b>	0.6534 X	-0.0042	-0.1359	0.4573
<b>Ass8</b>	0.6669 X	0.3056	0.0418	0.2727
<b>Maracanã</b>	-0.0552	0.9103 X	0.0398	0.0382
<b>SUATA</b>	0.1725	0.7043 X	0.0059	0.0481

ting discourse B is strongly influenced by this sort. The same applies for factor 3, which becomes discourse C, and its inherent loading by the SEMA. Considering the special position hold by the SEMA in the field, the analysis of discourse C becomes more important to this study than the others. Factor 4, at the end of the scale, forms the fourth discourse (D) with the second strongest loading in the set. Looking now at the result of the Q Analysis extraction of the four discourses, very detailed discourses are found, especially in the extreme poles of 'Agreement' and 'Disagreement'. Basing on the following table, a narrative will be outlined as follows:

Table 36: Distinguishing Statements for each factor

Discourses	Agreement (RNK +2 to +4)	In between (RNK -1 to +1)	Disagreement (RNK -2 to -4)
<b>A</b>	19 (+4/2.29)	10 (+1/0.44), 1 (-1/-0.25), 15 (-1/-0.27)	3 (-2/-1.06), 5 (-3/-1.07), 17 (-3/-1.45)
<b>B</b>	18 (+4/1.60), 12 (+3/1.18), 3 (+2/0.93), 7 (+2/0.76)	9 (+1/0.31)	10 (-2/-0.61), 1 (-2/-1.17), 5 (-3/-1.72)
<b>C</b>	17 (+3/0.98)	1 (+1/0.77)	4 (-2/-0.90), 3 (-3/-1.85), 19 (-4/-1.95)
<b>D</b>	4 (+3/1.24)	3 (-1/-0.25)	9 (-2/-0.87), 12 (-3/-1.10), 1 (-4/-2.11)

Seven statements (4, 5, 9, 10, 12, 17, 19) have been recognised as significant to two different discourses and two (1, 3) have been labelled significant to all four discourses found in the field. Besides obvious stickiness between discourses, meaning differences not common ground, the two statements (1 and 3) are the two big controversies in the Environmental Justice field. Statement 1 (one) though asks whether it is in the nature of men to want more and more money, this is finally the question about the relationship between conscious and

being, consequentially one of the most philosophical questions on earth too. In the Environmental Justice context the view on these statements offers insight the understanding what can be altered by humans and what is given as such especially in consideration of the historical Environmental Justice claim to additionally consider traditional, subaltern, and cultural ways of living, being, development. If mankind sticks to a behaviour of willing more and more money by nature, more communitarian concepts, for example from an eco-socialist perspective, doesn't offer accepted alternatives to any way of non-money related development. The second all-embracing statement No 3 claims that those who are understood as poor are both victims and agents of environmental damage. This argument is often heard from neoclassical and market-liberal perspectives as a charge indeed has highest importance for all further proceeding since it may bare as well some specific truths on APA Algodoal-Maiandeuua. If the paupers are both victims and agents of the environmental damage, one must come closer to the question, what is the environmental problem in the first place? Easy answers cannot be given, since political directions will answer this differently. In any case, the central position of the statement for all extracted factors shows importance for the overall debate in the field in regards to the definition problem of the environmental question.

Now, the four ideal type discourses will be described in narrative form:

*Discourse A: institutionalist, communitarian, social, designative*

Discourse A agrees only to one statement (19), but disagrees strongly to statements 3\*<sup>499</sup>, 5\*, and 17. In the field of neither strong disagree and strong agree, this perspective takes position for tending to agreement (statement 10) and disagreement (statements 1 and 15\*).

This discourse favours the waste problem as the major Environmental Justice problem on APA Algodoal (19; +4/2.29), but doesn't see the paupers as responsible and victim of this damage to the environment (3; -2/-1.06). Even though injustice results from stakeholder's influence that is strongly linked to their economical power (17; -3/-1.45), this perspective disagrees that institutions aren't able to resolve the environmental question in this regards (5; -3/-1.07). For defining the concept of Environmental Justice, the communitarian resources use rights have to be considered but don't play a very central role (10; +1/0.44). The latter is also true for the representation of natives in the management council and their cultural marginalisation to which is rather disagreed (15; -1/-0.27). Even more, this discourse assumes that it is rather in nature of humans to want more and more money (1; -1/-0.25).

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<sup>499</sup> All statements of the discourses have a statistical error margin of  $P < .01$ , meaning that the chance for a statistical error in regards to the certain statement is below 1%, beside of the Asterisk labeled (\*) statements for which apply  $P < .05$ .

*Discourse B: institutionalist, environmental racism awareness, eco-analytical, evaluative*

This is the most diversified discourse in the whole set since considering 8 (eight) statements in total as being significant, so perspective explaining. To four (4) of the statements discourse B agrees strongly (18\*, 12, 3, 7) and to one (1) fairly (statement 9) whilst rejecting statements 10, 1, and 5

This opinion bases its definition on typical, analytical terms, first of all, on unequal shared costs and benefits, but health issues too. Strong argument is the comprehension, that the majority of the population on the islands is excluded from environmental goods whilst suffering more from environmental bads, and that these impacts create struggles which cannot be ignored (18; +4/1.60). Evidence for Environmental Justice failure on Algodual-Maiandeuá is seen by cases of malaria and yellow fever (12; +3/1.18). Both responsible and victim of environmental damages are the poor people (3; +2/0.93), but the costs are carried by non-white people and future generations (7; +2/0.76). Obviously the understanding of how to achieve Environmental Justice on Algodual requires – according to this opinion – a Sustainable Development strategy, able to establish specific regional obligations in respect to the North, the South, the East and the West of Brazil, the coastline, the countryside, urban areas, to create a new concept of modernity by inventing a new civilisation basing on the ideas of respect, knowledge and love to nature (9; +1/0.31). On the contrary to discourse A (A: 10; +1/0.44), this viewpoint rejects a reconsideration of antique understandings in modern society. The statement argued that ancient relations of work and natural resource usage was based on communitarian resources usage and substituted by private property rights characterised by a rationality strictly economically. (10; -2/-0.90) In consideration of human's to always want more and more money by nature (1; -2/-1.17), institutions are certainly able to answer the environmental question (5; -3/-1.72).

*Discourse C: economical individualism, subjection of environmental concern, designative*

The third discourse is based more on its disagreements to define its opinion. Disagreement with more than a half of the statements (4, 3\*, 19) relevant to this opinion are opposed by one to which is strictly agreed (statement 17\*), completed by one (statement 1) with no agreement without disagreeing.

The strongest statements of this discourse are the refusal of waste as the major problem on islands Algodual-Maiandeuá (19; -4/-1.95) and the belief that stakeholders with more economic power have, and should have, more influence than those without (17; +3/0.98). As this opinion further assumes (on a Z-score difference of just 0.21) that to want more and more money is not naturally given to mankind (1; +1/0.77), the former argument creates the belief that those who accomplish economic success can and should take higher responsibility. Furthermore, Environmental Justice cannot be defined and understood in terms of the Brundtland Report or as considered in the Brazilian Constitution (Art. 225, cf. Paulo 2005) to satisfy the needs of today without sacrificing the needs of future generations (4; -2/-0.90). Last but not least, and as consequence of the individualistic perspective of this view, the understanding of paupers as causers and victims of environmental damage is neglected (3; -3/-1.85) considering a quasi maximum in freedom of decision making to its means and ends.

*Discourse D: Sustainable Development environmentalist, Environmental Justice incorporating, definitive*

Similar to discourse C, discourse D focuses on agreement to one statement (statement 4) which covers the whole 'positive' opinion to the Q sample whilst even the non agreement without disagreement part (statement 3) as well rather tends to the disagreeing side. On the other side, disagreement to three (3) statements completes its perspective (statement 9, 12, 1).

Most relevant to defining Environmental Justice is not sacrifice the needs of future generations to fulfil present needs (4; +3/1.24). This view sees basically no difference between the problems faced by the Sustainable Development notion and the Environmental Justice concept. As consequence of nature of men to want more and more money (1; -4/-2.11), a new concept of modernity (and therefore development) to invent a new form of civilisation based on deep respect to humans, subaltern knowledge (consideration of specifics of regions in Brazil) and nature (9; -2/-0.87). Cases of malaria and yellow fever aren't the failure for Environmental Justice on Algodual-Maiandeuá (12; -3/-1.10). This perspective rather represents opinions of those people living in the village Algodual. There, after legal proceeding of SUATÁ, the waste issue doesn't appear anymore as most pressing concern according to information from local inhabitants. This also reduced the analysed malaria and yellow fever epidemic threat, as SESPA informed, caused by non-organic waste (Kaufmann 2003: 78).

Factor Score Correlation of the Environmental Justice concept

The following table shows how close the four discourses are to each other.

Table 37: Correlation between Factor Scores in the Environmental Justice set

Discourses	A	B	C	D
A	1.000	0.2714	-0.0662	0.1742
B	0.2714	1.000	0.0433	0.0816
C	-0.0662	0.0433	1.000	0.0409
D	0.1742	0.0816	0.0409	1.000

For the following final conclusion and interpretation of the provided data, the correlation of the discourses show, that discourses A and B (0.2714) have the most in common, greatest difference is between A and C (-0.0662).

5.5 Conclusion: Sustainable Development and Environmental Justice

As could be seen in the examination about Algodual-Maiandeuá, acceptance and execution of environmental law still fails due to very different perceptions of this reality. As assumed in formulated substantive theory,

the understanding of inherent concepts, such as Environmental Justice and Sustainable Development, is too different and in consequence the policy scheme is inappropriate. As the analysis could show, priorities to define the two concepts, consequentially the perception of the desired, are mainly more different the more distant the stakeholders are. Christiane Nogueira, as responsible officer of the SEMA on the islands, is handling the situation as best as possible within the given frame, but the antagonism of existing, unconsidered interests (from institutional and non-institutional sides) make it a non-accomplishable mission: To satisfy the needs of all people living on the island within the given institutional frame and with the given financial resources. As a matter of fact, the general approach of APA to protect nature and developing the area cannot succeed, as long the different perceptions of the environmental problem ('social nature') aren't considered. Much research on Algodual-Maiandeuá has focussed on the negative impacts to the native Indians, be it lack of fishing, of opportunities or waste. What can be said in advance from outlined Q analysis discourses in combination with early Chicago School focussed participant observation method of Girtler (2001), people, in particular the native population, are less concerned regarding the environment and rather participate in economic benefits. In fact, the declining number of fishermen on the islands is caused by the fact that fishing is not sufficient anymore to feed the family, but also – and more importantly due to people's preference. Like all people do, they seek an easier and less exhausting life. Easily, researchers fall into romantic views on 'noble savages', not only in the Amazon, assuming them to wish nothing else than living on the standard of living they have always had.

But this rightful claim cannot stand alone. The truth is more sophisticated than blaming existing institutions for wrongdoing. Top-down implementation of environmental law on the local level most often fails because of non-participation in the social processes by civil society, which refers to the lack of knowledge of local interests, which should be surveyed in advance, in order to succeed. In case of Algodual-Maiandeuá, civil society fails here too. This is particularly true for the indigenous population on the islands. Many expectations exist on the attitude that governmental institutions can and must resolve the problems for the people. This aspect must be extended to the point, that the connection of top-down and bottom-up at the same time by protests, marches and direct action would also transfer required information<sup>500</sup>. The claim of more participation on existing environmental benefits must be accompanied by assumption of responsibility. To this aspect will contribute the interpretation of the quali-quantitative evidences as follows.

As result of the principal component analysis (PCA), it could be seen that discourses on the concept of Environmental Justice are more equally loaded on the four factors, as in case of the Sustainable Development concept. This is strengthened by looking at the results of the two factor sets in a comparison manner from empirical viewpoint. Whilst two consensus statements have been elaborated in Sustainable Development (SD) factors, none have been found in the Environmental Justice (EJ) sorting. Furthermore, by comparing the resulting EJ and SD Q analysis can be seen that two (2) statements have been marked significant to all

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<sup>500</sup> For a positive example in the lower Amazon see McGrath 2005.

four discourses in the EJ set whilst just one is significant in the SD set, seven statements have been marked as defining for two discourses whereas this is true for only three statements in the Sustainable Development concourse. For concluding results, this statistical evidence cannot be more than hints without final significance, but can give hints to interpretation focus. As Albert Einstein accurately said: “[A]s far as our propositions are certain, they do not say anything about reality, and as far as they do say anything about reality, they are not certain” (quoted by Schumpeter 1991: 298-99). As usual for Q analyses, focus will be what can be *verstanden* by the narratives. Consequently, the presented narratives will be interpreted considering the qualitative information, gathered from conversations and interviews in order to finally disclose the visible and invisible conflict lines in the field. Hereby, the descending arrays of differences between all factors with reference to the one in question, so the most distinguishing statements of each factor, will be used to outline the two most distinguished statements to characterise the conflict lines. The sum of all conflict lines in both concepts will be able to give significant evidence beyond the qualitative result as found by subjectively gathered information from ero-epic conversations, background information of former research (2003, 2005) and literature.

The following conclusion shall contribute to three aspects. (1) First of all to the hypothesis, which assumed that environmental legislature rather fails if understanding of the inherent concepts is too different. (2) Second, outlining the conflict lines shall give concluding hints to the problem set in consideration of the developed theoretical concept of 'social nature'. (3) Finally, the results as a whole give opportunity to highlight central areas to work on for dealing practically and for scientific research with the remaining environmental problem on APA Algodal-Maiandeuá. This will give evidence for the topics on which the main discourse on Algodal of either Sustainable Development or Environmental Justice is focussed. Even more, the totality of most relevant statements from both panels will construct the local environmental regime, in which the problem solution is settled by now, revealing the four most distinguishing statements (two from each). Practically, these are, as result, the most pressing topics to be discussed.

Hereby, the explaining variance of particular factors, expressed in discourses, in the particular concept for the whole discourse structure will be considered. However, focus will be in assessing the character of the conflict lines. Consequently, discourses of the same order (both A, both B etc.) can be paired and interpreted to describe the character of the environmental problem set and to see the potential of the single discussion points from their emphasis in the normalised factor scoring.

Discourse A about the Sustainable Development concept alone represents already 36.96% of all existing discourse differences in the field, as PCA could show. In accordance to the above named restriction, statement 17 with a Z-score difference of 2.53 and statement 7 with Z-score difference of 2.47 define the conflict line. This is the discussion on the topic of management plan creation by inhabitants of the island, not by governmental institutions. Hereby, environmental education and constitution of the teaching content was expressed in conversations as well as by joint interpretation with experts from higher Amazon faculty

(NAEA) at federal university of Pará. The second aspect is the consideration of absolute ecological limits to growth, which is why economic development has to stop at one point. Again, these two are the statements in discussion, by which highest difference of statements and even though the conflict lines as such don't say anything about agreement or disagreement. Consequently, since positive and negative loading for the conflict lines has not been considered, the second statement didn't appear in the discourse definition list (see above). Environmental Justice's discourse A, containing 28.05% of all differences and consequentially about 9% less as its counterpart of Sustainable Development, on the other hand, outlines conflict lines along statement 19, difference of 4.24, and statement 17, difference of -2.43. The former concerns waste as the most pressing problem on Algodual as topic in question, the second the problem of political influence of different stakeholders in the field due to their economic power. In comparison it can be seen, that difference in loading on these statements is more different in the main discourse of Environmental Justice than in the most defining discourse of Sustainable Development. In consideration of the analysis, the topics in question from the list of Environmental Justice statements are challenging the crucial point, by which different interests of the stakeholders (not just the 'two populations' on Algodual (Chapter 5.3.1), but also the involved institutions), preservation of nature versus economic development, versus demand for participating from Environmental Goods appear. As could be seen with reference to the cultural regime (Chapter 4.2.2.1), power decline related to weak social status is a driving force, not just of inequality, but for the environmental problem too ('poverty is the biggest polluter' argument, as quoted above).

Discourse B, representing 12.07% of the differences about Sustainable Development, outlines statement 10, differing by Z-score about 2.68, and statement 13, with difference of -2.56, as conflict lines. Distinguishing the former argument is the perception of the concept as equilibrium of human and environmental development without priorities whilst the latter refers to drugs as impact of contemporary development. The former refers to a strategy of APA in general, looking at the comparison to the RESEX legislative regulation (Chapter 4.4.3.2), the question is, whether ecological zones are the main interest for the inhabitants, or, as the president of the association of Camboinha inhabitants stated, the financial funding of culturally bound events, such as *carimbó*. The drug problem on Algodual - as expressed by the second part of the conflict line developed here - asks whether it is caused by human development. This gives evidence to deeper insight to life on the island, which, due to indigenous culture, has used marihuana since centuries as part of their fishing culture. Introduction and growing drug abuse by mass tourists led to reasonable focus of local police on the problem of narcotraffic. This does not only contradict with traditional native culture, but also turns focus away from environmental problems, due to police's limited staff power, where they would be needed, as outlined. Environmental Justice counterpart discourse, representing 16.36% of the differences and about 4% more than the counterpart, outlines a conflict line in terms of statement 3 with difference of 2.79 and 5, with difference of -2.62. The central question here is in regards to perception of the poor as causers and victims of environmental damage (the former) and question, whether institutions can resolve the problem.

The latter indeed is linked to the credibility problem of SEMA on Algodoal. For the total setting, as Christiane Nogueiro honestly told, some requested areas are just not part of what SEMA is allowed to do. On the other side, in consideration of the 'social nature' and 'perceived justice' conception, for the local people, in particular the disadvantaged, the question of responsibility is not their concern. They just want their various demands to be fulfilled independently of jurisdictions. This is the problem to deal with practically on Algodoal and applies not only to governmental and non-governmental institutions, but also to better recognition of the possible beyond just demanding. Here, differences between Sustainable Development and Environmental Justice conflict lines cannot be seen by Z-score difference, as they are quite similar, but disputable social nature of the conflict is added to the problem set by the latter as reinforcement of an invisible conflict line, often hidden or ignored within contemporary mainstream discussion on Sustainable Development.

The second last factor, translated into discourse C, represents only 8.97% of the differences. Statement 3, with strongest difference (-3.31) in the SD list, and statement 10 appear. The latter can be ignored since it also appeared and was already discussed in section of discourse B. In addition to the existing conflict lines, comes inasmuch as economic growth can be seen as a positive force to eliminate social disparities. By logic reasoning, and in consideration to the profession's structure on the island, highlighting of this statement is no surprise. Placement on the top of the category list of all statements in the Sustainable Development on the other side does. This shows that there is a relevant group of stakeholders in the Q sort, who support this opinion. Obviously, many of those coming outside as 'new population' have bettered their lifestyle due to properly executed businesses, as mentioned. Another part, obviously, rather sees the contrary. Therefore, the social distribution of Environmental Goods appears as most distinguishing statement in the Sustainable Development set and will be centred for final conclusion as well. Corresponding Environmental Justice discourse C, with explaining variance of 11.42%, only about 2% more than the Sustainable Development discourse, also highlights, as discourse A, the waste problem set (statement 19, difference as above). As this is discussed already, concentration of the next conflict line emerges in statement 1, with a difference of 2.88 between the Z-scores of the other factors. This is the question whether it is part of human nature to want more and more money. For environmental discourses this matters only in regards to perceived social changeability. If humans by nature are bound to this ideal, alternative development with more consideration of the biological environment is difficult or impossible. Final answer to this question cannot be provided here, but recognition of this argument as the second most distinguishing argument in the whole Environmental Justice debate on Algodoal, as presented here with all its limitations, is surprising. Environmental Justice discourse C's conflict lines represent perfectly the two statements for the environmental regime on Algodoal.



Last, but not least, discourse D of Sustainable Development, representing the remaining 7.87% of the whole imaged explaining variance, and Environmental Justice, explaining variance of 9.86% draw both conflict lines along already discussed statements<sup>501</sup>, which makes qualitative interpretation redundant.

For comparison of Environmental Justice (EJ) and Sustainable Development (SD) debate in the field, total explaining variance of either 65.87% (SD) or 65.69% (EJ), one can hardly speak of an ongoing struggle about the concept of Environmental Justice as proposed in the initial introduction, even if Sustainable Development discourses showed two consensus statements in the Q sorting whilst Environmental Justice discourses showed none. There is a struggle along classes and races in Algodual about distribution of environmental burdens and benefits, which is formulated, as mentioned with reference to Pierre Bourdieu above, through these concepts. Hereby, the regional perception of the Environmental Justice aspect in the field reveals insights into the social distribution aspect of these struggles on APA Algodual-Maiandeuá, whilst Sustainable Development conflict lines rather express grounding concerns, which was expected as the considered statements gathered by the qualitative data surveying mainly expressed this as important. Generally, the expression of most pressing concerns in the Environmental Justice debate revealed evidence for what was introduced as 'social nature', since the perceptions of the environmental problem in Algodual are obviously going beyond debates of ecological corridors and environmental degradation, but also are features by class dominated distribution battles which must be recognised in a solution in order to be broadly accepted and to re-establish institutional and governmental credibility.

Regarding the three named aspects of the present conclusion, the first shows at least hints to some truth in this assumption. Indeed, credibility of SEMA as the legislating and most powerful actor in the field reveals very different perception of the environment problem set as could be shown in the last chapters. This is due to the analysed 'distance problem' which showed that as more distance to the field occurs, there is less similarity of environmental problem understanding. As could be shown, all Belém based institutions (SEMA, SPU/PA with exception of ORLA, SUATÁ among others) have only a minimum in common with those people living in Algodual. If the assumption of 'perceived justice' and 'social nature' is considered, the power decline due to economic influence exacerbates the already difficult situation. Here, not power transfer, but relocation of relevant institutions to the field, so decentralisation of the process and orientation to local projection, might be steps that are useful to discuss. Consequently, the takeover of the 'perceived justice' conception in terms of 'social nature' can be seen as arguments for this location change. Similar and long-term perceived day-by-day life experience by institutional representatives will most likely have positive impacts on an appropriate environmental regime in Algodual. Finally, what is the environmental regime made of? In accordance with the made preconditions, two times two statements could be extracted from both discourses: Overall most distinguishable statements from the Sustainable Development discourses set have

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<sup>501</sup> These are the statements 7 (as in the respective discourse A) and 3 (as in the respective discourse C) in the Q sample of Sustainable Development and the statements 1 (as in the respective discourse C) and 19 (as in the respective discourse A) in the one of Environmental Justice.

been the statements 3 and 10, whilst the statements 19 and 1 appeared from Environmental Justice discourses. Finally comparing the Z-score differences, which led to the selection, reveal a lower difference regarding the SD statements between all factors (3.31 and 2.68) than regarding the EJ statements (4.24 and 2.88). Consequently, controversies here (EJ) are stronger than there (SD).

The characterising conflict lines of the environmental regime are therefore expressed by four statements, here translated to questions and ordered from most distinguished from other factors to the lowest according to the Z-scores, which should be centred for further discussion:

- Is waste the major problem on APA Algodoal-Maiandeuá?
- Are the poor victims and causers of the environmental damages on Algodoal and, if yes, why?
- Is it part of human nature to want more and more money?
- Is Sustainable Development an equilibrium of environmental and economic development without priorities? If not, what should be these priorities?

The discussion should be made in consideration to the two named consensus statements, so, the statements to which no significant difference could be found in the field. No distinction was made to the statements that:

- The result of the Sustainable Development process is a community focussed on consumption and that;
- The development (economic growth) on the island is accompanied by increasing happiness of the people.

The last is both surprising and encouraging, as it was expressed in conversations by people of all professions and social status. This also contradicts many conclusions, such as my own (Kaufmann 2003), of people that are overcome by these changes against their will and just to their disadvantage. Consequently, further research into these questions, and in consideration of the revealed conflict, is recommended. It has been exactly the mentioned project 'Light for All', which was rightfully criticised by SEMA with reference to the environmental damage, which was named the most (directly or indirectly) during the Q sorting as reason for this.

Furthermore, existence of two civil societies must be considered. The unresolved land ownership problem seems to be, according to the qualitative data, the most pressing part. Institutions like SEMA and SPU/PA could do much more than they do now by taking responsibility, even new responsibilities if demanded. Non-representation of the indigenous population in the management council must also be addressed. By fact, institutional proceedings and the given frame advantages the socially better off, mainly the 'new population'

due to their (mainly) urban background and better knowledge of institutional proceedings and better education than most of the fishermen which are semi-analphabets. Other forms of organisations, such as the native community, could possibly be considered. Furthermore, financial resources of the 'council' must be sufficient, to visibly move something on, at least to realise that to what has agreed before in the eyes of the inhabitants or clearly explained (cf. Mocoa No /2.005. in Appendix 7). The council needs authority to manage funds on its own, which would give people more reasons to participate.

Last but not least, the landownership problem as the most pressing one has to be at the top of the agenda. Since the law forbids selling and buying of land on the island, this regulation must be executed from now on and retroactively, since the abuse of existing law finally damages the credibility of governing institutions. Those that have bought land on the island must be expropriated and compensated or an alternative legal framework must be found. Legal order must be installed, for which a sufficient amount of policemen of the environmental police division is required to monitor the process. Based on the existing order, a discussion within governmental institutions and with the stakeholders in the field is required for the next steps.

If this procedure is not financeable or unenforceable, one must conclude that the APA law is better replaced by another regulation. In consideration of Elver's research paradigm as a circle of problem analysis and implementation, further processes could be supported by revision of the Q study in Algodoal-Maiandeuá by focussing on the named problems and to evaluate, what environmental law is both required (in consideration of 'social nature') and accepted.

## 6. Epilogue

*Freiheit der Wissenschaft heißt,  
daß man über alles schreibt,  
was man nicht gelernt hat,  
und dies für die einzige streng  
wissenschaftliche Methode ausgibt.*  
Engels 1972

The presented work could give evidence for four results: (A) The need of a theory, which can express mankind's environment in a wholistic nature – society relationship dialectically, (B) the necessity to deal with environmental problems using sustainable development and environmental justice on equal footing, (C) the constitution of the environmental regime in Brazil and the Amazon and (D) utter utility of the presented processual research paradigm and Q Methodology as analytical frame for policy (local regime) analysis.

The first result (A) introduced the concept of nature-environment-sustainability complex (further on also referred to as 'complex') to cover the whole range of nature / environment conceptions which are described in sociological theory (chapter 2). Four aspects then have been considered as both limiting analytic frame and relevant for the following analysis of sociological contribution to that entity: First, the environmental problem perception of a 'clean' world, which can be polluted, was opposed to the fact that the world has survived much worse than men could do to it. Hereby, this work could show that sociological theory must share the viewpoint of 'social nature'. This means that environmental problems are actually not of biological nature but exist just as a perception of such a threat to the composition of contemporary society. The second point framed the sociological debate in its historical context and reckoned that the dispute between sociologism and naturalism isn't finished. There was concluded that sociological theory at best deals with the above named complex by contributing to a suggested dialectic of nature-society. The required parameters for such a theory are argued to be found in the writings of the early Marx. Furthermore, the theory problem of an escape to global projection and its resulting in a spaceship earth ideology was argued to be a necessity for good sociological theory on the complex as third aspect. The last point then provided the historical background up to the times of modern science, when the social sciences have emerged. Anthropocentrism and technique / progress optimism as challenging obstacles of social science theory development on the nature-environment-sustainability complex have been concluded.

The examination of the three classics' contribution in chapter 2.5 to a holistic dialectic of nature-society looked at the nature-environment-sustainability complex's conception in consideration of the findings in chapter 2.1 to 2.4. Starting with Karl Marx (chapter 2.5.1), the analysis revealed his holistic approach of social relationships and the subjective dialectic of dialectic materialism as the highly valuable (below in more detail). Like Emilé Durkheim (chapter 2.5.3) and Max Weber (chapter 2.5.5) Karl Marx shared the inexplicable assumption anthropocentrism and progress optimism. Max Weber's examination has been

assumed as most likely agreeing to Marx's holistic system analysis and provided – like Marx – hints towards consideration of the complex in their theory. For further theory development, consideration of dialectic materialism as method, called subjective dialectic, and Marx's holistic system theory are the major contribution of the classics for the issue in question. As chapter 2.6 could show, contemporary sociology has done too few to fill the gap. Focussing rather on risk management, proposed nature scientific consideration for environmental social theory and economics (environmental economics for instance) shifted the focus. Caught between sociologism and in fear of misrecognition by so called hard sciences as nature sciences in the field of environmental studies, the main strength of social science for the environmental dispute was not just ignored but also opposed any time it appeared: A holistic pattern of analysis. Even though possible contributions can be found in sociological theory, many environmental sociologists have abandoned theoretical considerations of a dialectic of nature-society and have focussed instead just on parboiled analysis with strong reference to actual empirical data. The sociological need on the contrary is a theoretical conception in which society's complexity and importance of biological environmental can be understood and measured at once.

Post World War II contributions to environmental sociology or even to nature-environment-sustainability complex's definition focused already on descriptive or accommodative research within given societies and institutions. Considering Girtler's (2001) speech on 'veranda sociology', pre-World War II theory, like Ezra Park's local focussed human ecology was thrown away and replaced by a less critical research paradigm. In fact, uncritical approaches have practically failed in their self-chosen field. In face of growing environmental impacts due to human development, their incapacity calls for new answers to the environmental questions.

In consideration to the findings, the open challenge to environmental sociology is to build such a theory with ground on the methodological frame of subjective dialectic. As could be shown, Göhler's (1980:11) findings can be linked to the methodological question of building such a theory (Kaufmann 2012). According to Göhler, subjective dialectic must be in compliance with the transmission of the four categories from objective dialectic. The principles are advancement of abstractness to concreteness, coherence by transition, dialectical and logical antagonisms, and finally the discovery of the (real) being behind the (superficial) appearance (Ibid: 8). Adorno's central concepts of enlightenment and culture on the one hand and the objects of myth and nature on the other (see above) seem to be a very useful theory starting point. As could be shown, each concept of the two concept pairs is a negation of its counterpart with mutual contingency for the concept's constitution. The above named reconciliation of the two relies on Adorno's three principles: The suggestion as only form of reconciliation, the irreducible difference of the other thing is irreducible different from it and the fact that one depends to a greater degree on the other than vice versa. His 'Negative Dialectic' lacks, as shown, in his argumentation and breaks scientific rigour due to his historicism. Cultural relativism can be breached when taking Gehlen's second nature conception into account and considering Popitz's critique by exclusion of his fundamental technology argument, which again would lead back to

cultural relativism and/or historicism, when going into the more concretion and answer the question which does define the fundamental technologies today and in future. Hereby, the outlined concept of 'social nature' (chapter 2.1) as well as the frame of anthropocentrism and technique focussed progress belief (chapter 2.4) must be overcome. Hints to new philosophical thinking on that are given by Bloch's dynamical development idea with critical view on contemporary society construction.

The second (B) result looked at the practical foundations of the environmental regime and the underlying concept behind. In chapter 3 was analysed how the concept of sustainable development was defined and institutionalized, considering the historical frame as described in chapter 2. The examination could show that the incapacity of sustainable development to answer the environmental question until today was due to its proposed broad and open concept definition. Behind the unclear defined concept of sustainable development and its institutional consensus structure dominate economical power relationships. In accordance to the economic status of the stakeholder in the world, vary perception of the environmental problem, the definition of sustainable development and the societal constraints. The detailed, historical discussion in chapter 3.1 could show that already the first international, environmental conference, the UNCHE in Stockholm 1972, used a definition of the sustainable development concept, which considered no economic growth as not being an option for sustainable development. In theory, this was an adoption of the anthropocentric and progress optimistic viewpoint of the 19<sup>th</sup> century, fostered by acceptance of post World War II mainstream thinking on the nature-environment-sustainability complex. Here, reconsideration of Pareto's definition of progress is required to understand the contemporary nutshell of strict monetary terms based measurement of the environmental system. Pareto's definition means (as outlined), that no one is worse off and a minimum of one is better off in the line of process when speaking about development. The replacement of Pareto's concept definition by the Kaldor-Hicks model was the contribution of the two above named viewpoints to the global environmental regime. Basically, the Kaldor-Hicks model adopted Pareto's concept but added the necessity of a just abstractly measured balance in monetary terms. Following events such as the Brundtland report in 1987 and environmental conferences like the Earth Summit in Rio de Janeiro 1992, Rio+10 and recent stakeholder meetings have just added particular concerns to the foundation of sustainable development. Central institutional focus was on monetary measurability of development as indicator for successful sustainable development. Four ideal type discourses have been outlined, three of them (market liberal, institutional and bioenvironmental) fit in this dominant mainstream frame whilst many other, informal stakeholders are excluded from the process and represented by the fourth ideal type discourse called social green. The exclusion of social green positions in the definition process on sustainable development as theoretical frame for dealing with the environmental problem set is then described as the reason for mankind's failure in providing good governance and successful policy making. Non-consideration of the 'weaks' is prominently named as one of the main reasons for the failure. Basically, the communities which shall obey to environmental regulations must perceive the environmental regime as fair in order to cooperate

and make good governance possible. Chapter 3.2 then looked at the new concept which opposed the mainstream frame of sustainable development: Environmental justice. Even though environmental struggles like those of the environmental justice movement have existed ever since, the upraising concept of environmental justice in the 1980s gave the continuing debate a practical and theoretical frame. Started in US communities of people of color, environmental justice grew in importance and number as an informal movement and as a research focus. Numerous researchers from all over the world started to look at local environmental problems from the perspective of the effected. In opposite to top-down policy analysis viewpoints, environmental justice research focussed on communities as independent actors with their own agenda, the environmental problem as a problem of unequal resource's distribution (environmental goods and bads), and the definition of the nature-environment-sustainability complex as the place where people live, work and play. As could be demonstrated, environmental justice research also starts to diverge in critical environmental justice research and a mainstream which tries to include the environmental justice concern into the existing institutional and theoretical frame. The presented thesis sees the value of environmental justice in its critical approach to social reality and radical thinking for practical solution out of the nutshell. Therefore, the claim is to strengthen the critical viewpoint in both policy making and environmental research by dealing with the environmental challenge in consideration of sustainable development and environmental justice on equal footing. Environmental justice research though must be critical and opposing in order to permanently oppose the dominant sustainable development mainstream. The consideration of these two concepts in the presented circle of the processual research paradigm will enable research and policy making to use the conflict as instrument for solution approximation. The field study in chapter 5 then applied the revealed structure. Generally, the global environmental regime could be characterized by the exclusion of social green viewpoints and a dealing of definition and policy making within economic limits.

Altogether, chapter 3 could give evidence for the initial hypothesis. The struggle about the definition and institutionalization of sustainable development is almost finished whilst the same struggle about the concept of environmental justice is going on. Furthermore, the examination could give theoretical hints to *verstehen* the background for the status quo.

The third result (C) of the doctoral thesis analysed in chapter 4 the regional environmental regime, looking at Brazil as case field and the Brazilian Amazon in particular. The regional environmental regime is constituted by the development regime, the territorial regime and the cultural regime. As could be shown, the three constituting regimes are interlinked. The economic focus of the global environmental regime appears on the regional level mainly through the development regime, which itself finds its further expression in the territorial and cultural regime. The empirical analysis proves Brazil's colonial history, but also the existence of coloniality. Coloniality structures of transferred postcolonial structures into contemporary Brazilian superstructure are expressed by structures of colonialism alike. Found evidence of inherent linkages between

the three constituting regimes suggests that racial discrimination (cultural regime) and unequal land distribution (territorial regime), here the discrimination of Indians due to lower chance to access societal goods and higher risk to suffer from environmental burdens, are caused by the development regime. This is assumed as practical indicator for the fact that the environmental problem cannot be understood without consideration of the distribution of environmental goods and bads (environmental justice). The time of the *Conquista* in South America and the *Reconquista* in Spain and Portugal happened in the same centuries as the Enlightenment. With reference to the outlined anthropocentrism and progress optimism in chapter 2.4, the empirical case study on Brazil's Amazon must be understood as the practical shape of this thinking. The regime character of the change in religious beliefs was spread out in colonial occupation. The Enlightenment mind set on the nature-environment-sustainability complex remained, as shown in the previous chapters, and was shaped in Amazon's environmental regime until today. The finding showed that the social factor of inequality influences all other variables, which constitute the environmental regime. In conclusion this work argues that the social determinant as outcome of the development regime is mainly influencing the perceived justice of environmental laws whilst side effects, like racism (cultural regime) and land property (territorial regime), are also creating societal constraints with base on the unequal distribution, but only within the frame of the social inequality system. At this point is the chance for further research to look for the global structure of the socially conveyed patterns of environmental inequality.

Last (D) finding was in the field research on island Algodual-Maiandeuá. Algodual-Maiandeuá is an environmental protection area regulated in accordance to the APA law (cf. chapter 5.3.8). Inhabited by both indigenous people and migrants, 20 years of APA law didn't better the living conditions of the people. To understand and describe the local environmental regime, Q Methodology was applied in a field research there, considering the named processual research paradigm. Hereby was assumed that APA considers inherently environmental justice and sustainable development by dealing with the environmental problem set. Revealing ideal type discourses of sustainable development and environmental justice on Algodual, the hidden conflict lines behind the discourses could confirm and enrich the theoretical finding. Four distinguishable discourses for each concept were found as empirical result of the Q analysis. Principle component analysis (chapter 5.4.2) was used to compare environmental justice and sustainable development discourse differences. The analysis could demonstrate that already the first discourse on sustainable development could explain most (nearly 37%) of the whole discourse's variance on sustainable development. The second factor could only explain about 12%. In case of the environmental justice concept, the first ideal type discourse stands for about 28%, but the second discourse could still explain more than 16% of the whole variance of discourses on the environmental justice concept. The factor analytical examination also revealed evidence for the initial hypothesis, since the explaining arguments are more widespread on environmental justice than on sustainable development. The next finding in the field dealt with the methodological missing of an appropriate instrument to analyse policy making in consideration of the argued perceived justice. Q



Methodology was also highly valuable for the purpose of understanding the hidden conflict lines, which constitute the frame of policy making on Algodual. The result of the Q sort correlation (chapter 5.4.2) showed highest difference in perception of the two named concepts by institutional structure and location. Practically, the three mainly governing governmental institutions like the environmental secretary SEMA and the military police have the most different priority list of how to deal with the environmental problem any other stakeholder. The second result of the Q sort correlation gave evidence for the expected finding that institutions, which aren't based on Algodual have less in common with the inhabitant's understanding of the local problem set than stakeholders at local have. According to these findings in substantive theory II (chapter 3) and III (chapter 5), the formal theory could be developed with base on Grounded Theory (Glaser/Strauss 1967) so far as formulated in advance in the initial section of this work (chapter 1.3). Overly different discourses on policy constituting concepts lead to dysfunctions of the policy and (most likely) failure to achieve the intended goals. Further consequence is of practical nature too. Environmental agreements on the international scale, as well as environmental policies and laws on the local level, must be made in reflection of power division and particular interests of all involved stakeholders.

Concluding, the concept of environmental justice as new battlefield for social sciences was introduced. Even if sustainable development debates recognized and recognize the social dimension of environmental impacts, the concept often lacks by radically questioning the given societal framework. The combination of sustainable development and environmental justice provides an analysis frame, where such a critical view on the environmental problem set is possible. Main obstacles for contemporary research can be resolved by three principles beside the above named need for a dialectic of nature-society relationship: First, the consideration of grassroots movements and communities as relevant actor for dealing with the nature-environment-sustainability complex. Community describes here, as outlined above (chapter 3.2.1), a collective of people, which not just live together, but also share similar living conditions, traditions and culture. Since common policy making deals either with state-state or with state-individual relationships when environmental regimes are constructed and implemented, the community as agency will increase acceptance and functionality of the particular policy. The second principle asks for the combination of social nature and perceived justice as leading guideline for theory, method and research. This combination links theory assumption (social nature) and practical necessity (perceived justice). Finally, environmental sociology is challenged to show the pattern of environmental problem's perception. As the presented research could show, the priority list of targeted communities and their judgement on the environmental regulation as fair are the critical factors to properly *verstehen* the social constitution of the environmental regime on all levels. Nevertheless, not only in theory, this work could demonstrate the necessity to rethink the existing frame and to better understand the lack in today's mainstream environmental sociology, but also by application of the chosen method mix. Q Methodology and Girtler's free unstructured participant observation principles have been applied within Elver's processual research paradigm and Grounded Theory was used to develop the

formal theory. Hereby, a more differentiated picture of the environmental problem's structure could be painted.

Last but not least, the presented doctoral thesis could answer the opened questions, but more, general questions remain open: The main general question, we are facing, is the challenge to the social contract (in Rousseaus's meaning). In order to properly deal with the environmental question, sociology is asked to scrutinize the character of the contemporary society we are living in. Environmental problems cannot be observed without considering particular perceptions, which are determined by social constraints like the belief in progress optimism, an anthropocentric conception of the world and what was described as capitalist, military, Christian, patriarchal, white, heterosexual, and male hegemony. The open question for environmental sociology therefore is not just to build a theorem to properly include the nature-environment-sustainability complex into social theory, but also to consider these variables in terms of habitus reflexive power sensibility (Bourdieu) and the regime (Foucault) character of environmental discourses. The main challenge, environmental sociology is required to answer, is to show the connections between these variables, which constitute the perceived social nature problem of the targeted people. Associated with the call for a holistic social theory of nature-society relationship, based on dialectic and logic, as argued above, the analysis of the general pattern, which is responsible for the particular viewpoint on environmental problems, is the major demand for environmental sociology today.

The practical result is the claim to governmental stakeholders to consider the different viewpoints on an environmental problem as a chance of solution approximation and conflicts as opportunity, not as a problem. If environmental legislation is intended to be maximal effective, discourse differences must be analysed and hidden conflict lines must be revealed before an environmental regime is created.

Future research in environmental sociology must face the fact that a formal theory of environmental problem's distribution does not exist. The research for such a distributive structure, which frames all perceptions on existing environmental problem sets, is the main question for theory, field research and policy making. The world society's frame as such must be critically reviewed in order to show new solutions. Sustainable development is just one side of the medallion. In combination with environmental justice, the critical analysis of the state of the art can form new demands of civil society and lead to radical reformism in our society.

I believe that the results of the doctoral thesis are encouraging the viewpoint that the social contract of today is not the only one which is possible. The renegotiation of social constraints is the duty not only of governmental institutions and people of power, but the duty of civil society too. Social relations have never been bettered without conflicts. The renegotiation of societal terms at all times by class struggles and fights for a more equal, more just and better world is not only possible, but also necessary to respond to the contemporary situation. By all these thoughts, future optimism in human capacity to change the conditions in

*Environmental Justice and Sustainable Development*

a way that our achieved level of prosperity and freedom can be sustained and, really and truly, be spread out to the rest of the world.

## Appendix

### Appendix 1: Ten Commands of field research (Girtler 2001: 45)

1. You should stick to the rules and laws of the people you are living with. You should respect their rituals and culture as well as their way of dressing, eating, and drinking.
2. You should be without prejudice and with generosity in order to learn about the values and laws. If you suspect people to be evil and to have bad intentions in general, your data will be constrained.
3. Don't badmouth the people, who have shared beer, wine, tea or other beverages with you.
4. You should have solid knowledge about history and social circumstances of the people's culture. Before you start your research, visit their graveyards, markets, bars, churches and other places to become an expert (as far as possible).
5. It is important to study the surrounding and housing of the researched culture. Walk through the area by foot or public transport (not by car) and visit the outback too.
6. Be distinguished from regular travelers. Share your experience later on with as little prejudices as possible. Write a research diary and take notes to record your thoughts, problems and joy whilst researching. Even write about your anger and disappointments. This will help you making self-reflection and self-criticism afterwards.
7. The people of interest are not just information sources. Speak respectfully. Be approachable and approaching, but don't force yourself into situations. This will help getting good protocols of your observations and communication.
8. Take effort to assess the other's character. If not, you might be victim of trickery or lie.
9. Do not act like a missionary or social worker. You have no right to 'educate' the 'savages'. Don't be a judge, but witness!
10. You require good stomach and need to be by good constitution in order to feel comfortable in a field as in smoky pups, in churches, luxury restaurants, jungles, on dusty roads or wherever. You should be able to eat, drink and sleep, whenever or wherever you are.

## Appendix 2: Resources for Q Methodology

In addition to provided literature in the bibliography, following resources are freely available on the internet and provide proper access to the used quali-quantitative method to research subjectivity:

### Internet resources for Q Methodology

A very good overview to recent Q studies and Q conferences (past and current) can be found on <http://qmethod.org/about>.

Introduction literature is downloadable on <http://www.lrz.de/~schmolck/qmethod/index.htm> (cf. Selected Q References).

For both beginners and advanced researchers, the ‘Q Method Discussion List’ is a very helpful tool. Experienced researchers from different disciplines provide instant help vial mailinglist: [QMETHOD@LISTSERV.KENT.EDU](mailto:QMETHOD@LISTSERV.KENT.EDU). Informations about the registration process on the mailinglist can be found on: <http://qmethod.org/issss>

### Q Methodology analysis tool

With compilation, many statistical programs can be used to perform a Q analysis. The easiest way is the open source program PQMETHOD, which can be downloaded on <http://www.lrz.de/~schmolck/qmethod/>.

The website furthermore provides applications for:

- MS Windows (DOS based) on <http://www.lrz.de/~schmolck/qmethod/downpqwin.htm>,
- Unix on <http://www.lrz.de/~schmolck/qmethod/downpqs.htm>, and
- Mac on <http://www.lrz.de/~schmolck/qmethod/downpqmac.htm>

### Appendix 3: Interview SEMA

Christiane Nogueiro: SEMA responsible for APA Algodoal (since about 2 years)

Conversation and field notices

SEMA (Anibal Picanco: <http://www.jusbrasil.com.br/politica/2705659/anibal-picanco-assume-a-secretaria-de-meio-ambiente>)

8 programas under direction of 5 diretorias: Uma é a Diretoria de áreas protegidas (responsável: Rodolfo Pereira) --> secundário >Coordenadoria de Unidades da Conservação< (responsável: Ivelise Fiock) [13 programas] --> Gerência do APA (6 [??] programas)

Conselho Gestor (CG) é um órgão colegiado, criado 08/2006: 20 Instituições (10 associações, 10 governamentais, ONGs)

Conversamos com Crisomar Lobato, o Engenheiro Ambiental que elaborou a lei de criação da APA de Algodoal/Maiandeuá. Crisomar conta como tudo aconteceu, fala da verdadeira importância da APA para a sociedade, da Ação Civil Pública movida pela ONG Suatá, da elaboração e da utilidade do famigerado Plano de Manejo, entre outros... Crisomar é o Coordenador de Ecossistemas da SEMA - Secretaria Estadual de Meio Ambiente do Pará.

Entrevista com ele da SUATA: <http://algodoal.com/content/view/288/180/>

2 grupos das >Unidades da Conservação< (UC): Uso direto (já ocupado pelo homens) [APA (preservação do meio ambiente); RESEX (regular as atividades dos homens)] --- Uso Indireto (não pode ser ocupado pelo homens) [Parque Nacional?]

Área de Conservação Permanente (Planos Nacionais do Meio Ambiente) --> política

According to SEMA: "tudo pode ser realizado pela prefeitura (SPU/PA)"

### **Interview**

Götz Kaufmann: Os dois conceitos - Desenvolvimento Sustentável e Justiça Ambiental - tem quatro partes: desenvolvimento, sustentabilidade, justiça e ambientalismo. Como são entendidos estes conceitos em relação à APA Algodoal-Maiandeuá pela SEMA de Pará. O que significam esses conceitos no contexto dos desafios a serem enfrentados em Algodoal?

Christiane Nogueiro: Eu acho que Desenvolvimento Sustentável é um tripé em que a gente pensa na questão ambiental, na questão social e na relação que há entre essas duas esferas. Então, o que eu gosto de pensar, o que é desenvolver? Tem a questão econômica também, que eu tinha esquecido. O que é desenvolver? Desenvolver é provocar uma mudança, uma mudança que todo mundo espera que seja positiva e que seja produtiva. Só que, se tu partes de só um fator econômico, provavelmente tu vais pressionar a natureza, de tal forma que ela não vai ser sustentável. Agora, se tu partes da questão natural, provavelmente tu vais pensar que ela tem que ser intocada, e ela não vai ser sustentável também, porque as pessoas vão morrer de fome. E se tu partes do cunho das comunidades tradicionais, tu começa a perceber uma estratégia, e aí sim, tu começa a perceber um caminho para desenvolvimento sustentável. Então, não há uma receita pronta- para um desenvolvimento sustentável na Amazônia. As receitas são locais e o desenvolvimento precisa pensar nesse tripé, que é o viés econômico, o viés natural, que é os ecossistemas e a relação dessas pessoas com todos esses dois processos, porque, se tu entenderes, se tu partires de uma comunidade tradicional, por exemplo, que é uma das grandes polêmicas hoje em dia, ela é sustentável? Não sei. Ela pode vir a ser sustentável, talvez, depende muito da própria experiência dela com o processo produtivo. O que a gente percebe muito é que hoje as instituições públicas ou particulares, qualquer uma delas, ou até algumas ONGs, elas, quando atuam em comunidades tradicionais, invés delas perguntarem para a comunidade ou perceberem a comunidade e os seus processos produtivos, elas vão com formas prontas. (...) O que me preocupa hoje é exatamente isso: Desenvolvimento para quem? É o que a gente tem que perguntar. Desenvolvimento para quê? Para onde que vai? Então acho que essas são as grandes questões do Desenvolvimento Sustentável, que pra mim é desenvolvimento sustentável. Qual o caminho de uma instituição, por exemplo? O que cabe uma instituição dentro deste processo? Primeiro, se aproximar da comunidade, perceber a relação dela, a relação produtiva, perceber qual a mudança que ela quer e qual mudança o governo e as políticas do governo podem atuar naquele momento. A partir daí, você cria processos, e o mais difícil é manter os processos, porque um processo de mudança, ele é mantido a médio e longo prazo e as políticas públicas são pensadas a curto prazo. Esse é o problema da sustentabilidade, do desenvolvimento, mais em todas as esferas municipais, estaduais, federais... (4.05 Minute)

Götz Kaufmann: Dentro da multiplicidade do conceito de >desenvolvimento<, o que você identifica como prioridades? Qual desenvolvimento é o mais importante? E por quê? E que papel tem a sustentabilidade neste contexto? (5.34 Minute)

Christiane Nogueiro: Falar de Algodual é complexo. Porque assim, primeiro a gente precisa dividir a ilha na metade. A gente vai considerar a vila de Algodual como um processo de desenvolvimento diferente do processo de desenvolvimento de Fortalezinha, Camboinha, Mocooca.

Daí, quando tu partes dessas duas diferenças, tu perceber assim: pra Maiandea, onde tem Fortalezinha, Camboinha e Mocooca, as comunidades, que são consideradas como comunidades tradicionais, elas conseguiram ainda manter as suas relações de cooperação e de produção. Muitas delas trabalham intensamente com a pesca e com a produção rural. Tu percebes que o turismo, que é um problema para Algodual, ainda não é um problema para Fortalezinha. Então, as soluções para eles para o desenvolvimento deles, elas não parecem tão complicadas, basta que a gente tenha uma maior intervenção na rede dos sólidos, na questão da educação, na questão da saúde e da distribuição de água, por exemplo. Não é problema a água mais em Fortalezinha. A comunidade se organizou. A Educação Ambiental em Fortalezinha já tem, no mínimo, quinze ou dezoito anos, que ela já vem operando através de organizações não-governamentais. Então, a comunidade é organizada, muita organizada. Mas sofrem ainda com o descaso das esferas municipais do governo e o governo estadual tem tentado também atuar a partir de seis anos pra cá, ele

também estava ausente antes, ou seja, tinha pequenas e eventuais políticas... agora ele tem continuamente ... então, se tu pensares no desenvolvimento para para Maiandeuá, você tem que pensar em cadeias produtivas, principalmente voltada à agricultura familiar, porque é o que eles realmente trabalham, eles trabalham com a mandioca, com a farinha, com algumas frutas e trabalhar muito intensamente a pesca, porque como é sazonal, como em algum período o peixe não migra, e ele não vai entrar, então neste período, tu tens que intensificar ou tem que trazer alternativas produtivas para esse período. Então, tu tens que pensar para Maiandeuá também de forma sazonal, não é ano todo, tudo o ano todo.

Agora, em Algodual é mais complicado, porque em Algodual, os recursos de Algodual, as terras de Algodual, elas não são boas pro cultivo, elas são muito salinizadas e expostas de (...) e além do que, a população toda acha que a pesca deixou de ser atrativa, porque é um processo de desvalorização nacional a respeito do pescador ... os grandes mestres da pesca são relegados ao descaso total, a comunidade não reconhece. São considerados bêbados... Os grandes mestres do carimbó são considerados bêbados e isso é uma coisa que a gente quer mudar dentro do processo de valorização da comunidade, porque não é possível, que uma comunidade que tem um patrimônio material tal gigante, esteja num processo tão degradante. E isso vem há muito tempo, vem desde a década de 70. Então, Algodual tem um turismo selvagem total, que as pessoas acham que é a solução, e que pode ser a solução, mas não desta forma. Então, a gente está tentando lá, através do plano de manejo, saber qual é o caminho para esse turismo, a gente quer criar uma reflexão muito intensa. Tipo, qual é a solução que eles querem para aquela comunidade? Então, parte primeiro é fazer a reflexão, para depois fazer intervenção. A gente tem tentado melhorias pontuais, principalmente à respeito da... eles têm problemas graves lá a respeito da saúde pública e como a saúde pública, ela é a missão do município...e como uma Secretaria de Estado tem os seus limites e suas missões... a gente tem que intervir no conselho gestor e fomentar debates e discussões e também delegar as instituições fins, as instituições vetoradas que têm responsabilidades quanto estas questões, que elas façam isso, por exemplo a Secretaria Municipal. Nós fomos e apresentamos um projeto do ano para eles e dissemos: - Peçam, que a gente vai tentar fazer que a coisa aconteça enunca foi mandado nenhum tipo de retorno, então, a gente também tem que fomentar essa parceria, esse diálogo, que ele acaba, em ano eleitorais, se enfraquecendo. ... Então, eu acho que o desenvolvimento de Algodual tem que ser pensado em cima de uma reelaboração da atividade turística, porque lá, eles só pensam o turismo. Eles tem que refletir sobre isso, e eles não têm só o turismo, eles têm a pesca, só que a pesca é de fora e compete com os grandes barcos de pesca industrial e - na verdade - quem está fazendo, hoje dia, o uso do recurso das águas em volta da ilha são pescadores de outras áreas, tipo Marapanim, tipo ... e isso tem que ser refletido dentro do contexto da comunidade. A gente percebe, em julho, por exemplo uma supervalorização dos produtos, as pessoas... Os hotéis, as pousadas têm preços altíssimos, abusivos. As pessoas que vão pra lá ... a maioria que vão para lá em julho não tem a mínima consciência ecológica, eles vão pra curtir (genießen). Então, a gente quer fazer essa reflexão, tipo, que turistas vocês querem aqui? Que tipo de turismo vocês querem ter aqui? A questão das drogas é uma coisa muito séria lá e é caso da polícia. Então, a questão das drogas é também uma das coisas que a gente precisa e tem que intervir, mas numa esfera federal ... porque é impossível tu continuares achando que uma unidade de conservação é o local para atração de traficantes, de uso de drogas ilícitas a céu aberto, como se aquilo fosse uma zona de... O que é parece em julho? Parece que aquilo ali é simplesmente o local onde as pessoas vão, não para fazer turismo, mas o consumo totalmente descabido de drogas ilícitas. Então, isso não está em nenhum papel escrito, que as pessoas que vão para lá adoram, algumas, tu vês nos blogues. Mas essa sensação de liberdade, não é uma liberdade que a gente entende que é positiva, na verdade, é uma liberdade totalmente degradante para o próprio ser humano e para o ambiente que ele está vivendo, ali. Enquanto SEMA, a gente entende, isso tem que ser muito melhor trabalhado e visto e revisto na comunidade ... Não tem trazido benefício nenhum pra comunidade, o turismo. As pessoas continuam com problemas de



educação no Ensino Médio, não tem escola estaduais dentro da unidade, não existe, nenhuma, só o que (...) quatro bocas . E isso é um problema que a gente já identificou e a gente espera que, com o plano de manejo e a implementação dele, as coisas a médio e longo prazo resolvam parte desses problemas, mas isso sempre num diálogo constante com a comunidade, porque sem a participação da comunidade, sem que ela determine qual é o caminho primeiro, para onde que vai, a gente não consegue nada. Por exemplo, a gente tem recursos pra executar em sanidade animal e não consegue executar porque não se quer. O grupo, que é um grupo muito organizado, a associação de caroceiros é um grupo muito organizado, mas ainda assim não é cooperativo. Eles se entendem entre eles para ter uma exterqueira, para ter uma produção de alimento, pra ter uma compra de sal... Então, como é que a gente pode fomentar algo que eles ainda não estão preparados pra distribuir? Então, eu acho que é isso que... De maneira bem pontual, a gente entende que são processos que devem ser iniciados para –um fim de um desenvolvimento sustentável. Então, a coisa ela é bem pequena, ela é bem vagarosa, como a gente diz, bem divagar e, às vezes, não é só responsabilidade de um ou de outro. Na maioria das vezes, a responsabilidade é de todos. Eu acho que assim a gestão da comunidade da APA vai caminhar, caminhar pensando em vários processos, mas todos passo a passo, com continuidade. (15:47 minutes)

Götz Kaufmann: Então, você pensa que a falta de conhecimento do meio ambiente dos habitantes da ilha de Algodoal-Maiandeuá se baseia na falta de capacidade das instituições responsáveis? Pessoas na ilha me disse que elas têm medo de perder a terra onde vivem, porque não se cadastraram. É verdade, que há posse ilegal da terra em Algodoal-Maiandeuá como as pessoas comentaram? O que você pensa sobre a problemática da terra em Algodoal? O que você pensa sobre as transformações do trabalho dos habitantes em Algodoal-Maiandeuá, decorrentes do desenvolvimento humano?

Christiane Nogueira: A questão do ordenamento territorial na ilha não é tal complexo como nos outros lugares, porque toda a ilha oceânica é da união, então, no caso de Algodoal, toda ela é da União. Então é a Superintendência do Patrimônio da União (SPU/PA) que faz a concessão. Como é que a SEMA tá nessa intercessão? A SEMA precisa dar um parecer a respeito de cada uma das atividades que são desenvolvidas lá, se é possível estar ou se não é possível. Então hoje, a SEMA tá tentando fazer uma cooperação, na verdade isso já está...já faz uns meses pra que seja revertido...Toda a concessão, toda a terra seja doada da União para o Estado. Então isso faria com que o Estado fizesse as concessões para as famílias. Então, ninguém pode comprar ou vender terra na ilha de Algodoal - Maiandeuá, mas eles vendem e eles compram, mas toda compra e venda é ilegal, ou seja, já foi em 2007, feito um levantamento, então já se sabe quantas casas tinham em 2007 para o plano de manejo. O que está acontecendo? Quando você diz que pessoas, que nativos vendem para o turista é porque... É justamente a pressão imobiliária que também vem do turismo, que também vem com a questão do turismo. A pressão imobiliária, ela faz com que o nativo saia da vila, que tem maior valor, e vá pro mangue. Então, se a gente, se a SEMA enquanto instituição, enquanto a SPU/PA enquanto instituição permitir esse processo, o que vai acontecer? Todo o manguezal, que é o berçário dos peixes e de muitas aves... um berçário natural, ele vai sendo povoado e vai servir de lixo e de moradiaEntão, esse processo, ele precisa ser inibido e pra isso a gente não... A gente, né, a SEMA entende o quê? Que não é possível fazer a retirada das famílias de forma agressiva, mas qual... O que se pretende no futuro? É criar medidas, em que as pessoas estejam fora das áreas de riscoEntão. Já foram identificadas todas as áreas de risco em todas as quatro vilas. As áreas de risco são as áreas de beira, são áreas de APP que são as áreas de preservação permanente, são as margens dos igarapés ou então braços de águas continentais e mangues. Áreas de mangues não tem dono, e a gente tem, por exemplo, um caso em Camboinho, em que uma pessoa diz que é dona de quase todos os mangues da vila. Então, o vilarejo, que fica em cima do manguezal, ele está relegado a um estreito pedaço, porque tem uma pessoa que se diz dona daquilo e leva a comunidade para

uma área de beirada. Alí é uma área de conflito subjetivo, tipo um conflito que não aparece. Então, em Algodual nós temos sim problemas fundiários e conflitos com atores que ainda são considerados invisíveis, que ainda não explode por quê? Porque as pessoas aceitam esse "coronelismo" Isso é uma relação "coronelistas", é uma relação que estabeleceu de muito tempo.. Por exemplo, na vila de Algodual a gente tem duas famílias preeminentes que controlam toda a parte das terras da vila e a gente tem também na praia da princesa uma pessoa que tem uma área imensa, que é conservada e que ele diz que ela vai fazer um hotel ou algo assim... E aí fica a reflexão: Como é que você vai fazer esse ordenamento? De novo, ordenamento para quem? Na vila de Algodual, para se ter uma ideia, quase 50% das edificações são só para fins turísticos, ou seja, é alguém que não mora na vila e que tem uma casa e que vai para lá, uma vez ou duas no ano, e essa casa de veraneio se torna um problema social, porque estas pessoas estão indo para o "Camambá".

A CELPA, o que faz a CELPA, que é um órgão do Estado? Ela coloca os pontos de luz em toda casa que está sendo construída. Antes disso, ela não pergunta a SEMA ou a SPU, se essa casa tem autorização para ter sido construída. Eles simplesmente colocam os pontos de luz. Quando você fixa o ponto de luz, você fixa uma moradia. Então, é uma controvérsia, por quê? Como é, que depois que uma família se instalou, que você vai tirar a família de lá, para onde? Em que condições? Você tem que dar, no mínimo, a mesma condição em que ela está, só que ela está numa condição subumana em cima do mangue, sem rede de luz nem de água e muito menos sanitária. Isso é um problema em todo o Brasil em relação às áreas de manguezal. Mas dentro da unidade da conservação isso se torna bastante grave, porque você sabe que biologicamente qualquer rejeito que contamina as áreas de manguezal, ele tem uma vazão muito rápida de contaminação. E isso faz com que aquelas crianças do Camambá, por exemplo, tenham uma possibilidade. Na verdade, elas têm chances altas de ter verminose, de ter problemas sérios de saúde por estarem ali. Então, você resolver o problema de ordenação territorial, você também resolve problemas de saúde pública. E isso é muito claro para a gente. O ponto 1, de onde a gente vai começar o processo de ordenamento territorial? A partir da praia da princesa, porque as outras praias da ilha não têm pressão imobiliária. Por exemplo, em Fortalezinha, você não vê essa pressão imobiliária na praia, algumas barracas estão sendo construídas, mas a gente já está intervindo de forma positiva. A própria comunidade percebe que não pode ter mais do que uma ou duas barracas na ilha, para fins comerciais e ela mesma se organiza dessa forma. Então, também é muito importante nesse processo que as pessoas tenham um conhecimento do que vai acontecer. E, por exemplo, de novo a vila de Algodual. A vila de Algodual tem 18 associações, em Algodual inteira... As associações, elas trabalham no quê? A gente está fazendo esse levantamento institucional. E qual é a expressão delas dentro da comunidade, expressão representativa? O que a gente percebe hoje, que é muitos dos nativos não estão em nenhuma das associações que foram criadas na unidade. A maioria das pessoas que são lideranças das associações são pessoas que não são nativas, isso é uma resistência local. O nativo é aquele que nasceu na ilha, não importa se você tem 18 ou 20 anos lá. Você não nasceu lá, você é de fora. Então, isso também para a gente, é uma coisa que a gente entende que é uma barreira. E a gente entende também que um gerente que vem fora, ele precisa primeiro entender que ele está dentro de um processo participativo, no qual ele não é quem manda, é quem observa. Ele vem de fora e ele não vai ser aceito. Ele não vai ser aceito nunca. Mas ele tem que saber, ter a sensibilidade de que, sendo de fora, ele precisa ouvir, entender qual é a melhor opção, levar para a comunidade, fazer com que ela decida qual é a melhor opção e fazer com que essa opção seja realizada. O papel do gerente é esse, o interlocutor em ele vai fazer com todos os interesses, de todas as associações, de todas as lideranças sejam pesadas em uma balança eles entrem em acordo. Ele é realmente um mediador, um estrategista, é assim que eu entendo o papel do gestor na ilha. Então, voltando, as associações, voltando para ela, elas são de fora e elas sendo de fora, elas tem pouca expressão dentro da comunidade. Dificilmente você consegue reunir pessoas na vila de Algodual. Reunir pessoas, muitas pessoas, a não ser que o assunto seja segurança pública ou financiamento. Então, pra você ver, reunir um grupo de pessoas muito grande, ou tem

que ter bebida, música ou ser financiamento ou segurança pública. Por quê? Porque o processo de construção do cidadão é na escola e também na comunidade. Eunão conheço todas as associações, eu vou começar a conhecer a partir do ano que vem, mas, do pouco que eu pude perceber, as que participam do conselho gestor, poucas são as que, depois da reunião do conselho, fazem reuniões com seus associados e divulgam. Então, a gente tem dois trabalhos, a gente tem a missão de saber qual é o caminho e divulgar o caminho. A gente ainda está num processo de ganho de participação dessas associações, então elas também precisam amadurecer, também precisam se rever, saber qual é sua missão e fazer uma parceria. Hoje, a gente percebe que as associações, elas muito mais cobram do que participam, e isso é um problema de gestão pra gente, então, não só o cidadão, mas o grupo no qual ele se organiza também precisa amadurecer o seu processo participativo e saber aonde ele quer ir. Então, a questão do ordenamento territorial, a gente vai tentar resolver de que forma? A partir de plano de manejo e de um termo de cooperação que está sendo escrito agora. Esse ano, espero que ele seja assinado por todas as mudanças governamentais até Dezembro, aonde fica, a partir da Procuradora Geral do Estado a responsabilidade do Estado e do município e do Governo Federal, de começar o processo de ordenamento territorial na ilha. Ou seja, nós vamos ter uma agenda mensal, nós vamos ter um planejamento anual e os recursos definidos pelas instituições. E isso é um termo da cooperação que vai valer 5 anos, no mínimo, então para o ordenamento territorial é o caminho que a gente encontrou...

Agora, o que tu me falaste a respeito do conhecimento, é claro que, se eu não sei, qual é o valor pra mim, o quando vale pra mim aquele ambiente preservado, eu não vou dar importância para ele. Mas o valor, que a gente percebe hoje e que as escolas têm trabalhado, é um valor, que o biólogo, por exemplo, discute muito. Para um biólogo, se você diz assim... Ah, isso aqui, essa árvore vale pra isso aqui. Você... vai ficar extremamente estressado, se você perguntar pra ele, pelo menos, para um conservacionista. Por que para ele, basta que aquela árvore esteja ali. O valor dela é para o ecossistema, ela não precisa ter valor para o ser humano. Mas, o que eu pude aprender nas políticas públicas, trabalhando na política pública pesqueira é, se uma coisa, qualquer que seja ela, não tiver um valor para o ser humano, ela não vai mais existir. Então, se tu queres preservar alguma coisa, precisas saber... Tem que saber vender teu peixe, tem que saber valorar aquilo ali para o ser humano. Tá, se você mantiver essa floresta em pé, você vai ganhar isso. E é por isso que é importante essa coisa do sequestro de carbono e todas essas discussões sobre o valor, sobre a importância. Então, eu acho, que o programa de Educação Ambiental, que a gente tem, ele está muito, muito aquém do que a gente precisa dentro da Unidade. Por quê? Porque assim, a gente precisava que uma Educação Ambiental estivesse dentro das escolas, como uma matéria na escola e a gente não tem isso no Brasil. A gente tem isso como um assunto transversal. Então, como é que a gente tenta mitigar essa situação? A gente tenta diminuir essa carência a partir do nosso programa de Educação Ambiental. Como ele é? Em Algodual, ele tem sido emergencial, ou seja, para apagar fogo dos impactos que o turismo irracional tem sido lá. Precisa que seja assim? Precisa, mas não é um movimento, não é um processo, isso é algo pontual. Então, o processo que a gente está tentando desenvolver é um processo aonde você começa a pensar na Educação Ambiental voltada para temas que são deles, do processo produtivo deles, por exemplo, a pesca. E então, a gente vai falar do peixe, aí a gente vai falar das lendas envolvendo a pesca, aí a gente vai falar de coisas que são importantes para eles, por exemplo, do caranguejo. Tudo que é criança, em qualquer uma das vilas, vai desenhar um caranguejo e um Guará, toda vez que tu mandares elas desenharem sobre a vila. Então, a gente vai tentar fazer uma Educação Ambiental, cujas metas e os objetivos sejam para formar um cidadão totalmente responsável com o meio ambiente. Isso leva vinte ou trinta anos, no mínimo. Então, a gente, nesse momento, vai criar os caminhos e as metas, que vão precisar ter um monitoramento e um feedback. E eu acredito no que você diz, que as pessoas que não tem, que não sabem a importância do seu lugar, não dão importância e degradam. Mas, pra APA de Algodual-Maiandeuá, as pessoas sabem a importância do lugar, principalmente se tu contares com Fortalezinha, Mocooca e Camboinha. Se tu falares com elas, tu vais descobrir a estratégia para a Educação Ambiental da vila como um todo. Então, ali tem muitas soluções.

Mas, precisa que essas pequenas soluções sejam mostradas para elas como num espelho, aonde elas possam se ver e perceber que aquilo é importante. Que aquilo sim, tem valor. O que está faltando é justamente este resgate. Por isso que a gente um programa de desenvolvimento da valorização das comunidades tradicionais, porque a gente já identificou algumas estratégias que eles têm e para inserir isso dentro do contexto da Educação Ambiental. Sim, uma coisa pontual foi a construção da logomarca, que foi a partir das crianças da ilha. A gente estilizou a logomarca, para que ela tenha uma expressão no mercado, no mercado atual. Mas se você vir o desenho da criança que fez a estrutura é a mesma da logomarca. Então, quando a gente levou para eles, tu viste a aceitação imediata de uma coisa que eles construíram. Eu acho que assim tem que ser a Educação Ambiental, assim tem que ser toda a educação que foi pensada pra eles. Por exemplo, eles não têm um mapa da ilha dentro da escola. Eles não têm. Eles não têm as fotos deles dentro da escola, eles não têm processos de reconhecimento deles dentro da escola. Então, eles aprendem coisas que não são deles. Como é que eu vou me identificar com a importância de um ambiente, que eu não estou indo para ele? Não tem aulas práticas dentro da escola, né? Então, eu acho que são essas as coisas que a gente quer discutir e quer tentar meio que fomentar uma mudança. Acho que é isso!

Götz Kaufmann: Você pensa que a capacidade das instituições no Brasil e especialmente no caso de Algodual/Maiandeuá é suficiente?

Christiane Nogueiro: Bom, suficiente é uma coisa que não tem muito... que é difícil pensar, né? É uma palavra vaga, mas eu te falo assim. Eu acho que as instituições mudaram muito. Que a partir de 2000, 2005, quando... Na SEMA de 2006, então, a SEMA virou cinco vezes, como eu já te falei, e os profissionais que vieram, são profissionais mais podados, assim mais voltados para a questão local e isso fez uma diferença. Então, eu acho que tem muito potencial, as instituições de hoje, mas se tu pensares em governamental e não-governamental, aí tu crias um leque de discussão. Se tu pensares nas governamentais, elas precisam se olhar, se olhar. O que tu percebes é uma... o que a gente chama de esquizofrenia institucional. O Estado faz uma coisa que o Governo Federal sabe em parte, o Governo Federal faz uma coisa que o Estado sabe, bem pouco e o município, ninguém sabe o que ele faz, nem o Estado, nem o Governo Federal, porque ele simplesmente não divulga as suas ações. Por que, ele não tem um setor de comunicação, ele não tem um setor de monitoramento. Ele tem as Secretarias todas e mesmo assim ele não tem um setor de comunicação. Então, a gente tem muito potencial, a gente vê muita coisa acontecendo, por exemplo, nas universidades, na Embrapas, nos... A gente tem profissionais excelentes nas agências de fomento, nas agências produtivas, nas agências técnicas, só que o povo não está se encontrando, está faltando isso. O que está faltando? É meta! O que está faltando é objetivos em comum. Então, o que a gente tenta fazer aqui, dentro do nosso núcleo pequeno de Algodual é trazer esses parceiros para dentro de uma meta, de uma missão, de algum objetivo. Senão, a gente não consegue. Por exemplo, a gente tem hoje uma (não se deve falar do vizinho, mas eu vou abrir aqui um leque). Por exemplo, a gente uma Secretaria de Turismo que, agora, está conseguindo caminhar junto com as Unidades de Conservação. Então, a gente já tinha há muito tempo uma Unidade de Conservação, que era o quarto lugar mais visitado do Brasil, e só esse ano a gente conseguiu encontrar uma missão em comum e talvez leve mais dois anos para conseguir agir integrado, ou seja, é complicado. Agora, as ONGs ou as Instituições não-governamentais são mais complicadas ainda. Por quê? Por que se elas são de fora, elas partem do princípio de que elas precisam trabalhar com o Governo, mas sem a ajuda do Governo, ou seja, elas precisam da verba do Governo, não da parte técnica. E isso já é um problema, porque trocar ideias e conversar é o processo... é o que fomenta mudanças. E o que tu percebes é que, quando tem uma verba de fora, de uma ONG de fora do Estado, de fora do país, elas vêm com um mapa pronto, do que ela precisa, porque aquele arranjo, ali para ela deu certo. Algumas são sensíveis à realidade local, ou seja, elas

abrem pra conversar, a gente tem o exemplo do DED, tem o exemplo do Caita, são bons exemplos. Mas poucas são aquelas que realmente... porque tem prazos curtos, porque tem três meses, seis meses para executar e poucas são aquelas que realmente conseguem esse objetivo. E aí, às vezes, causam uma coisa fica na mão de ninguém. Então eu acho assim, que, seria a integração do terceiro setor com as instituições que teriam soluções realmente, mas isso é muito difícil, é complicado, mas é possível. Com vontade é possível. Na Calha Norte a gente tem um arranjo institucional excelente, em que envolve várias instituições, mas por quê? Por que a Calha Norte também é um local que é um santuário ecológico, aonde as concessões florestais vão acontecer, aonde tem muito valor, biovalor como a gente brinca. E eu acho que é um bom motivo, eu acho que Algodual tem esse bom motivo também. Só que é um ilha pequena de 2278 hectares e a gente precisa vender esse peixe melhor pra ter um arranjo produtivo melhor. Eu acho que é isso, que é possível, o caminhoé possível, mas tem que ter gente, não só gente, mas tem que ter instituições que realmente pensem integrado, sem esquizofrenia, que é o que a gente vê muito hoje. Ich: Você acha que o princípio >polluter pays< seria uma opção para desenvolver a APA Algodual-Maiandeuá por uma legislação restrita. Também, a Cidade de Quarente, bem perto de Maiandeuá, é um RESEX, você pensa que seria uma opção para criar RESEXes dentro da APA (nas todas vilas) para melhor preservar a cultura dos habitantes e por causa do financiamento pelo o governo federal?

(44.23 Minute)

Christiane Nogueiro: Olha, primeira coisa assim, a gente discutir o conceito de RESEX, que realmente, se for uma reserva extrativista, que seja anseio da comunidade, mas que ela tenha também sustentabilidade ecológica e econômica, aí é possível. Mas assim, do pouco que eu conheço sobre o anseio da comunidade local pra RESEX, eles... Por que que Mocaca quer ser uma RESEX, por exemplo? Por que eles acham que sendo RESEX o Governo Federal ou o Governo vai proporcionar mais políticas públicas, eles vão ter casa, eles vão ter rede, então eles têm essa comparação. A RESEX e o conceito dela em si, ele é muito mais complicado do que uma REDS(?), que é uma unidade de conservação também. Por quê? Por que a RESEX ela tem um gerente, que é do Ibama, do semibio, no caso do Estado seria eu, por exemplo, do mesmo jeito, e teria uma liderança local. Então, fariam dois pólos de poder, que enfraquece o conselho e divide ele no meio. É o primeiro grande problema dentro do conselho gestor de uma RESEX. Eu já estive em várias reuniões de RESEX e sempre é polarizada, aonde o representante local não é mais a ampla cinco associações, é só um presidente e esse presidente acaba tendo o controle da comunidade em si. Então, ele vira um poder paralelo, vamos dizer, que não consegue conversar com o governo. Se isso é uma boa forma de governância, eu creio que não, por quê? Por que a comunidade cada vez mais se afasta do processo, as reuniões de todas as RESEX que eu conheci, nunca vi uma reunião de RESEX aonde tivesse ampla participação da comunidade, porque as associações, elas não entendem que são, que são responsáveis pela divulgação, é só o semibio que faz isso... Então, e o Estado participa pouco também, por quê? Por que as reuniões que são marcadas, elas são marcadas sem nenhuma pauta, a gente chega pra reunião e não tem dimensão do problema. Então, a RESEX em si, que é uma extrativista, ela também tem um problema econômico muito sério, que é, ela pressiona só um tipo de recurso natural, por exemplo, se é uma RESEX que foi criada pros caranguejeiros, todo o incentivo vai ser para aquele grupo e as outras alternativas de renda, elas não são vistas. Então, na questão ambiental, ela também é muito discutida, na questão de ordenamento territorial, ela também é muito discutida e aí a gente a experiência do nosso secretário do Iterpa, que foi um cara que pensou, que fez muitas reflexões sobre as RESEX e, sinceramente, não tem um exemplo no Brasil de uma RESEX que seja sustentável, então, se tu me mostrares um exemplo de uma RESEX sustentável, eu te digo assim, vamos fazer uma RESEX na APA de Algodual-Maiandeuá. Então, ela realmente não me parece uma solução, agora, dentro do plano de manejo você pode zonear a APA, ela já é tão pequena... SE você zoneia, coloca áreas intangíveis, coloca áreas de menor pressão, de maior pressão, de maior uso, de menor uso, isso parece muito

mais sólido e o que acontece com Mococa, por exemplo, é porque eles são... eles têm uma área pequena, né? E eles não têm quase área de cultivo e a pesca deles também é de curral, então, ela é sazonal, então chega um período de setembro em diante, que eles não têm alternativa produtiva e aí, eles olham pro vizinho do lado e pensam: “Poxa, eles têm casa e a gente não teve patrocínio de nada.” Agora, isso, eu quero dizer com isso que não tenha que trabalhar com as RESEXs no Estado, não, muito pelo contrário. A gente começou um processo de acordo de pesca em que uma primeira pessoa que a gente chamou foi o representante da RESEX, porque o recurso aquático, ele era dividido, né, junto com a RESEX. O Canal da Tartaruga e vários conselhos de pesca envolviam produtores da RESEX. E a gente sabe o seguinte, que a RESEX, ela tem uma gestão com recursos também destinados pra ela e se a gente faz a integração das duas vão deixar de, por exemplo, hoje tiram areia da RESEX, quando vai a fiscalização da SEMA, tiram areia da RESEX, quando vai a fiscalização do Ibama, tiram areia da APA, mas se a gente fizer isso integrado, não vão tirar areia mais de nenhum local, a não ser a Prefeitura, que vai ter que abrir um areal dentro da área dela, licenciada, que é o que a gente quer, porque uma Prefeitura precisa disso, precisa de um aterro sanitário, precisa de um areal para poder vender legalmente e as pessoas usarem legalmente. Então, as soluções, elas existem e a gente precisa fazer o trabalho das Unidades de Conservação integrado. Bom, em relação à RESEX, isso é uma visão particular, não é uma visão institucional, porque a SEMA cria RESEX e então, não se tem uma RESEX estadual ainda, mas se pretende ter uma bem em frente de Maracanã. Se a comunidade acha que é possível... Mas a comunidade, quando ela entra em uma RESEX, ela deixa de ter o poder da sua terra coletiva, né? A concessão é da comunidade, é uma concessão coletiva. Então, tudo isso precisa ser muito bem discutido, muito bem trabalhado pra, no futuro, não ter conflitos por causa da concessão, né? Por que a concessão é sua, você não pode dar para um outro, você vai perder a sua concessão. Então, esse é um processo de coletividade que precisa de cooperação, se você cria uma RESEX sem que a comunidade queira ou então, sem a comunidade saber o que é uma RESEX, se você perguntar para eles “o que é uma RESEX e como ela funciona?” e eles souberem o que é, aí eu te digo, estão preparados para escolher. Agora, se eles não sabem a diferença de uma APA para uma RESEX, não sabe que a RESEX é mais restritiva, que o Governo vai intervir muito mais na vida deles e que eles vão ser muito mais controlados por leis e fazer muito menos o que eles querem, em que sentido? Eles vão pedir muito mais autorização para o Governo, para o que eles querem fazer, é isso que eu quero dizer. Então, se eles estão dispostos a isso, ok! Mas se não, não tem porque fazer uma RESEX numa ilha de 2378 hectares, né? E que tem... em que a comunidade achou uma solução pra sazonalidade... é muito mais interessante do que a criação de uma RESEX.  
(...) É um fato, fato do poluidor pagador, está em lei, né?

Götz Kaufmann: ...mas na realidade..

Christiane Nogueiro: Na realidade é o seguinte, o poluidor pagador não paga em Algodual, mas o que a gente pode fazer lá? Existe também, mais um... porque, às vezes, a gente fala de coisas que ainda não aconteceram e eu fico muito preocupada com o falar de coisas ainda nesse início de processo, porque depois, no futuro, talvez isso não aconteça e você vai ser cobrado: “Olha, você disse em tal dia e em tal local...” Mas, o que é importante? O acesso à ilha precisa ser controlado, como é uma ilha, é mais fácil, então, a gente já tem discutido com o município para fazer um exemplo como a Ilha do Mel, como a Fernando de Noronha, para que as pessoas que visitam, as 25 mil pessoas que visitam em julho passem a visitar ao longo do ano. Existem já turistas que sabem da realidade de julho e que já vão em agosto, até porque, os turistas franceses, por exemplo, que as férias é na Europa é em agosto, então eles estão lá em agosto, agosto, início de setembro e julho fica para as férias escolares dos brasileiros. Então, esse povo todo devia ter... devia ir ao longo do ano e não só em julho. Então, a gente está pensando já há bastante tempo e já tem uma pessoa na Procuradoria

Geral do Estado que está pensando essa lei. Agora, a gente vai precisar de lobby para aprovar essa lei, né? E o lobby é uma coisa mais difícil de conseguir, mas, a gente vai deixar ela prontinha e se a gente não conseguir fazer com que vire um decreto estadual, ela vai virar uma portaria da SEMA, que é mais próximo do... Uma resolução, na verdade, porque a Secretaria não tem quase força de lei, mas a gente faz uma resolução do COEMA, que aí fica uma coisa mais sólida pra Unidade de Conservação. Então, é esse o caminho. O princípio do poluidor pagador tem que ser usado na ilha. Eu acho que as pessoas têm bons exemplos, por exemplo, há uma associação chamada BRPP. Ela tem se esforçado muito em aplicar, em juntar recursos da comunidade para pagar mesmo para a limpeza do resíduo. A gente sabe que o município, ele não tem condição, ele alega não ter condições de retirada do resíduo, que o resíduo é a parte crônica (ah, já está acabando?), que o resíduo é a parte crônica da ilha, é o problema crônico, mas que tem que ser resolvido e é missão da Prefeitura. E a gente não vai deixar a Prefeitura se isentar dessa missão. É isso!

Götz Kaufmann: Muito obrigado.

## Appendix 4: Interview SUATÁ

Marcelo Costa: founder and president of NGO SUATÁ - lawyer - lives in Belém

### Field Notices

Objective of NGO: Bettering standard of living on the island by legal proceeding. In its own understanding, SUATÁ perceives itself as >friends of Algodual<

Basically contains two official members beside many informal supporters, one who is responsible for the website, and the founder/president as lawyer

NGO owns professional website [www.algodoal.com](http://www.algodoal.com)

People say (unconfirmed) that SUATÁ is making business with the website, reportedly offering listing of hostels and hotels on the site for 300 R\$

According to information, he has successfully undertaken legal action against prefecture with result that beaches are cleaned nowadays even though no official monitoring takes place

### 2 Interviews

#### **Interview 1**

Götz Kaufmann: O que significa o conceito do DS e o conceito da JA para você como presidente da ONG SUATA? Pode me dizer também, quais são as diferenças, o que tem estes conceitos em comum.

Marcelo Costa: O conceito Desenvolvimento Sustentável pode ser abordado de vários aspectos, vários enfoques. No caso das ONGs, no caso da nossa ONG, a ONG SUATA, ela trabalha com um conceito que leva em consideração o politicamente correto, o economicamente viável e o, que seria em si, o desenvolvimento sustentável. É um tripé, seria no caso. Então, desenvolvimento sustentável na minha visão seria um modelo aplicável à nossa realidade que privilegiasse uma forma de explorar os recursos naturais de maneira a sempre ser renovável, nesse caso. A gente não pode pensar em explorar o meio ambiente a qualquer custo, sem um critério, sem restrições, sem nenhum tipo de controle. O que a gente pensa é que o uso dos recursos naturais, ele deve ser utilizado com muita cautela para evitar o esgotamento. A gente sabe que determinados ecossistemas, de tão frágeis que são, qualquer tipo de intervenção humana pode ser fatal para o seu desaparecimento. Enfim, a natureza precisa ser explorada, mas de forma adequada e a sustentabilidade, esse conceito de sustentabilidade, apesar de muita gente ainda está muito obscuro, não está



muito bem claro esse conceito, mas ele é um conceito que exige, nós pensarmos num sistema onde os seus elementos, eles estão em harmonia, né? E quando a gente fala nisso, em harmonia, você pensa, é... No nosso caso, uma comunidade ou uma determinada população, interagindo com o meio ambiente de forma racional, de forma inteligente, preservando para as futuras gerações, né? Sempre visando o uso dos seus recursos naturais, mas sempre visando o futuro, visando a utilização pelas futuras gerações. Então, é difícil de denominar, ou então, de conceituar a partir do momento que nós não temos esse sentido, essa cultura de usar apenas o suficiente e se planejar para o futuro. Então, as pessoas exploram o meio ambiente ou então utilizam os seus recursos apenas pensando no imediato. Não se preocupam com o que virá, se o recurso faltar ou não. Sempre há uma cultura de que sempre vai existir, de que os recursos naturais sempre vão existir, quando, na verdade, não é isso que ocorre. No caso da APA de Algodoal-Maiandeuá, a gente vê um avanço muito grande, uma pressão muito grande da intervenção muito grande sobre o meio ambiente e a gente percebe que devido a isso, principalmente na atividade extrativista, pesqueira, os recursos estão cada vez menores, estão diminuindo mais. Os ciclos reprodutivos das espécies, elas estão sendo alteradas a cada momento e é uma ameaça constante àquele ecossistema. Uma mudança das últimas décadas para cá, ela mostra muito bem isso. Esse tipo de atividade que era extrativista, até então, realizada sem uma preocupação, sem um planejamento maior, ele passou a ser... Agora, atualmente, ele se transformou em uma atividade secundária. Agora, a principal atividade é o turismo. E devido à falta desse planejamento, os poucos pescadores que existem ainda... Eles estão sofrendo os efeitos, não tem o fomento da atividade, da atividade comercial, da pesca. E o que eles fazem agora, ao invés de ir para o mar, eles preferem armar os currais e os artefatos de pesca, cada vez... E existem cada vez mais, é um número cada vez maior, os peixes estão, cada vez mais sumindo, diminuindo e é uma prova concreta de que a sustentabilidade aí... Nesse conceito, sustentabilidade passa longe, né? Então, no meu entender, é isso! Você se planeja para evitar que, mais tarde, numa mudança, vou me referir a uma mudança radical de atividade, como era a pesca e passou a ser atividade turística, haja um impacto muito grande no meio ambiente. E, infelizmente, a gente não tem ainda condições de difundir, de divulgar essa ideia de sustentabilidade. Então é isso!

Götz Kaufmann: Mas o que é desenvolvimento para você? Você falou muito sobre sustentabilidade... (minute 8.30 Minute)

Marcelo Costa: Bem, no que tange ao desenvolvimento, eu vou tentar expor aqui algumas ideias. O que seria o desenvolvimento? Você sair de um estado e evoluir para um outro, né? Sempre buscando o quê? Um aperfeiçoamento, digamos. Você saber utilizar os seus recursos com maior racionalidade. E a gente pensa desenvolvimento, não apenas...

## **Interview 2**

Götz Kaufmann: O que significa o conceito da justiça ambiental para você na Área de Proteção Ambiental-Maiandeuá? (1:06 minute)

Marcelo Costa: Bem, o melhor conceito para Justiça Ambiental para Algodoal se dá, no momento em que nós conseguimos implementar pelo menos parte da legislação ambiental que rege aquela área. Nós temos a lei que criou o sistema nacional de Unidades de Conservação, que dispõe que a área deve ter um plano de manejo, que a área deve ter um Conselho Gestor, né? E várias outras disposições. E, em partes, nós já conseguimos uma vitória, foi a criação do plano de manejo e demos início à criação, a elaboração do plano de manejo, o conselho gestor foi criado e nós já demos início à criação, à elaboração do plano de manejo. Só que existem outras situações que impedem dizer que existe, afirmar que existe uma Justiça Ambiental na

APA de Algodual-Maiandeu, como por exemplo: enquanto houver desigualdades sociais que obriguem, que empurrem as pessoas a viver em numa condição subumana, até, como em áreas de mangue sem saneamento básico, que não disponham de uma educação ambiental e assim, sucessivamente. Esse ideal de Justiça Ambiental ainda não foi e não será alcançado. A gente espera que, daqui a alguns anos, com uma melhor distribuição de renda, com melhor distribuição dos encargos ambientais, que até agora somente as pessoas que têm um determinado poder econômico é que conseguem obter alguma vantagem em relação à exploração dos recursos ambientais da APA, enquanto as populações mais carentes, elas ainda não conseguiram, não conseguem usufruir ainda dos benefícios da exploração de um turismo adequado, né? Então, a gente, eu, pelo menos, só entendo dessa forma, que a Justiça Ambiental só será feita no momento em que parte, pelo menos parte da legislação ambiental aplicável à área de proteção ambiental de Algodual-Maiandeu, ela seja implementada. E que também as pessoas, as comunidades, elas sejam inseridas nesse processo de desenvolvimento sustentável, que a gente espera que se dê a partir do momento que políticas públicas também sejam implementadas. As políticas públicas voltadas para o turismo, para o extrativismo, para o desenvolvimento das comunidades tradicionais. (4.30 minutes)

Götz Kaufmann: Dentro da discussão sobre Justiça Ambiental tem uma frase central que pergunta, qual são as distribuições dos custos e benefícios ambientais? Em relação à APA Algodual-Maiandeu, o que você acha que são estas distribuições? Também como isso está relacionado com a questão da terra na APA Algodual-Maiandeu? Especialmente relacionado à questão da posse da terra em Algodual pelo o povo indígena? Historicamente, as lutas da Justiça Ambiental nos EUA foram lutas contra a distribuição do lixo também, que foi colocado, na maior parte das vezes, nas áreas dos negros. O conceito do >racismo ambiental< é central nessa discussão teórica. Talvez você poderia me explicar a correlação dessas questões com a situação das comunidades, habitantes e o meio ambiente na APA Algodual Maiandeu. (minute 6.50)

Marcelo Costa: Bem, quando a gente pensa em impacto ambiental, seja ele negativo ou positivo, a gente tem que pensar também que as consequências desses impactos serão sofridas por todos numa maior ou menor intensidade, dependendo da classe social obviamente. Quem sofre mais com os impactos ambientais, com certeza, é a classe menos favorecida. As classe mais favorecidas, elas conseguem minimizar esses impactos de alguma forma. Vou te dar um exemplo aqui sobre o aquecimento global. Quem tem dinheiro para comprar um ar condicionado não sofre tanto quanto aquele que não tem dinheiro para comprar sequer um ventilador. Esse é só um exemplo bem tosco, mas que eu acho que é válido para explicar melhor essa situação. Então, não é porque é pobre ou rico que deixe de praticar atos que gerem consequências danosas, né? Todos nós, basta existir nesse mundo para começar a causar algum tipo de consequência, algum tipo de impacto. Agora, vai das atitudes que nós vamos tomar, né? Obviamente que, quem pratica crime ambiental dever ser punido, deve responder pelos seus atos, principalmente quando está sabendo o que está fazendo. Então, não quero excluir aqui ninguém, todos têm responsabilidades. Mas, determinadas atitudes que poderiam ser adotadas, elas não podem ser adotadas apenas por quem é pobre ou por quem é rico. Tem que ser para todos. Todos devem ter uma atitude em relação ao meio ambiente, uma atitude correta. Todos devem praticar, devem incorporar nos seus atos práticas ambientalmente sustentáveis sob pena de todos responderem pelas consequências desagradáveis que práticas incorretas podem acarretar ao meio ambiente. Então, apesar de ser uma luta da minoria, quer dizer, a luta de uma maioria, no caso. De uma maioria que está excluída de todo o processo de desenvolvimento, que está à margem dos benefícios colhidos pelo desenvolvimento. Essa luta, ela vai beneficiar a todos. Só é feito justiça social quando todos são beneficiados. Ninguém pode assumir maior parte na responsabilidade sobre as questões ambientais. Elas têm que ser distribuídas de forma igualitária. Ninguém pode querer colher os frutos de um desenvolvimento em detrimento ao prejuízo de

outras pessoas. O que os Estados Unidos faz é desenvolver a qualquer custo, só que o resultado disso daí, as consequências serão sentidas no mundo todo. Eu creio que a mesma coisa se dá com Algodual, não se pode querer que o local receba um maior número de turistas porque... sob a justificativa de que quanto mais turistas, mais dinheiro está circulando na ilha. Por que as populações mais carentes não estão usufruindo disso. E os impactos, com certeza, serão maiores para esse tipo de população, para essa parte da população. Então, a gente que distribuir melhor isso daí. Então, ninguém quer assumir suas responsabilidades. A verdade é isso. Então, a gente pretende mostrar que todos devem assumir, na medida das suas responsabilidades, obviamente, para que todos possam minimizar os impactos causados no meio ambiente e não deixar de sofrer as consequências negativas. (minute 11.48 Minute)

Götz Kaufmann: Tem dois conceitos importantes em relação com a Justiça Ambiental, o conceito da >localidade< e o conceito da >cultura<. O que você pensa sobre o papel desses dois conceitos no contexto da criação das leis em consideração da localidade de Algodual-Maiandeuá como litoral (ao contrário de lugar urbano como Belém) e também em relação de o fato que a criação das leis (nacionais) ambientais e a discussão <sup>de</sup> colocado principalmente no sul do Brasil (Brasília, São Paulo, Rio de Janeiro, talvez culturalmente mais europeia), mas não é na Amazônia (Legal)? (13.12 Minute)

Marcelo Costa: Eu fico, eu lamento muito que determinadas políticas, elas não atendam, talvez nunca atenderão, nenhuma política pública vai atender igualmente. A gente pretende... o mais correto seria tentar equilibrar essas desigualdades. A APA de Algodual-Maiandeuá, ela tem suas peculiaridades locais, é óbvio. Já esteve muito mais isolada, hoje em dia não. Hoje o acesso, ele é mais fácil ao local, e isso, claro, tem consequências, afeta. A chegada da energia elétrica 24 horas, a exposição aos canais de comunicação, isso tem mudado os hábitos, com certeza, não tenham dúvida disso. Mas, isso daí são consequências do desenvolvimento no mundo todo, não só particularmente do Brasil e do estado do Pará e também da região. Eu só lamento isso, que as políticas são criadas sem levar em consideração essas peculiaridades locais. Por quê? Nós precisamos equilibrar essas desigualdades. Lá, como em outros lugares, existem valores regionais. Nas populações tradicionais e esses valores estão sendo perdidos ao longo dos anos, com o passar dos anos, devido à falta de planejamento e uma série de outros fatores que impedem que essas tradições, esses valores sejam extintos. E que talvez, bem mais... não menos importante do que a própria natureza, o meio ambiente, esses valores são de uma riqueza assim, que a gente deveria, pelo menos, ter uma preocupação em preservá-los. Mas, a gente acha que dando voz à comunidade como com o Conselho Gestor, dando oportunidade para que as populações, elas participem das políticas públicas e também dos princípios da Constituição, também. O meio ambiente é regido também pelo princípio da participação popular, democrática e a comunidade vai saber, com certeza, qual o melhor caminho a ser tomado. Eles têm aí uma infinidade de políticas de planos, de programas públicos para o meio ambiente e a gente vai ter que entender, tentar entender melhor, buscar uma solução mais aplicável, mais adequada ao local. Vou citar aqui um exemplo, que é o plano de gerenciamento costeiro, o plano nacional de gerenciamento costeiro. Talvez ele não seja adequado à nossa realidade, mas nós temos que buscar solução para que ele seja, se torne adequado ele se aplique, melhor se aplique aqui, porque a realidade do sul do país não é a realidade da Região Norte, nós convivemos com outro contexto, nós vivemos num outro contexto na realidade nacional. Então, eu acho que uma forma de tentar, pelo menos, equilibrar essas distorções aí veio com a lei do sistema nacional de Unidade de Conservação que estabeleceu que toda Unidade de Conservação tem que ter um conselho, nem que seja apenas um conselho consultivo e que a Unidade de Conservação tem que ter um plano de manejo. Esse plano de manejo tem que ser discutido com a comunidade, ele tem que ser... Ele é participativo, então, a comunidade tem que estar ciente do que é melhor para ela. E nada mais, mais certo do que escutar a opinião da própria comunidade que vive no local, não apenas de um legislador que está no seu

gabinete em Brasília ou qualquer outro lugar do país que não seja aquela região, ali. Então, acho que a oportunidade está sendo dada, mas para o ideal ser alcançado, ainda está longe ainda. Mas, pelos menos, nós estamos no caminho, creio eu, estamos no caminho adequado. Vai depender agora da gente dá um passo mais à frente e acelerar esse processo de participação, de decisão, de deliberação das políticas públicas, até nós, pelo menos, conseguirmos equilibrar essas desigualdades aí. Pra que, realmente, a gente consiga implementar a APA, ela realmente possa funcionar, possa ser instalada e realmente funcionar como a gente espera.

Götz Kaufmann: Muito obrigado.

Appendix 5: Interview Environmental board of municipality Maracanã

Ricardo: One of two Spokesman of the environmental board in Maracanã (city)

Conversation and field notices

Not one activity on Algodual due to insufficient resources

Prefecture was forced by law to establish the environmental board, but interest is very low since no tax monitoring is established

Inhabitants just claim their demands, but no one is willing to pay for public services [serviços public]

Municipality does not participate in creation of APA Algodual

Until ten years after creation of APA, the mangrove locations have been the waste disposal of the island, even though the island was declared area of permanent preservation [Área de Preservação Permanente] (APP).

### Interview

Götz Kaufmann: O que significa o conceito do Desenvolvimento Sustentável para você, especialmente com a APA Algodual-Maiandeuá para a instituição da diretoria da prefeitura do município de Maracana? (1.15 Minute)

Ricardo: Para mim, o Desenvolvimento Sustentável nada mais é de que você conseguir desenvolver o país ou a região economicamente com o equilíbrio com a natureza, com desenvolvimento ambiental sem esquecer de que o desenvolvimento econômico, muitas vezes, passa por cima do meio ambiente. Então, o Desenvolvimento Sustentável nada mais é, para mim, de que um equilíbrio em desenvolver economicamente e ter uma sustentabilidade, e ter um desenvolvimento também ambiental. Dentro do nosso município de Maracana, nós temos uma APA, a APA Algodual-Maiandeuá, onde nos podemos verificar bem o desenvolvimento sustentável. Lá, dentro da APA, que é uma ilha, nós podemos ver um desenvolvimento turístico, ou seja, econômico estaprolando o desenvolvimento ambiental, porque nós podemos ver, que o nosso mangue está destruído, porque várias pessoas já estão morando lá.. nós podemos ver a retirada de pedras, a retirada de areia sem um mínimo de preocupação ambiental para a construção de hotéis, de residências dentro da ilha ... nós podemos ver também um crescimento muito grande de pessoas indo para dentro das dunas para fazer os bares, fazer casa lá dentro. Aí nós podemos verificar que o crescimento econômico de lá de Algodual-Maiandeuá não está sendo equilibrado com desenvolvimento ambiental, pois nós podemos ver que está sendo muito degradado o meio ambiente lá dentro, de Algodual-Maiandeuá (3.04 Minute)

Götz Kaufmann: Então, para falar sobre desenvolvimento turístico, podemos falar sobre ecoturismo? (3.15 Minute)

Ricardo: Sem dúvida nenhuma, para dentro da APA Algodoal-Maiandeuá, o melhor desenvolvimento que poderia ter, seria o desenvolvimento do ecoturismo. Por quê? Porque aí estaria sendo aliado o desenvolvimento econômico junto com ambiental, sendo que, eu acho que, quase todas as pessoas que vem, que são chamadas<sup>502</sup> pelo ecoturismo, são pessoas que já tem uma consciência ambiental, que vão para lá só usufruir do meio ambiente sem degradá-lo.

Götz Kaufmann: Você já disse que durante a implementação da lei da APA, o município não foi incluído. Você acha que para incluir a instituição da prefeitura, ou seja, das prefeituras em geral no processo de implementação das leis ambientais, ajudaria para o processo de desenvolvimento econômico, que você explicou? (4.15 Minute)

Ricardo: Sem dúvida nenhuma. Eu acho que, dentro do nosso país, a gente teria muito que trabalhar em conjunto. Assim como em todo lugar, teria que ter esse >feedback<. O Estado teria que auxiliar o município e o município teria que auxiliar o Estado no que fosse preciso para o desenvolvimento econômico e ambiental na APA Algodoal-Maiandeuá.

Götz Kaufmann: Em relação ao conceito do equilíbrio, da igualdade da vida como é descrito na constituição do Brasil, o que você pensa que é preciso para o processo do desenvolvimento na APA Algodoal-Maiandeuá, com o intuito de melhorar este equilíbrio da natureza com a justiça ambiental dentro das gerações, especialmente considerando a relação da justiça ambiental com as gerações futuras? (5.16 Minute)

Ricardo: Eu acho que para trabalhar para o futuro é trabalhar o hoje. Eu acho que teria que nós teríamos que ter uma educação ambiental muito forte dentro da APA Algodoal-Maiandeuá, onde nós pudéssemos mudar a cabeça das pessoas hoje, de lá, para que elas pudessem fazer com que os seus filhos, netos, bisnetos pudessem ter essa mudança desde criança, desde pequeno. Então, primeiramente teria que trabalhar uma educação ambiental forte. A comunidade de lá, sem dúvida nenhuma, tem que estar auxiliando nisso, porque, eu que trabalho nessa parte de fiscalização de resíduos sólidos de dentro da APA, eu já verifiquei muito que não só a comunidade, assim como também as pessoas que vêm de fora, acabamos esquecendo de que aquilo é um lugar comum em que poderiam ser minimizadas essas agressões ambientais com o auxílio deles. Tem muita gente que critica a prefeitura, critica a SEMA, mas esquece da importância que eles têm para preservar lá também. Eu acho que, então, teria que ter um conjunto entre SEMA estadual, a SPU que é a Superintendência do Patrimônio da União, junto com o IBAMA, junto com o Batalhão da Polícia Militar, junto com a prefeitura municipal e, é claro, junto com os moradores, a comunidade, porque são eles quem sofrem todos os problemas ambientais decorrentes dessa degradação, que a gente vai fazendo dentro de lá. Então, o mais importante é conscientizar sim, mas os moradores, a comunidade.

Götz Kaufmann: Para conseguir este objetivo que você falou, você comentou sobre dois fatores presentes neste contexto: de um lado faltam recursos, de outro, há problemas no trabalho conjunto entre as instituições. O que você prioriza como causa deste problema? Seria mais um problema voltado para a falta de recursos ou seria um problema centrado nas instituições?

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<sup>502</sup> as pessoas que são atraídas pelo ecoturismo (my note)

Ricardo: Recursos, dentro do nosso país, eu não posso dizer que a gente tem bastante. Mas nós temos recursos sim vindo do Ministério do Meio Ambiente, que poderia estar sendo utilizado aqui, dentro do município. Mas só que como nós somos apenas um departamento municipal, nós não temos esse respaldo para conseguir esse recurso. Então, eu acho, que é mais pela disposição de dentro das instituições em estar organizando esses recursos, do que propriamente o recurso. Por que, eu vejo bem que tendo força de vontade, você consegue tudo ... Então, eu acho que, se dentro das instituições, se tivessem pessoas lá dentro engajadas mesmo, querendo trabalhar em prol do meio ambiente e não, para benefício próprio, então, eu acho que teriam vários avanços dentro da parte o ambiental dentro no nosso país.

Götz Kaufmann: Qual são os projetos do município dentro da APA Algodoal-Maiandeuá desde a APA foi criada? Quais projetos de educação você já conseguiu realizar ou está planejando? (8.42 Minute)

Ricardo: Olha, veja bem, o nosso município foi implantado há quase dois anos, nossa diretoria, nosso departamento de Meio Ambiente. Dentro disso, nós, há muito tempo, estamos esperando o prefeito conseguir fazer a nossa secretaria de meio ambiente. Nós temos alguns projetos pontuais dentro da educação ambiental. Em Algodoal, a gente ainda não conseguiu desenvolver nenhum tipo de projeto. Dentro do município a gente já desenvolveu alguns, como, por exemplo, na semana do meio ambiente. A gente já conseguiu fazer alguns projetos de educação ambiental trazendo os alunos e as escolas do município para darem uma palestra, para fazer oficinas, de forma que, com o tempo, como nós somos ainda muito novos... Com o tempo a gente quer conseguir, claro, expandir da sede do município para, claro, não só Algodoal, como para as outras localidades. (9.50 Minute)

Götz Kaufmann: Você sabia que a SEMA realizou um projeto de educação lá na ilha de Algodoal-Maiandeuá, especialmente para treinar os guias turísticos, por causa do problema com os ladrões, que tentam roubar os turistas? Você tem contato com a SEMA, ou seja, a coordenadora da SEMA falou com a você sobre os projetos que estão sendo desenvolvidos?

Ricardo: Se eu não me engano, em junho tiveram várias reuniões em que a SEMA estava responsável para explicar sobre vários detalhes. Eu participei de apenas uma reunião, eu não sei se nas outras reuniões foi falado sobre isso. Mas na reunião que eu participei, eles, com certeza, estão querendo passar várias informações para o município, só que muitas vezes, o município não consegue se deslocar daqui, da sede para Algodoal. Então, se teve essa reunião, eu, pelo menos, não passei, porque eu sou apenas um substituto da diretora do departamento. (11.14 Minute)

Götz Kaufmann: A diretora do meio ambiente comentou que todas as ONGs cooperativas em Algodoal tem esse conselho gestor, como órgão colegiado. O município foi convidado para participar deste conselho gestor da APA Algodoal-Maiandeuá?

Ricardo: Bom, dentro do município, nós tínhamos duas pessoas que eram responsáveis de estar lá dentro, de participar das reuniões do conselho. Só que uma dessas pessoas, que eu conheço, que era o secretário do gabinete, ele foi exonerado. Então, hoje, creio eu, que nós não temos nenhuma pessoa. Faz um tempo que nós estávamos querendo que o Departamento de Meio Ambiente pudesse estar dentro desse conselho, porque é claro que a responsabilidade, hoje, do meio ambiente dentro do município é nossa. Só que a gente ainda não conseguiu ainda ter essa troca. Nós acabamos de participar várias vezes, a gente já chegou a participar,

não só eu, como a diretora do departamento, só que só como ouvinte, não como pessoa que pudesse estar dando respaldo lá dentro (12.40 Minute)

Götz Kaufmann: Então, vamos falar sobre o conceito da justiça ambiental, o que significa este conceito no contexto da APA Algodoal-Maiandeuá?

Ricardo: Veja bem, eu acho que falar sobre justiça ambiental é falar sobre os nossos problemas. Dentro do nosso município, nós temos vários problemas relacionados com o meio ambiente, dentro desses problemas pouquíssimos são resolvidos. Pelo fato de, não sei se é fiscalização, não sei se é parte institucional, estou a falar sobre a situação dos menos favorecidos na sociedade. Isso, sem dúvida nenhuma, a corda quebra para o lado mais fraco, ou seja, em Algodoal, nós temos lá mais de 200 famílias que moram precariamente dentro do mangue, uma área de preservação permanente, que teoricamente não poderia ter ninguém morando lá. E nós vemos que é o contrário. Nós vemos que, cada dia que passa, são pessoas novas que indo para fazer suas residências lá. claro que, essas pessoas, se elas quisessem, elas não estariam lá, naquela situação precária, onde n[os] podemos ver as fossas, que são todas abertas, os restos de alimentos jogados nos quintais. Enfim, são vários problemas ambientais, que também vão cair em cima da saúde já que também, com esses problemas ambientais, são pessoas que tem vários surtos de Malária, de febre amarela e, em consequência desses problemas ambientais. Então, falar em justiça ambiental, hoje, no nosso país é muito complicado, porque é falar de uma coisa que é utópica. É uma coisa que está em papel, mas que é muito difícil de ver na nossa realidade. (15.51 Minute)

Götz Kaufmann: O que é o problema do cadastramento da terra em Algodoal ou no município em geral? Qual prioridade tem esta questão aqui? (17.24 Minute)

Ricardo: Aqui dentro do município, eu ainda não consegui ver nenhum tipo de política ou programa ou plano para estar verificando esse tipo de coisa de cadastrar. E em Algodoal, nós temos a área quase toda, eu acho que é toda a área gestão da SEMA, só que esta parte de terra, de ocupação de solo vem para parte da Superintendência do Patrimônio da União. Eles é quem são responsáveis para verificar isso. No município eu não conheço, estou aqui há um ano e meio e não tenho tanto conhecimento dentro da prefeitura para saber se existe algum cadastramento dessas áreas. Até porque, nós não temos só a APA Algodoal-Maiandeuá, temos a RESEX Maracana e dentro de RESEX Maracana eu já ouvi vários comentários, onde existem pessoas que estão vendendo terrenos lá, sendo que uma área de RESEX, teoricamente, não poderia ter essa venda. Então, lá nós já podemos verificar, que tem venda e tem compra de terras ilegalmente. (18.39 Minute)

Götz Kaufmann: O que seriam os próximos estágios necessários para melhorar a situação e o conceito da justiça ambiental e do desenvolvimento sustentável? O que deve ser realizado como prioridade para mudar a situação de hoje?

Ricardo: Bom, aqui no nosso município, falar sobre desenvolvimento sustentável e falar sobre justiça ambiental é um pouco complicado. Mas é claro, eu acho que sempre com uma boa vontade, de pessoas que estejam responsáveis e querem ter esse melhoramento no meio ambiente poderia sim. A justiça ambiental, dentro do nosso município, a gente ainda não pode desenvolver. Creio eu, que a parte de fiscalização em si. E esse tipo de coisa a gente não pode desenvolver, pelo fato nós sermos um departamento de Meio Ambiente e nós não temos o nosso arcabolo legal que poderia nos respaldar para fazer algum tipo de trabalho dentro dessa parte de fiscalização e monitoramento ambiental. Falar em desenvolvimento sustentável, para mim, é



trabalhar também a educação ambiental. É porque você vai ensinar as pessoas que existem vários outros métodos de ganhar dinheiro, sem destruir o meio ambiente. Então, eu acho que dentro do nosso município, nós podemos sim, nós tentamos trabalhar a educação ambiental para desenvolver várias oportunidades para as pessoas verificarem, que pode ser trabalhado o desenvolvimento sustentável sim, dentro da educação ambiental e dentro do nosso município. Então, creio eu que hoje, no nosso município, o máximo que a gente pode fazer é denunciar junto ao Batalhão de meio ambiente e junto a SEMA as pessoas, assim como a gente já fez com pessoas que estavam retirando areia, retirando pedra de lá das dunas e das praias. Agora, o desenvolvimento sustentável, a gente poderia trabalhar assim como a gente trabalha no município, desenvolvendo a nossa educação ambiental trabalhando com oficinas, reciclagem, enfim, mostrando várias alternativas que as pessoas têm de ganhar dinheiro sustentavelmente.

Götz Kaufmann: Muito obrigado.

## Appendix 6: Law (1990) Creation of APA Algodual

State Law No 5621 of November 27, 1990: Creation of APA Algodual-Maiandeuá

Lei Estadual no. 5621 de 27/11/1990

Dispõe sobre a criação de Área de Proteção Ambiental de Algodual - Maiandeuá no Município de Maracanã. A ASSEMBLÉIA LEGISLATIVA DO ESTADO DO PARÁ estatui e o seu Presidente, nos termos do § 7º do artigo 108 da Constituição Estadual, vigente, promulga a seguinte Lei:

Artigo 1º - Fica declarada Área de Proteção Ambiental (APA), denominada Algodual - Maiandeuá, localizada no Município de Maracanã, as ilhas de Algodual com 3,85 Km<sup>2</sup> (385 ha) e Maiandeuá com 19,93 Km<sup>2</sup> (1993 ha), somando uma área total de 23,78 Km<sup>2</sup> (2.378 ha), entre as coordenadas geográficas de 47º 32' 05" à 47º 34' 12" de Longitude (W. Gr.) e 0º 34' 45" à 0º 37' 30" de Latitude Sul.

Artigo 2º - Na elaboração dos estudos básicos, plano de manejo, implantação e funcionamento de APA de Algodual - Maiandeuá, serão adotadas entre outras as seguintes medidas:

O Instituto do Desenvolvimento Econômico-Social do Pará - IDESP executará os estudos básicos para a elaboração do Plano de Manejo;

O Plano de Manejo será elaborado conjuntamente pelos Órgãos Federais e Estaduais competentes, ouvida a Prefeitura Municipal de Maracanã;

A implantação e execução do Plano de Manejo será realizada pelo órgão estadual competente, com a participação e apoio da Prefeitura Municipal de Maracanã;

A utilização dos instrumentos legais e dos incentivos financeiros governamentais, para assegurar a proteção da área e uso racional do solo, bem como outras medidas referentes à preservação de ambientes e conservação de recursos naturais;

Aplicação quando for necessário das medidas legais destinadas a impedir ou evitar o exercício de atividades causadoras de sensível degradação da qualidade ambiental, em especial as atividades pesqueiras, apanha de crustáceos extração vegetal, remoção das pedras das praias, utilização das dunas e manejo dos dejetos sólidos;

A divulgação das medidas preventivas desta Lei, objetivando o esclarecimento do povo e em especial da comunidade local sobre a APA e suas finalidades.

Artigo 3º - Na APA de Algodual - Maiandeuá ficam proibidas ou limitadas:

A implantação e o funcionamento de indústrias potencialmente poluidoras;

A realização de obras de terraplenagem e a abertura de canais, quando essas iniciativas importarem em sensível alteração das condições ecológicas locais;

O exercício de atividades capazes de provocar uma acelerada erosão das terras ou um acentuado assoreamento das condições hídricas;

O exercício de atividades que ameacem extinguir as espécies da biota regional;

O uso de biocidas, quando indiscriminado ou em desacordo com as normas ou recomendações técnicas oficiais.

§ 1º - Em caso de epidemias veiculadas por animais domésticos ou silvestres, a Secretaria de Saúde do Estado do Pará poderá, em articulação com os Órgão Estaduais competentes e o Instituto do Meio Ambiente e dos Recursos Naturais Renováveis, promover programas especiais para o controle dos rejeitos vetores.

§ 2º - A abertura de vias de comunicações de canais e a implantação de projeto de urbanização, sempre que importarem na realização de escavações e obras que causem alterações ambientais, dependerão de autorização prévia da Secretaria de Saúde do Estado do Pará, ou pelo Órgão Estadual competente, que somente poderá concedê-las:

a) Após a realização de estudo do projeto e exame das alternativas possíveis;

b) Após a realização de estudos das conseqüências ambientais, isto é, Estudos de Impactos Ambientais (EIA), Avaliação de Impactos Ambientais (AIA) e os Relatórios de Impactos do Meio Ambiente (RIMA).

§ 3º - As autorizações concedidas pelo Órgão Estadual competente não dispensam outras autorizações e licenças municipais exigíveis.

§ 4º - Para melhor controlar afluentes e reduzir o potencial poluidor das construções destinadas ao uso humano, não serão permitidas:

a) A construção de edificações em terrenos que não comportarem, pelas suas dimensões e outras características, a existência simultânea de poços de abastecimento e fossas sépticas, quando não houver rede de coleta e estações de tratamento em funcionamento;

b) O dejetos, por rios, igarapés e praias, de esgotos e outros afluentes sem tratamento adequado que impeça a contaminação das águas.

§ 5º - Visando impedir a pesca predatória nas águas da APA e nas suas proximidades será rigorosamente exigido o cumprimento das legislações pertinentes.

§ 6º - Para efeitos do artigo 2º, letras "B" e "C" do artigo 3º, letras "A" e "B" da Lei nº. 4.771 de 15 de Setembro de 1965, e do artigo 18 da Lei nº. 6.938, de 31 de Agosto de 1961, considerando-se como de preservação permanente com raio de 100m (cem metros).

Artigo 4º - A APA de Algodoal - Maiandeuá será implantada, administrada, supervisionada e fiscalizada pelo Órgão Estadual competente.

Artigo 5º - Esta Lei entra em vigor na data de sua publicação, revogadas as disposições em contrário.

PALÁCIO DO LEGISLATIVO

GABINETE DA PREVIDÊNCIA DA ASSEMBLÉIA LEGISLATIVA DO ESTADO DO PARÁ, em 27 de novembro de 1990.

DEPUTADO MÁRIO CHERMONT  
Presidente



ASSEMBLÉIA LEGISLATIVA DO ESTADO DO PARÁ  
GABINETE DEPUTADO ANAICE- PMDB

MOÇÃO nº /2.005.

Exmo. Sr. Presidente da Assembléia Legislativa .

MOÇÃO

A Ilha Maiandeuá, localizada na parte mais externa do arquipélago que fica ao Norte do Município de Maracanã, é um dos atrativos turísticos mais bonitos e aprazíveis do Estado do Pará. Fica na micro-região do Salgado, à 200 Kms de Belém, e nela se encontram as Vilas de Algodual, Camboinha, Mocooca e Fortaleza. Mas os Points mais procurados da Ilha são as Praias da Princesa e Algodual, além, é claro, do famoso Lago da Princesa.

A Ilha tem como características marcantes, belas praias banhadas pelo Oceano Atlântico, que no período chuvoso, sofrem a influência do Rio Amazonas.

A Ponta da Princesa, que divide as praias da Ilha, dá de frente para o continente, com suas águas mansas e praias de fora, no mar aberto. São as mais bonitas. Maiandeuá representa um marco histórico no Pará, pois ali aportaram os Jesuítas no século XVII, para construir em fortaleza, uma das praias da Ilha, uma proteção de pedras, que serviu de Atalaia (escudo) cóntra os ataques de invasores. O acesso a Maiandeuá se dá pelas Rodovias BR-316, via Marudá, Município de Marapanin, ou por Maracanã, pelas Rodovias BR-316 e Pa-127. Na primeira opção a travessia para a Vila de Algodual, na Ilha, é feita em barco à motor, com duração de 45 minutos. Na outra opção, mais demorada e interessante, o percurso passa pela



**ASSEMBLÉIA LEGISLATIVA DO ESTADO DO PARÁ  
GABINETE DEPUTADO ANAICE- PMDB**

Cidade de Maracanã, e a travessia é realizada em embarcações com saída do Trapiche Municipal, e tempo aproximado de duas horas. Neste trajeto, há paradas em diversas Ilhas do Atlântico e Povoados Ribeirinhos, onde as Comunidades de Pescadores e lugares belíssimos podem ser apreciados pelos visitantes.

Dentre os inúmeros pontos turísticos da Ilha de Maiandeuá, podemos destacar: Ilha do Marco, o Lago da Princesa, a Praia de Fortalezinha, Praia do Algodão, ou de Maiandeuá, que é a praia de chegada à Ilha, via Marudá, depois da travessia de barco, caracterizada pela grande quantidade de pedras que aparecem quando a maré está baixa. Há trechos que apresentam diversos currais de pesca e barcos pesqueiros que saem para o alto mar.

O turismo é importante em qualquer economia, principalmente naquelas que necessitam de uma rápida distribuição de renda, como é o caso do Pará. O turismo em tempo de paz, é o maior fator gerador de emprego, direta e, indiretamente, e com pouco investimento.

Todavia, para que se alcance o desenvolvimento integrado do Estado, através do turismo como atividade capaz de gerar divisas, necessário se faz incrementar Projetos voltados ao fortalecimento da estrutura Municipal, que possa transformar os Municípios paraenses, em verdadeiros pólos de turismo receptivo, pois de nada adiantará concentrar esforços na divulgação das belezas do Pará, se não garantirmos a estrutura necessária à receptividade.

Entretanto, apesar de a Ilha de Maiandeuá, e suas Vilas de Camboinha Mocooca, Fortaleza, Praia da Princesa, e principalmente a Vila de Algodão, no Município de Maracanã, ser



ASSEMBLÉIA LEGISLATIVA DO ESTADO DO PARÁ  
GABINETE DEPUTADO ANAICE- PMDB

considerada Estância Turística (Lei nº 5.770), além de área de proteção ambiental (Lei nº 5.621/90), necessário se tornam, em caráter de urgência, as seguintes tomadas de providências desta Casa de Leis, junto do Executivo Estadual:

- 1 – A implantação do Projeto de Micro-Usina de Compostagem de lixo (Algoadoal) .Obs: O Projeto está na SECTAM;
- 2- Complemento do abastecimento de água potável (Algoadoal);
- 3 – Construção do muro de arrimo (Algoadoal);
- 4 – Construção e estruturação de uma Agência ou Posto do Banpará (Algoadoal);
- 5 - Construção e estruturação de uma Agência dos Correios (Algoadoal);
- 6 - Construção e estruturação de uma Delegacia do Meio Ambiente, (DEMA) Algoadoal;
- 7 – Policiamento ostensivo (Algoadoal).

Solicito ainda, que esta Casa dê ciência do inteiro teor desta Proposição, à Câmara e Prefeitura Municipal de Maracanã-Pa, bem como aos senhores Klebe José Carrera Ramos, Travessa Honório José dos Santos – Jurunas, Fone: 81568195/32715401 e Márcia Correa Nunes, Cidade Nova VI – W E 64, nº 411, fone: 81315276.

Palácio da Cabanagem, 22 de setembro de 2.005.

*Luiz Eduardo Anaice*  
Dep. Estadual - PMDB

Dep. Luiz Eduardo Anaice-PMDB

Appendix 8: Q-sample of Environmental Justice

Justiça Ambiental (original statements)

1. Não é da natureza dos homens querer mais e mais dinheiro.
2. O governo tem que ter mais responsabilidade para criar uma legislação ambiental melhor que a atual.
3. Os pobres são vítimas e causadores dos danos ambientais.
4. O desenvolvimento sustentável é definido como aquele que satisfaz as necessidades atuais, sem sacrificar as satisfações futuras.
5. As Instituições não podem resolver a questão ambiental.
6. A solução da questão ambiental seriam as reclamações da sociedade civil.
7. Os custos são suportados pelos pobres ou por pessoas não-brancas ou ainda pelas futuras gerações.
8. O problema maior não está na finitude das reservas de recursos naturais, mas nas conseqüências do seu uso.
9. Para atingir o desenvolvimento sustentável é preciso considerar especificidades regionais, as idéias de respeito humano, conhecimento intensivo e amor à natureza.
10. No passado, as relações de trabalho e as relações com os recursos naturais baseavam em direitos comunitários. Justiça Ambiental significa reconsiderar este entendimento antigo.
11. O desenvolvimento na ilha de Algodual-Maiandeuá é eficiente e produz Justiça Ambiental.
12. A falta da Justiça Ambiental e do Desenvolvimento Sustentável em Algodual é significativa para os casos de malária e febre amarela.
13. Tem varios casos de venda, compra e posse da terra ilegal. Justiça Ambiental significa o impedimento desta posse ilegal.
14. Justiça Ambiental significaria a fiscalização das empresas para disponibilizar serviços melhores ambientais.
15. O problema é que os nativos não fazem parte das representações, culturalmente eles estão marginalizados.
16. As instituições do governo não têm conhecimento das necessidades da população tradicional na ilha de Algodual-Maiandeuá.
17. A influência dos diferentes grupos envolvidos na ilha de Algodual difere segundo o poder econômico - e isso é justo.
18. A maioria das pessoas não têm oportunidade de participar dos bens meio-ambientais e sofrem disso de forma sobreproporcional. O conflito que surge dessa situação não deve ser ignorado (mais).
19. O lixo é o maior problema na APA Algodual-Maiandeuá.

## Appendix 8 (continuation)

### Environmental Justice: Statements (translated)

1. It's not the nature of humans to want more and more money
2. The government has to take more responsibility to create a better environmental legislation than actual are.
3. The poor are both victims and causers of environmental damage.
4. Sustainable Development is defined by satisfying the necessities of the presence, without sacrificing the needs of future generations.
5. Institutions cannot solve the environmental question.
6. Solution for the environmental question be protests of civil society.
7. The costs of development are payed by the poor or non-white people or by future generations.
8. The biggest problem isn't the depletability of resources but the consequences of their usage.
9. To understand sustainable development it is necessary to consider regional specifics, ideas of human respect, deep knowledge and love to nature.
10. In the past, work relations and relationship to the natural resources based on communitarian rights. Environmental Justice means to re-consider the antique understanding.
11. Development on island Algodoal-Maiandeuá is efficient and produces environmental justice.
12. The failure of environmental justice and sustainable development on Algodoal is significant due to cases of malaria and yellow fever.
13. There are many cases of illegal buying, selling, and ownership of land. Environmental Justice means to finish this illegal possession.
14. Environmental Justice means monitorization of enterprises to provide better environmental services.
15. The problem lies in under-representation of the Indians in the participation organs, which are culturally marginalized.
16. The institutions of the government don't know the needs of the traditional population on island Algodoal-Maiandeuá.
17. The influence of the different stakeholders on island Algodoal-Maiandeuá differs in accordance to their economical power, this fair since it is the salary of success.
18. The majority of people don't have the opportunity to partake the environmental goods and suffer overproportionally. The conflict emerging from this situation must not be ignored (anymore).
19. Waste is the major problem in the APA Algodoal-Maiandeuá.



Appendix 9: Q-sample on Sustainable Development

Desenvolvimento Sustentável (original statements)

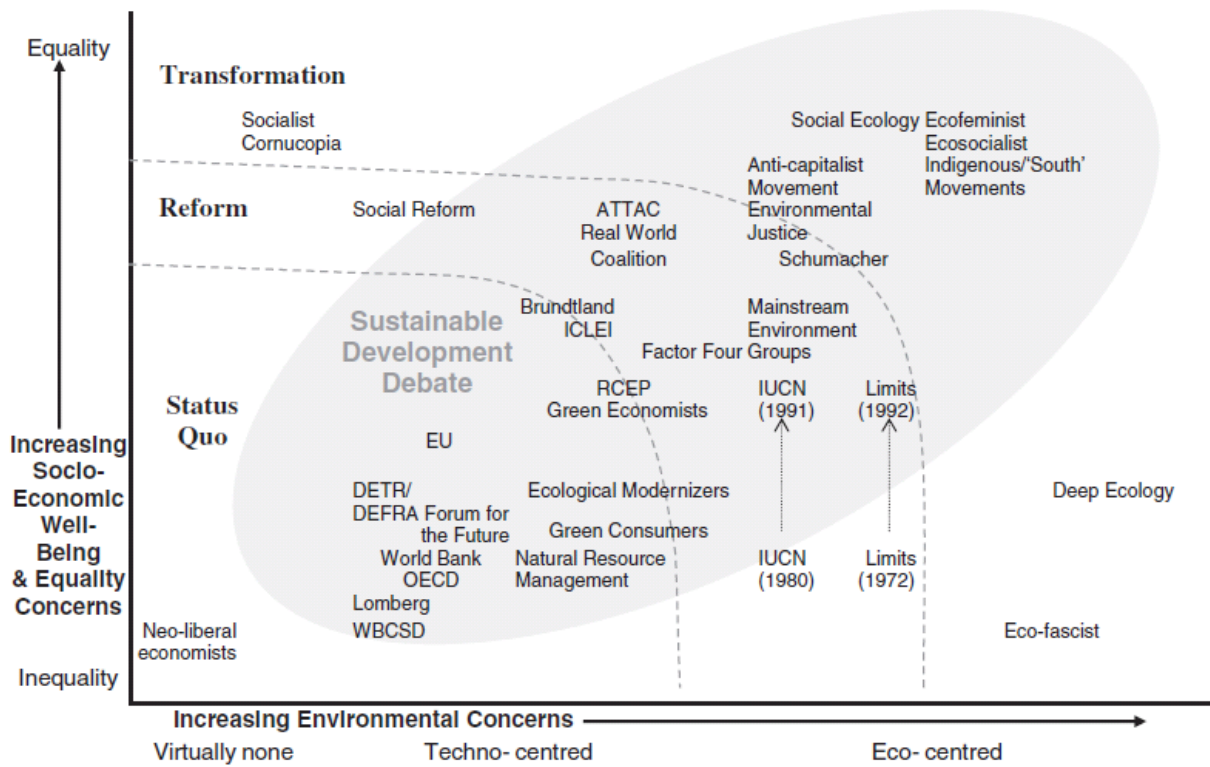
1. O resultado do processo do desenvolvimento sustentável é uma comunidade focalizada para o consumo.
2. É Preciso um tipo de inovação institucional para mudar a racionalidade econômica, criando uma nova e distinta racionalidade cultural.
3. O crescimento econômico é uma força positiva que elimina as disparidades sociais, mas, com custos ecológicos irrelevantes.
4. O meio ambiente é o limite absoluto para o crescimento econômico. Logo, a humanidade estaria próxima da catástrofe.
5. O progresso técnico efetivamente relativiza os limites ambientais.
6. O problema ambiental será resolvido através da intervenção permanente dos poderes públicos, com instrumentos de comando e controle.
7. Por causa da existência de limites absolutos, o crescimento econômico tem que parar em algum momento.
8. O antropocentrismo cresceu nos últimos anos representando uma mudança negativa de mentalidade excepcional na história.
9. O desenvolvimento (crescimento econômico) na ilha de Algodal-Maiandeuá é acompanhado de um aumento da felicidade das pessoas.
10. O Desenvolvimento Sustentável é o equilíbrio (sem prioridades) do desenvolvimento econômico (turismo) e do desenvolvimento ambiental.
11. O desenvolvimento sustentável (educação ambiental) para a população tradicional é a atuação conjunta das instituições estatais.
12. O turismo do tipo de hoje é a solução para desenvolver a ilha de Algodal-Maiandeuá.
13. O abuso das drogas em Algodal causam um impacto do desenvolvimento humano.
14. A prostituição é o impacto do Desenvolvimento Sustentável atual em Algodal Maiandeuá.
15. O problema do desenvolvimento é que os nativos não aceitam que pessoas de fora passem a morar lá.
16. O Desenvolvimento Sustentável significa voltar para a produção e a cultura dos nativos.
17. O plano de desenvolvimento tem que ser criado pelos habitantes da ilha de Algodal-Maiandeuá, não pelas instituições governamentais.
18. Por causa do Desenvolvimento Sustentável eu tenho mais opções, mais liberdade e um melhor bem-estar [na vida socio econômica].
19. A única coisa de que eu sinto falta na ilha de Algodal-Maiandeuá, são automóveis.

Appendix 9 (continuation)

Sustainable Development (translated statements)

1. Result of the sustainable development process is a community focused on consumption.
2. Necessary be a type of institutional innovation to replace economical rationality by a new and distinct cultural rationality.
3. Economical growth is a positive force, which eliminates social disparities for irrelevant ecological costs.
4. The environment is the absolute limit to economical growth. Therefore, mankind is close to catastrophe.
5. Technical progress effectively relativizes the environmental limits.
6. The environmental problem could be resolved by enduring intervention of public authority, with instruments of control and command.
7. Due to the existence of absolute limits, economical growth must stop at some point.
8. Anthropocentrism increased in the last years, representing a negative change in the mentality.
9. Development (economical growth) on island Algodual-Maiandeuá is accompanied by a increasing felicity of the persons.
10. Sustainable Development is the equilibrium (without priorities) of economical (tourism) and environmental development.
11. The major goal to better the process of sustainable development and the *status quo* of environmental justice is environmental education for the traditional population, which be much more effective when all governmental projects would work together.
12. Contemporary tourism is the solution to develop island Algodual-Maiandeuá.
13. Drug abuse on Algodual is an impact of human development.
14. Prostitution is an impact of present sustainable development on Algodual-Maiandeuá.
15. The development problem is that the natives don't accept persons from outside that come to Algodual-Maiandeuá, even though these people are living there since more than 20 (twenty) years.
16. Sustainable Development means to return to production (fishing for example) and culture of the Indians.
17. The development plan must be created by the inhabitants not by superior government.
18. Because of Sustainable Development I have more options, more liberty and a better well-being [in my socio-economical life].
19. The only thing that I am missing on Algodual-Maiandeuá is cars.

Appendix 10: Mapping Sustainability



Hopwood 2005: 41

Appendix 11: Sustainable Development: Rank Statement Totals and Normalized Factor Scores With Each Factor

No	Statements/Discourses (Normalized factor score/statement totals)	A	B	C	D
1	Result of the sustainable development process is a community focused on consumption.	-1/-0.18	+1/0.19	-1/-0.51	+1/+0.31
2	Necessary be a type of institutional innovation to replace economical rationality by a new and distinct cultural rationality.	-1/-0.42	+2/+0.94	+2/+0.72	-1/+0.18
3	Economical growth is a positive force, which eliminates social disparities for irrelevant ecological costs.	-3/-1.36	0/-0.08	-4/-2.44	+2/+0.86
4	The environment is the absolute limit to economical growth. Therefore, mankind is close to catastrophe.	0/-0.05	+2/+1.35	0/+0.20	-2/-0.64
5	Technical progress effectively relativizes the environmental limits.	-2/-0.98	0/-0.20	-1/-0.06	+1/+0.40
6	The environmental problem could be resolved by enduring intervention of public authority, with instruments of control and command.	0/-0.14	+3/+1.38	+3/+1.15	0/+0.26
7	Due to the existence of absolute limits, economical growth must stop at some point.	+2/+1.09	-1/-0.75	-2/-0.72	-3/-1.37
8	Anthropocentrism increased in the last years, representing a negative change in the mentality.	+2/+0.68	-1/-0.58	-3/-1.29	-1/-0.61
9	Development (economical growth) on island Algodoal-Maiandeuá is accompanied by an increasing felicity of the persons.	+1/0.30	-1/-0.53	+1/+0.38	0/+0.21
10	Sustainable Development is the equilibrium (without priorities) of economical (tourism) and environmental development.	0/-0.08	+4/+1.58	-3/-1.10	0/+0.18
11	The major goal to better the process of sustainable development and the status quo of environmental justice is environmental education for the traditional population, which be much more effective when all governmental projects would work together.	+4/+1.59	+3/+1.47	0/+0.13	+2/+0.60
12	Contemporary tourism is the solution to develop island Algodoal-Maiandeuá.	-3/-1.15	-2/-0.77	+1/+0.59	-1/-0.51
13	Drug abuse on Algodoal is an impact of human development.	+1/+0.49	-3/-1.27	+3/+1.29	+3/+1.06
14	Prostitution is an impact of present sustainable development on Algodoal-Maiandeuá.	-2/-0.98	-3/-1.12	+2/+0.66	-2/-1.01
15	The development problem is that the natives don't accept persons from outside that come to Algodoal-Maiandeuá, even though these people are living there since more than 20 (twenty) years.	+1/+0.49	-2/-1.03	0/+0.37	-3/-1.55
16	Sustainable Development means to return to production (fishing for example) and culture of the Indians.	+3/+1.57	+1/+0.45	+1/+0.51	+4/+1.89
17	The development plan must be created by the inhabitants not by superior government.	+3/+1.44	0/+0.09	-2/-1.09	+3/+1.34
18	Because of Sustainable Development I have more options, more liberty and a better well-being [in my socio-economical life].	-1/-0.57	+1/+0.48	+4/+1.50	+1/+0.28
19	The only thing that I am missing on Algodoal-Maiandeuá are cars.	-4/-1.75	-4/-1.58	-1/-0.28	-4/-1.88

Appendix 12: Environmental Justice: Rank Statement Totals and Normalised Factor Scores With Each Factor

No	Statements/Discourses (Normalized factor score/statement totals)	A	B	C	D
1	It's not the nature of humans to want more and more money.	-1/-0.25	-2/-1.17	+1/+0.77	-4/-2.11
2	The government has to take more responsibility to create a better environmental legislation than actual are.	+3/+1.30	0/+0.03	-1/-0.08	+2/+0.83
3	The poor are both victims and causers of environmental damage.	-2/-1.06	+2/+0.93	-3/-1.85	-1/-0.25
4	Sustainable Development is defined by satisfying the necessities of the presence, without sacrificing the needs of future generations.	+1/+0.16	+1/+0.41	-2/-0.90	+3/+1.25
5	Institutions cannot solve the environmental question.	-3/-1.07	-3/-1.72	+1/+0.28	+2/+0.90
6	Solution for the environmental question be protests of civil society.	0/+0.07	+1/+0.39	0/-0.03	-2/-0.74
7	The costs of development are payed by the poor or non-white people or by future generations.	-2/-0.68	+2/+0.79	-1/-0.26	-1/-0.60
8	The biggest problem isn't the depletability of resources but the consequences of their usage.	0/-0.20	0/+0.21	+2/+0.86	+1/+0.44
9	To understand sustainable development it is necessary to consider regional specifics, ideas of human repect, deep knowledge and love to nature.	+3/+1.15	+1/+0.31	+4/+1.57	-2/-0.87
10	In the past, work relations and relationship to the natural resources based on communitarian rights. Environmental Justice means to re-consider the antique understanding.	+1/+0.44	-2/-0.61	+3/+1.40	+4/+1.98
11	Development on island Algodoal-Maiandeuá is efficient and produces environmental justice.	-4/-1.74	-4/-1.82	-1/-0.55	-3/-1.08
12	The failure of environmental justice and sustainable development on Algodoal is significant due to cases of malaria and yellow fever.	-1/-0.35	+3/+1.18	0/+0.15	-3/-1.10
13	There are many cases of illegal buying, selling, and ownership of land. Environmental Justice means to finish this illegal possession.	+1/+0.46	-1/-0.07	0/+0.16	-1/-0.62
14	Environmental Justice means monitorization of enterprises to provide better environmental services.	+2/+0.76	-1/-0.16	-2/-0.80	+1/+0.78
15	The problem lies in under-representation of the Indians in the participation organs, which are culturally marginalized.	-1/-0.27	+3/+1.35	+1/+0.53	+3/+1.12
16	The institutions of the government don't know the needs of the traditional population on island Algodoal-Maiandeuá.	0/-0.25	-3/-1.48	-3/-1.08	0/-0.03
17	The influence of the different stakeholders on island Algodoal-Maiandeuá differes in accordance to their economical power, this fair since it is the salary of success.	-3/-1.45	-1/-0.20	+3/+0.98	0/+0.11
18	The majority of people don't have the opportunity to partake the environmental goods and suffer overproportionally. The conflict emerging from this situation must not be ignored (anymore).	+2/+0.68	+4/+1.60	+2/+0.82	+1/+0.16
19	Waste is the major problem in the APA Algodoal-Maiandeuá.	+4/+2.29	0/+0.04	-4/-1.95	0/-0.15

**Erstgutachten für die Dissertation zum Thema „Environmental Justice and Sustainable Development – With a Case Study in Brazil’s Amazon using Q Methodology“ am Fachbereich Politik- und Sozialwissenschaften der Freien Universität Berlin**

Theoriegeschichtliche Studien konnten mittlerweile „proto-umweltsoziologische Versatzstücke“ (M. Groß: Handbuch der Umweltsoziologie, 2011) schon in den klassischen Vertretern der Soziologie wie K. Marx, G. Simmel, M. Weber aufdecken. Als kohärentes und systematisches Forschungsfeld steckt die Umweltsoziologie allerdings noch in den Kinderschuhen. Dabei fehlen der neuen Teildisziplin stringente Kategorien, um an die Kernprobleme der Soziologie wie Fragestellungen zu sozialer Ungleichheit oder zum Verhältnis Individuum - Gesellschaft anzuschließen.

Die vorliegende Dissertation setzt sich zum Ziel, an diesem Defizit anzusetzen, indem sie „sociological contributions to the environment field“ unter besonderer Berücksichtigung des Bereichs der „environmental justice“ kritisch untersucht (s. 11). Die Arbeit ist in fünf Kapitel und einem knappen Schluss unterteilt.

Im ersten Abschnitt (*Introduction*, S. 6-29) werden die theoretischen und methodologischen Ausgangspunkte sowie die Relevanz und der Aufbau der Arbeit ausführlich dargestellt.

Kapitel 2 (*The Nature-Environment Complex in Environmental Sociology*, S. 30-93) beschreibt die historische Konstituierung der Umweltsoziologie und insbesondere die (fehlende) Behandlung der Umweltfragen in den Werken von K. Marx, E. Durkheim und Max Weber. Ein wichtiger Teil der Rekonstruktion durch den Dissertationsverfasser besteht aus einer kritischen Rezension von zwei Standardwerken zu dieser Thematik: Groß 2001 und Kraemer 2008. Es handelt sich bei diesem Kapitel allerdings um eine anschauliche und lesenswerte Bestandaufnahme, die zum Verständnis der weiteren Teile der Dissertation unentbehrlich ist. Der Verfasser stellt nämlich fest, dass es die Umweltsoziologie bislang verfehlt, die „dialectic of nature-society“ adäquat zu fassen. Er sieht seine Arbeit als einen Beitrag dazu, dieses Defizit zu korrigieren.

Kapitel 3 (*From Environmental Sociology to Sustainable Development and Environmental Justice*) geht sowohl auf die theoretisch-analytische Bildung, als auch auf die politisch-institutionelle „Karriere“ der beiden im Kapiteltitel genannten Begriffe ein. Hier rekurriert der Verfasser nicht nur auf die einschlägige, angelsächsische und deutsche Bibliographie, sondern auch auf die Auseinandersetzungen mit diesen Konzepten in Lateinamerika und insbesondere in Brasilien. Daraus ergibt sich eine bestens dokumentierte und vielseitig verankerte Begriffsgeschichte. Sie zeigt, dass das bekannte Bild der „travelling theory“ (E. Said) im Fall der beiden Begriffe andere Konturen annimmt. Denn es geht nicht um eine bloße Übertragung von Konzepten in die Zentrum-Peripherie Logik. Es lässt sich hier vielmehr feststellen, dass die Prägung der beiden Begriffe mit zähen politischen Verhandlungen zusammenhängt. Diese Aushandlungen erfolgen unter der Bedingung der auf den unterschiedlichen Ebenen (lokal, national, transnational) vorhandenen Machtasymmetrien; die Spielräume für die Berücksichtigung nicht hegemonialer Gerechtigkeitsargumente, vor allem im Fall der Diskussionen um die „environmental justice“, sind allerdings deutlich erkennbar.

In Kapitel 4 (*Case Study*, S. 162-247) beschäftigt sich der Verfasser damit, wie sich die Frage der Umweltgerechtigkeit im brasilianischen Amazonien stellt. Er unterscheidet zunächst zwischen einem „cultural regime“, einem „territorial regime“ und einem „development regime“, mit denen das „environmental regime“ einhergeht. Im Kapitel werden die historischen Hintergründe, sowie die institutionellen und rechtlichen Rahmenbedingungen, die das besagte „Umweltregime“ ausmachen, ausführlich und anschaulich dargestellt. Die Auswertung der erfassten Daten zur Untersuchung der Frage der Umweltgerechtigkeit fällt dabei ein wenig einseitig aus, da sich die Analyse auf den Teilaspekt

Umweltrassismus konzentriert. Weitere zentrale Komponenten der sozio-ökologischen Ungleichheiten, wie die geschlechtsspezifische aber auch die Klassendimension, werden dabei kaum berücksichtigt.

Kapitel 5 (*Case Study on Island Algodoal-Maiandeuá*) ist der lokalen Fallstudie auf der nordbrasilianischen Kleininsel Algodoal gewidmet. Da der Verfasser bereits seit über 10 Jahren die Entwicklungen auf der genannten Insel beobachtet, gelingt es ihm in diesem Abschnitt eine differenzierte und präzise Beschreibung des lokalen Kontexts darzustellen. Er zeigt sich in der Lage, die festgestellten Transformationen präzise einzuordnen und im Sinne seines Vorhabens zu analysieren. Die Auswertung der dort mit weiteren Expertinnen und Experten durchgeführten Interviews erfolgt nach der Methode der Q Methodology. Dies ermöglicht ihm, die Aussagen der Interviewpartners von ihrer genauen Gewichtung ausgehend in der Matrix der unterschiedlichen Positionen einzuordnen, die in den Debatten um nachhaltige Entwicklung und Umweltgerechtigkeit zu finden sind.

Das Schlussfazit („*Epilogue*“, S. 308-315) greift im Vergleich zu der gesamten Untersuchung zu kurz. Die zentrale Frage zu einer neuartigen Behandlung der Dialektik Gesellschaft-Natur bleibt dabei unbeantwortet.

Insgesamt handelt es sich jedoch bei der vorliegenden Dissertation um eine gründliche Untersuchung einer relevanten soziologischen Fragestellung. Die einschlägige Literatur wird dabei mitberücksichtigt und entsprechend interpretiert. Die empirische Forschung in Brasilien wurde auch gut konzipiert und auf der Grundlage adäquater Methoden durchgeführt und ausgewertet.

Dies führt zu meiner abschließenden Bewertung mit der Note:

magna cum laude.

Prof. Dr. Sérgio Costa

## **Gutachten**

### **Zur Dissertation von Goetz Kaufmann „Environmental Justice and Sustainable Development. A Case Study in Brazilian's Amazon using Q Methodology“**

Herr Kaufmann hat sich bei seiner Dissertation viel vorgenommen: Erstens will er die Entwicklung der Dialektik von Natur und Gesellschaft bei den Klassikern der Soziologie und den Autoren der Nachkriegszeit paradigmatisch herausarbeiten und dabei auch ihre kritischen Flanken offenlegen. Zweitens soll der Ursprung, die Ausdifferenzierung und Institutionalisierung der Konzepte Sustainability, Sustainable Development und Environmental Justice als mehrdimensional Ökonomie, Gesellschaft und Natur verbindende Konzepte aus ihren vielfältigen disziplinären Zusammenhängen herausgearbeitet und in ihren jeweiligen Begrenzungen kritisiert werden. Drittens will er am Beispiel des Schutzgebietes einer Insel in brasilianischen Amazonien die Aussagekraft und Tragfähigkeit der genannten Konzepte vor allem anhand einer Diskursanalyse mit der Q Methodik analysieren. Zusammenfassend betrachtet gelingt es dem Autor bei der Behandlung der 3 Themenfelder die wesentlichen Stränge der jeweiligen Problematik auf differenzierte aber auch sehr eigenwillige Weise herauszuarbeiten.

In **Kapitel 2** „The nature-environmental-sustainability complex in environmental sociology“ (S 30-93) gibt der Autor zunächst einen gebündelten Abriss des Beitrags der klassischen Soziologen Marx, Weber und Durkheim zu den Konzepten „social nature“ und „dialectic of nature-society“. Die Darstellung folgt nach den Angaben des Autors weitgehend den jüngeren Standardwerken von R Grundmann „Marxism and ecology“ 1991, Mathias Gross „Die Natur der Gesellschaft“ 2001 und Klaus Kraemer „Die soziale Konstitution der Umwelt“ 2008. Die Kapitel zu Durkheim und Weber dokumentieren das von einer totalen Naturvergessenheit dieser Autoren nicht die Rede sein kann. Durkheim konnte trotz seines Verdiktums Soziales nur durch Soziales erklären zu wollen dennoch bei der Darstellung der Entwicklung der gesellschaftlichen Arbeitsteilung nicht auf materielle Substrate wie die Beschaffenheit von Boden und Klima, der dynamische Bevölkerungsdichte und der moralischen Dichte als Erklärungsfaktoren verzichten. Zusammen mit seinem Spätwerk über primitive Gesellschaften tendiert Durkheim dabei zunehmend zu einer Naturalisierung gesellschaftlicher Entwicklung (was ihn in die Nähe zeitgenössischer Vertreter der deep ecology bringt). Im Unterschied zu Durkheim besitzt Weber bereits eine klare Sicht von der Endlichkeit der Naturressourcen, die zusammen mit der grenzenlosen kapitalistischen Entwicklungsdynamik früher oder später zum Raubbau, zur Naturausbeutung und Naturzerstörung führen muss. Damit sieht er wie der Club of Rome auch die Gefahr einer Selbstzerstörung der modernen Zivilisation. Dies bezieht er vor allem auf die Endlichkeit der fossilen Energieträger, die einst die Energiekrise (Holzkohlenfeuerung und Entwaldung weiter Regionen Englands) im entstehenden Kapitalismus überwinden konnten. Während die Kapitel über Durkheim und Weber einen gerafften Überblick über den state of art geben ohne neue Aspekte hinzufügen zu können, enthält der weitaus größere Abschnitt über Marx eine ausführlichere Darlegung des gesellschaftlichen Naturverhältnisses, in dem ansatzweise alle relevanten Parameter der modernen politischen Ökologie bereits behandelt werden. Auf eine ausführliche Darstellung kann hier verzichtet werden, da der Autor im wesentlichen dem Schlüsselwerk von Grundmann folgend die zentralen Beiträge und Probleme der vielschichtigen marxischen Diskussion (Frühwerk versus Spätwerk, Gebrauchswert vs. Tauschwert) prägnant darstellt. Der Vorzug der Behandlung der Naturproblematik bei den drei Klassikern der Soziologie war sicherlich, aufzuzeigen dass bei ihnen sehr wohl (im Gegensatz zu Behauptungen der Nachkriegssoziologen) ein differenzierter Begriff von Natur und gesellschaftlichen Naturverhältnissen vorhanden ist. Ebenso zeigen Marx und Weber auf paradigmatische Weise den Widerspruch zwischen ungebremster Wachstumsdynamik und Naturzerstörung auf. Dennoch war ihr Einfluss auf die Wiedereinführung der Natur in die Soziologie der 70er Jahre nur begrenzt, da die oben zitierten Teile des weberschen Werkes einfach vergessen wurden und Marx ebenfalls aufgrund einer vereinseitigen Lektüre in die Kritiklinie der Naturvergessenheit geriet. Auf die Klassiker hätte zunächst ein Kapitel über die Vorläufer der modernen Umweltsoziologie der Chicagoschule um Park im Anschluss an Simmel in den 20er



Jahren sowie die zeitgleiche Kritik der Naturbeherrschung der Frankfurter Schule folgen können, um dann die Herausbildung der modernen Umweltsoziologie in den USA (Cutton, Dunlap, Schnaiberg, Buttel, Douglas, Hannigan) der 70er Jahre und zeitversetzt in Europa (Beck, Giddens) in den 80 und 90er Jahren darzustellen. Sowohl Gross wie Kraemer gehen diesen Weg, wenn sehr unterschiedlich: Gross betont überproportional die Parkschule als zentraler Vorläufer der amerikanischen Umweltsoziologie vor allem in Gestalt des New Ecological Paradigm von Dunlap und Cutton 1978, während Kraemer Luhmann, Giddens sowie die Konzepte des gesellschaftlichen Metabolismus (Fischer Kowalki) stärker hervorhebt. Kaufmann geht einen anderen Weg: Anstatt zumindestens die Herausbildung des amerikanischen und des europäischen Stranges der Umweltsoziologie auf prägnante Weise herauszuarbeiten und ihre theoretischen Defizite zu benennen, presst er im **Schlussabschnitt 2.5** (S. 67-93) „Pre and post world war II contribution“ die verschiedensten Autoren und Perspektiven in einen Abschnitt. Er geht er zwar auf die Parkschule und deren Fortentwicklung bei Cutton/Dunlap in den 70er Jahren ein, wobei auch Duncan und Latour erwähnt werden. Die Darstellung und Kritik bleiben in ersten Ansätzen stecken. Die von der Parkschule vollzogene Wende von einer soziologischen zu einer eher ökologischen Perspektive als Kontrastprogramm zur klassischen Soziologie wurde durch Cutton/Dunlap zu einer zunehmenden Aufgabe einer gesellschaftstheoretischen Analyse zugunsten einer holistischen Ökosystemperspektive und damit des berechtigten Vorwurfs des biologischen Determinismus weiterentwickelt. Die eher realistische Perspektive von Cutton/Dunlap wurde zwar dann in den 90er Jahren durch die eher konstruktivistische Perspektive von Buttel, Hannigan und Douglas erweitert. Die damit verbundenen erheblichen theoretischen Diskussionen um das Verhältnis von Mensch, Natur und Gesellschaft werden von Kaufmann nur kurz angedeutet. Dadurch verschenkt sich der Autor wesentliche Elemente für eine reformulierte Umweltsoziologie. Schlagend klar wird dies bei der vollkommen unzureichenden Behandlung von Giddens und Beck als zentralen Autoren der 80 und 90er Jahre in Europa aber auch zunehmend in den USA und Lateinamerika. Von Giddens wird relativ ausführlich die Strukturalisierungstheorie behandelt (die aber im Kontext der Umweltproblematik kaum Bedeutung hat), mit keinem Wort aber die umweltsoziologischen zahlreichen Werke ab 1990. Und Beck taucht nur zweimal auf ohne jede Diskussion aber auch ohne Kritik (übrigens wenn man Becks Position nicht mag ist das kein Grund ihn nicht zu diskutieren). Dann wird Popitz bemüht, der nun wirklich keinerlei internationalen Einfluss auf die Diskussion gehabt hat. Gehlen, Bloch, Adorno und Luhmann: alles wichtige Autoren die aber in diesen Sammelsuriumkapitel nicht richtig zur Geltung kommen. Bedingt durch diese bruchstückhafte Behandlung der verschiedenen Tendenzen der neuen Umweltsoziologie kommt der Autor nicht dazu, einige grundlegende Reflexionen über die theoretischen Bruchstellen dieser Ansätze anzustellen auch unter der Fragestellung was ihr Beitrag für Sustainable Development und Environmental Justice war. Ich habe die Vermutung, dass aufgrund des klassifikatorischen, holistischen und konstruktivistischen Ansatzes der Beitrag äußerst gering war. Aber das müsste überprüft werden.

### **3. Kapitel: From Environmental Sociology to Sustainable Development and Environmental Justice (S 94-161)**

Leider ist dieser hier angekündigte Übergang von der Umweltsoziologie zur Sustainable Development (ab jetzt SD) und Environmental Justice (EJ) bruchstückhaft geblieben, was der Autor am Anfang dieses Kapitels auch freimütig einräumt.

Bei der Darstellung der Herausbildung des neuen Konzepts Sustainable Development (SD) verfolgt Kaufmann offensichtlich in Anlehnung an Huber eine Erklärungsstrategie, die nicht zwischen Sustainability und SD unterscheidet und daher die Phasen der Sustainable Development in emergence (1960-1972), to boost (1973-1983) to transition (1983-1992) to assimilation (1990/92-2000) einteilt (S.109). Die erste „usage of Sustainable Development“ wird sogar noch wesentlich früher an die Anweisung zum nachhaltigen Holzeinschlag (nur so viel als auch nachwachsen kann) durch Carlowitz 1713 festgemacht. Nach dem 2. Weltkrieg wurde dann in Deutschland 1952 durch die Interparlamentarische Arbeitsgemeinschaft eine naturgemäße Wirtschaftsweise propagiert (S.97). Dann tauchen in den 60 und 70er Jahren die neuen Umweltbewegungen vor allem in den USA als Aktivisten für den Umweltschutz auf. Die ecological limits to growth werden dann vom Club of Rome und Meadows 1972, davor bereits von Hardin 1967 und Ehrlicher 1968 mit mathematischen Modelle nachgewiesen. Das alles mündet dann 1972 in der ersten internationalen Umweltkonferenz der UNO in Stockholm, die von Kaufmann als landmark des Umweltschutzes bezeichnet

wird aber noch nicht über a general term or written definition of sustainabel development verfügt (S. 129). In diesem Passus folgt er der Studie von Nobre, an der er sich teilweise orientiert hat. In diesem Passus relativiert Kaufmann seine davor und danach geäußerte Ansicht im Anschluss an Huber von den Phasen der SD die bereits 1960 wenn nicht gar 1952 oder 1713 eingesetzt hätten. Aber auf S.137 sieht auch Kaufmann in Anschluss an Nobre S 25 das die Unterscheidung zwischen sustainable development und sustainability von grundlegender Bedeutung ist. Da er sich aber eher an der relevanten Umweltgesetzgebung orientiert, meint er das Stockholm trotz eines fehlenden Begriffs für SD der zentrale Ausgangspunkt für die Karriere dieses Konzepts war , was dann auf der nächsten UNO Umweltkonferenz 1992 in Rio fortgesetzt wurde. Der Brundtlandreport, der überhaupt zum ersten Mal sehr bewusst nicht von Sustainability redet sondern das Konzept Sustainable Development als Begriff einführt (eine ähnliche Begriffsverwendung 1980 durch die World Conservation Strategy zielte nur auf die Konservierung of living ressources ab).Dem Brundtlandreport kommt nach Kaufmann aber nur eine untergeordnete Bedeutung im Vergleich zu Stockholm zu, da auf letzterer bereits das Prinzip der zukünftigen Generationen formulierte wurde. Ebenso wenig geht er auf die neue von Maurice Strong initiierte und Ignacy Sachs untermauerte Ecodevelopment, die Grundbedürfnisstrategie der Weltbank, die zahlreichen Konferenzen in der Dritten Welt wie der in Cocoyoc/Mexico und dem Dag Hammarskjöld Bericht über oligarchische Lebensstile im Norden und der Eliten des Südens und eine andersartige Entwicklung ein. In diesen Initiativen wurde bereits klares noch als bei Brundtland der strukturell ungleiche internationale, nationale und lokale Zugang zu Ressourcen als Machtproblem thematisiert (eine Vorwegnahme der Environmental Justice). An dieser von Kaufmann vertretenen Sichtweise der Herausbildung des neuen Konzepts SD muss ich kritisch ansetzen. Kaufmann verfolgt hartnäckig eine Interpretationsperspektive, die in vieler Hinsicht relativ originell ist indem sie sich nicht den dominierenden Sichtweisen folgt. Dies stellt an sich kein Problem dar, da das gesamte Diskussionsfeld sowie der mehrschichtige Diskursraum von Sustainability, Sustainable development und Environmental Justice ein hohes Maß an konkurrierenden Interpretationen aufweist, die sich oft diametral widersprechen können. Eine in der gängigen Literatur verfolgte Darstellungsstrategie wär die Konfrontation unterschiedlicher Interpretationen, um deren jeweilige Bedeutung aber auch Begrenzung herauszuarbeiten. Kaufmann wählt diese Strategie nur teilweise, da er versucht eher eine der gängigen Interpretation widersprechende oder korrigierende Sichtweise zu entfalten. Ich werde versuche dies an zentralen Interpretationsbruchstellen zu verdeutlichen.

Erstens unterscheidet der Autor nicht deutlich genug Sustainability von Sustainable Development. Dies ist leider auch in einem Teil der einschlägigen Literatur der Fall, und führt auch dort zu Darstellungsproblemen. Die große Mehrheit der einschlägigen Autoren verbindet SD erst mit dem Brundtlandbericht 1987, während davor die Problemstellung eher auf sustainability ausgerichtet war d.h. die ökologisch physischen Grenzen der natürlichen Ressourcen oder die Begrenzung der Aufnahmefähigkeit für Abfälle (Hardin 1967, Ehrlicher 1968, Meadows Limits of growth 1972). Dies gilt auch noch für die Stockholmkonferenz 1972, in dem die Interessen der Industrieländer dominierten, die industrielle Verschmutzung zu begrenzen, die Ökosysteme zu schützen, das Bevölkerungswachstum in der Dritten Welt einzuschränken und insgesamt zu einem schonenderen Ressourcenverbrauch vor allem von Erdöl nach der Preisexplosion 1972 beizutragen. In der Stockholmkonferenz dominierte die Sichtweise des Club of Rome und Meadows also Grenzen der Sustainability und nicht SD. Die Industrieländer stellten nur auf die Ressourcenprobleme und onkologische constraints in den Vordergrund, während die Entwicklungsländer diese Sichtweise krass ablehnten, Armut als Hauptursache der Umweltprobleme erklärten und daher auf mehr Wachstum mit Hilfe des Nordens setzten. Trotz weitergehender Ansätze beim Generalsekretär Maurice Strong, der im wesentlich dafür verantwortlich war „die heilige Verantwortung die Umwelt zu schützen und zu verbessern für die gegenwärtige und zukünftige Generationen“ im ersten Prinzip der Stockholmerklaerung einzufügen: ein Vorgriff auf Brundtland aber ohne die entsprechende Verbindung zur nachhaltigen Entwicklung. Stockholm d.h. die Industrieländer blieben im Wesentlichen beim Schutz der Ökosystem und der natürlichen Ressourcen stehen (was auch Kaufmann S 129-136 ausführlich dokumentiert), der Entwicklungspart blieb bei der Minoritätenmeinung der Dritten Welt . So konnte natürlich kein gemeinsames Konzept entstehen wie Umweltschutz mit sozialer und ökonomischer Entwicklung zu verbinden wäre. Während die Industrieländer auch nach Kaufmann auf einer Position des bioenvironmentalism beharrten und die Entwicklungsproblem der Südens negierten, stand für den Süden die Armut und damit das Entwicklungsproblem so sehr im

Vordergrund, das eine damit verbunden vermehrte Umweltverschmutzung als notwendiger Preis der Entwicklung angesehen wurde. Also trotz des erklärten Ziels Umwelt mit Entwicklung zu verbinden, dominierte in Norden und Süden jeweils nur einer beiden Pole. Dennoch war diese krasse Entgegensetzung für die weitere Entwicklung hilfreich. Nach Stockholm war es Initiativen aus dem Süden bzw. von Intellektuellen, die sich mit den Problemen des Südens identifizierten, die zu einer schrittweisen Überwindung des krassen Gegensatzes zwischen Umwelt und Entwicklung wesentlich beitrugen: Eine Initiative von einer kleinen Vorbereitungskonferenz für Stockholm in Founex in der Schweiz von 1971 aufnehmend kreierte Maurice Strong als neuer Generalsekretär der UNEP 1973 das Konzept des *ecodevelopment*, das dann von Ignacy Sachs weiterentwickelt wurde. In den 70er Jahren wurde dann das Verhältnis zwischen Umwelt und Entwicklung zunehmend politisiert und aus dem Blickwinkel des Südens radikalisiert: Von der Unep und der Unctad wurde 1974 in Cocoyok /Mexico ein internationales Symposium durchgeführt, in dem der ungleiche Zugang zu Ressourcen zwischen sowie auch innerhalb der Nationen als strukturelles Machtproblem thematisiert und der oligarchische Lebensstil des Nordens aber auch der Eliten des Südens als hauptverantwortlich für das Umweltproblem dargestellt wurde. Wenn ich recht sehe wurden die Themen der Environmental Justice bereits hier weitgehend entwickelt. Der Dag Hammarskoeld Bericht von 1975 versuchte eine von Strong aufgeworfene Frage zu beantworten: " Können wir die menschlichen Grundbedürfnisse befriedigen, ohne die Ressourcen und Umwelt gesetzten äußeren Grenzen zu überschreiten." (Harborth Dauerhafte Entwicklung statt globaler Selbstzerstörung Berlin Sigma 1991 S.35). Leider sind die 70er Jahren weitgehend in Vergessenheit geraten obwohl dies die aktivste Phase an Initiativen aus dem Süden und von am ihm orientierten Intellektuellen zu alternativen Sichtweisen über ein umweltgerechtes Entwicklungsmuster vor allem für die Länder des Südens waren. Das offiziell eingeräumte Scheitern der Modernisierungsstrategie durch Weltbankchef McNamara in Nairobi 1974, dem Bedeutungsaufschwung der Dependenztheorien, der Grundbedürfnisorientierung der Weltbank, der self-reliance Bewegungen in Afrika und Asien, vor allem aber der Hegemonie keynesianistischer Wirtschafts- und Entwicklungspolitiken vor der radikalen neoliberalen Wende 1979/1980 schufen zum ersten Mal ein Umfeld, in dem alternative Entwicklungsstrategien sogar von der Weltbank und der offiziellen Entwicklungshilfepolitik der Industrieländer aktiv gefördert wurden.

Ein Hauptproblem der meisten Arbeiten über SD liegt m. E. im Ausblenden der gewaltigen Veränderungen, die auf die neoliberale Revolution in den USA und GB folgten. Innerhalb weniger Monate wurde die Weltbank auf Anweisung von Reagan und durchgeführt von Krueger fast vollständig gesäubert. Damit verschwand der Keynesianismus, die Grundbedürfnisstrategie, die Armutsbekämpfungsprogramme aber eben auch die Förderung alternativer Ansätze umwelt- und armutgerechter Entwicklung aus dem Blickwinkel und der Finanzierung.

Vor diesem Hintergrund erst wird die zentrale Bedeutung des Brundtlandreport deutlich. Seine Schwachstellen wie die starke Betonung von Markt und Wachstum waren der Preis für die neue, neoliberale Umwelt. Aber der Brundtlandreport war auch subversiv: wieder angeführt von Strong blieben viele der zentralen Themen der 70er Jahre wenn auch in abgemilderter Form erhalten: der international und national ungleiche Zugang zu Ressourcen, die Priorität der Grundbedürfnisbefriedigung, Sicherstellung der Nahrungsmittelversorgung, Armut als zentrale Quelle von Umweltproblemen ,die intergenerationalen und intragenerationalen Ausgleichsprozess, Senkung der oligarchischen Konsumstandarts und der strukturelle Nord Süd Gegensatz. Ebenso bedeutsam war aber auch die Konstruktion eines Konzeptes das fähig sein sollte sowohl die Interessen des Nordens als auch des Südens auf kooperative Weise zu verbinden. Der Preis dafür war ein ökologisch gesehen vollkommen unrealistische Wachstumsziele um die Armut als Hauptursache der Umweltproblematik zu entschärfen. Aber diese Wachstumsapologetik war keine neoliberale, was sich mit einer Diskursanalyse leicht nachweisen lässt. Sie entsprang noch keynesianisch orientierten Entwicklungspolitiken der 70er Jahre.

Der entscheidende Durchbruch aber war die Entwicklung eines multidimensionalen Konzepts das ökonomische Entwicklung, Sustainability und Gesellschaft auf komplexe Weise miteinander verknüpft ohne das eines von diesen Elementen dominieren darf. Natürlich musste dieses Konzept einen gewissen Grad an Unbestimmtheit und damit auch Vagheit aufweisen. Aber dies war der Preis für ein mehrdimensionales Entwicklungskonzept. Die an Brundtland anknüpfende politische und theoretische Diskussion hat das die Polarisierung der Positionen verdeutlicht: Einerseits die ecological economics mit zwei Varianten der Nachhaltigkeit: Einer starken der bioenvironmentlists wie Daly und einer dominierenden schwachen wie bei

Pearce und der Weltbank. Bei der ersten muss das natürliche Kapital konstant gehalten werden (was thermodynamisch nicht denkbar ist), bei der zweiten kann natürliches Kapital durch andere Kapitalformen ersetzt werden. Wohlgermerkt auch hier geht es eher um Sustainability als um SD. Andererseits Versuche nachhaltige Entwicklung mit Partizipation der lokalen Akteure und lokaler governance zu verbinden. Die ganze Bandbreite der möglichen Positionen wird durch den von Kaufmann von Clapp/Dauvergne 2005 übernommenen vier world views on global environmental change deutlich gemacht. Die Autoren unterscheiden market liberals, institutionalists, bioenvironmentalists und social greens. Nach den Autoren soll Brundtland angeblich die Inkarnation der market liberals aber auch der institutionalists sein, während die bioenvironmentalists Daly und strong version of sustainability repräsentieren und die social greens eher die soziale Seite radikal vertreten. Bei Clapp etc. ist die klare einseitige Zuweisung zu den Weltansichten eindeutig, bei Kaufmann verwandeln sie sich aber in 4 ideal typed discourses on Sustainable development (S.114). Auch hier zeigt sich für mich dass es sinnvoller ist von einer rigiden Trennung von Sustainability und Sustainable Development auszugehen, und die angedeuteten Konfusionen zu vermeiden.

Im Unterabschnitt **3.2. Environmental Justice** (S.145-161) vertritt Kaufmann die Ansicht, dass die aus dem lokalen Widerstand sozial aber vor allen auch ökologisch benachteiligter Minderheiten (Afroamerikaner, alleinstehende Frauen, Hispanics) in den USA der 70er Jahre entstandene neue Basisbewegung für EJ auf der gleichen Stufe wie SD steht, aber an konkretem Bezug, klarer Orientierung an der ungleichen Verteilung von Ressourcen und Chancen durch toxische Gifte vergiftet zu werden als das lokale und radikalere Konzept der Nachhaltigen Entwicklung eindeutig überlegen sei. Dagegen muss ich einwenden, dass die beiden Konzepte keineswegs auf der gleichen Ebene liegen (dies ist gerade auch ihr Vorteil): Environmental Justice bekämpft auf teilweise militante Weise die Ungleichheit in Bezug auf environmental goods, environmental risks im Prinzip innerhalb der Systems. Die Bedürfnisse zukünftiger Generationen, die Kaufmann als abstrakt bezeichnet, werden dabei soweit ich sehe nicht mit ins Blickfeld genommen. Die EJ kann und will daher keine Antwort auf die abstraktere Frage des gerechten Zugangs für zukünftige Generationen geben. Sustainable Development thematisiert zumindest im Brundtlandbericht sehr wohl klar und deutlich den ungleichen Zugang zu environmental goods, bads and risks aber auch für zukünftigere Generationen. Der Brundtlandbericht hat die vom Süden in 70er Jahren dramatisierte Nord-Süd-Ungleichheit zumindest verbal übernommen. Natürlich sind die Diskurse im Feld der SD wesentlich komplexer als die im Feld der EJ.

#### **4. Case Study (S.162-241)**

Diese lange Kapitel ist eigentlich keine Case Study, sondern eine Darstellung des nationalen Kontexts für die darauf auf S 242 folgende Fallstudie der Insel Algodoal. Der Autor versucht dabei aufzuzeigen wie von den drei territorialen, kulturellen und ökonomischen Regimen das Umweltregime geschaffen wird (S.171). Das Umweltregime besteht aber primär aus der Umweltgesetzgebung und für die folgende Fallstudie relevant die juristische Form der APA einer Umweltschutzzone. Die oft langatmigen Ausführungen zu den verschiedenen Regimen ist bei aller Reichhaltigkeit an Informationen unter systematischen Gesichtspunkten weitgehend redundant. Vor allem erfolgt überhaupt keine Diskussion wodurch eigentlich diese Regime konstituiert werden.

#### **5. Fallstudien Algodoal**

Wie in der Diplomarbeit erfolgt eine detaillierte Beschreibung der Insel unter allen denkbaren Gesichtspunkten. Die dabei auftretenden Probleme konzentrieren sich auf wenige Punkte: Einmal das Problem der ethnischen Zugehörigkeit der Inselbewohner. Nach allen mir bekannten Studien aber auch nach dem Interview mit Christine Nogueiro lässt sich der Sachverhalt einfach zusammenfassen: die Gruppe der nativos, die in den 20 Jahren eingewandert sind oder auf der Insel geboren wurden und die Neuankömmlinge im Zuge des gewaltig expandierenden saisonalen Tourismus. Wie Kaufmann dokumentiert sind die nativos in keiner Führungsposition vertreten, viele haben ihre Fischerei reduziert, ihre Hütten auf der Anhöhe an Fremde verkauft und sind illegal in die Mangroven gezogen, in denen sich das ökologische Hauptproblem, der sich dramatisch ansammelnde Müll, auf dieser Insel ohne Müllentsorgung aber expandierenden Tourismus konzentriert.

Kaufmann tendiert dazu, diese nativos als Indigene, die im Prinzip schon Jahrhunderte in der Region ansässig waren, zu behandeln. Er versucht dies auch mit der Existenz des Carimbo und zahlreicher Mythen zu belegen. Wenn dem so wäre diese Gruppe bestens für die EJ geeignet. Aber erstens reichen diese Indizien nicht aus und zweitens waren es die nativos die -wie Kaufmann selbst zugesteht- aus Interesse an einem besseren Leben, ihr Hütten verkauft haben und die Zerstörung der Mangroven aktiv betreiben. Zur Erklärung dieser traurigen Vorkommnisse hilft das hervorragende Interview mit Christiane Nogueiro, der Vertreterin der Umweltbehörde, im Anhang bestens weiter. In einfachen Worten ist sie fähig eine komplexe Beschreibung und Analyse der verzwickten Situation auf Algodoal zu geben. Für mich wären diese Interviews mit aufmerksamen Beobachtern schon vollkommen ausreichend.

Aber Kaufmann verfolgte ein ambitionierteres Ziel. Er wollte am Beispiel Algodoals die Tragfähigkeit einer neuen Methodik zur Diskursanalyse der Q Analyse nachweisen. Dieses Analyseverfahren wird zunehmend gerade für Probleme der nachhaltigen Entwicklung und der dabei auftretenden Ziel -Konflikte, die sich in Divergenzen der Diskurse ausdrücken, angewandt. Kaufmann wendet mit viel Raffinesse dieses komplexe Evaluierungssystem auf die verschiedenen stakeholder in Algodoal an. M.E. schlägt sich dabei der große Aufwand auch an mathematischen Aufarbeitungen nur zum Teil in wirklich neuen Resultaten nieder. Aber Kaufmann zeigt, dass diese Methode funktioniert und vielleicht für komplexere Zusammenhänge als die APA Algodoal besser geeignet ist. Auch ein Ergebnis.

Die Problem der Anwendung der Q Methode in der Version von Kaufmann ergibt sich dabei auch aus dem Widerspruch, dass einerseits Kaufmann von juristisch eindeutigen Verhältnisse in diesem Umweltschutzgebiet zunächst ausgeht (es gibt kein Privateigentum an Land), dann aber die Analyse auf de facto Besitzansprüche umstellen muss. Die simple Tatsache das die zuständige Umweltbehörde kein Interesse, keine Legitimation und daher auch keine Macht hat, die nativos aus den Mangroven im Namen des Umweltschutzes auszuweisen verweist auf den Vorrang des Desenvolvimento sustentavel vor der Sustainability . Dies wird im Diskurs der Repräsentantin der Umweltbehörde Nogueiro auch überdeutlich. Ich hätte an Kaufmann Stelle diesen 4 seitigen Diskurs zum Hauptbestandteil der Diskursanalyse gemacht.

Was folgt nun aus Darstellung und Kritik der Dissertation von Kaufmann? Ich habe mich bewusst eher auf die zahlreichen Interpretationsprobleme bezogen als auf die vielen positiven Seiten der Arbeit. Wie die Ausführlichkeit der Kritik zeigt, handelt es sich bei der Dissertation um einen ambitionierten Versuch sowohl die Geschichte des Natur-Gesellschaftsverhältnisses innerhalb der Soziologie als auch die Konstitutionsbedingungen der Diskurse Nachhaltige Entwicklung und Umweltgerechtigkeit zu rekonstruieren. Kaufmann schlägt dabei eine vom Mainstream abweichende Interpretationslinie ein. Dabei bleibt natürlich auch noch die Frage offen bleibt, wodurch eigentlich dieser Mainstream in der SD debate gekennzeichnet ist. Kaufmann Arbeit zwingt einen dazu, diese Frage neu zu stellen: denn offensichtlich gibt es verschiedene Mainstream, was natürlich logisch nicht möglich ist. Bereits das Verhältnis von SD zu EJ verdoppelt nochmals das Analyseproblem: liegen nun diesen beiden Paradigmen auf der gleichen Ebene oder nicht?

Kaufmann hat durch seine in vielem provokante eigenwillige Aufarbeitung einen Anstoß zur erneuerten Reflexion über den Status dieser Paradigmen geliefert. Schon deshalb sollte bei der Bewertung der Arbeit eher dieser Aspekt stärker gewichtet werden als viele der von mir angeführten Kritiken an einzelnen Ausarbeitungen.

Ich schlage daher vor, die Dissertation mit magna cum laude zu bewerten.

Belem, 6.02.2012

Prof. Dr. Thomas Hurtienne

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## Abbreviations

ABS.....	Absolute Value
ACDESPIM.....	Associação Comunitária do DESEnvolvimento e Preservação da Ilha de Maiandeuá-algodoal
ACPAVA.....	Associação Comunitária Pescadores Artesanais da Vila de Algodóal
AETA.....	Associação de Empreendedores de Turismo de Algodóal
AGIL.....	Adaptation-Goal Attainment-Integration-Latency
ALMA.....	Associação dos Lancheiros Marudá-Algodóal
APA.....	Área de Proteção Ambiental
APP.....	Área de Preservação Permanente
ARIE.....	Área de Relevante Interesse Ecológico
ARPA.....	Áreas Protegidas da Amazônia
BC.....	Before Christ
CELPA.....	Centrais Elétricas do Pará S.A
CGEN.....	Conselho de Gestão do Patrimônio Genético
CGT.....	Confederação Geral dos Trabalhadores
CLIMAM.....	Cooperativa dos Lancheiros da ilha de Algodóal – Marudá
COP.....	Conference of the Parties
CUT.....	Central Única dos Trabalhadores
DCBio.....	Conselho do Departamento de Biologia
DEMA.....	Delegacia Especializada em Crimes contra o Meio Ambiente
EE.....	Estação Ecológica
EIA.....	Estudos de Impacto Ambiental
EIU.....	Economist Intelligence Unit
EJ.....	Environmental Justice
EP.....	Exchange Process
ES.....	estadual [state]
EV.....	Exchange Value
FASE.....	Federação de Órgãos para Assistência Social e Educacional
FLO.....	Floresta
FS.....	Força Sindical
GAF.....	Grupo Ambiental de Fortalezinha
GDP.....	Gross Domestic Product
GEMA.....	Grupo Ecológico Maiandeuá
GNP.....	Gross National Product
GPI.....	Genuine Progress Indicator
HEP.....	Human Exceptionalism Paradigm
HistoMat.....	Historic Materialism
IBAMA.....	Instituto Brasileiro de Meio Ambiente e Recursos Naturais Renováveis
IBASE.....	Instituto Brasileiro de Análises Sociais e Econômicas
IBDF.....	Instituto Brasileiro de Desenvolvimento Florestal
IBGE.....	Instituto Brasileiro de Geografia e Estatística
ICJ.....	International Court of Justice
ICMBio.....	Instituto Chico Mendes de Conservação da Biodiversidade
IFG.....	International Forum on Globalization
ILO.....	International Labour Organisation
IPA.....	Interparlamentarische Arbeitsgemeinschaft für naturgemäße Wirtschaftsweise
IPCC.....	Intergovernmental Panel on Climate Change
IPPUR.....	Instituto de Pesquisa e Planejamento Urbano e Regional
ISA.....	Instituto Socioambiental

## *Environmental Justice and Sustainable Development*

ISEW.....	Index of Sustainable Economic Welfare
MMA.....	Ministério do Meio Ambiente
MME.....	Ministério de Minas e Energia
MN.....	Monumento Natural
MPEG.....	Museu Paraense Emílio Goeldi
MU.....	municipal [municipal]
NA.....	nacional [national]
NEP.....	New Environmental Paradigm
NGO.....	Non-Governmental Organisation
NIABY.....	Not In Anyone's Backyard
NIMBY.....	Not In My Backyard
NPCELS.....	National People of Color Environment Leadership Summit
NRPP.....	Núcleo de Reologia e Processamento de Polímeros
ORLA.....	O Projeto de Gestão Integrada da Orla Marítima
OSPAAAL.....	Organisación Solidaridad de los Pueblos de África, Asia y América Latina
PAR.....	Parque
PARATUR.....	Órgão Oficial de Turismo do Pará
PCA.....	Principle Component Analysis
PCSD.....	President's Council on Sustainable Development
PDA/PDPI.....	Subprograma de Projetos Demonstrativos/Projetos Demonstrativos dos Povos Indígenas
PHA.....	Productive Human Activity
PNMA.....	Programa Nacional do Meio Ambiente
P-O-E-T.....	Population-Organisation-Environment-Technology
PPG7.....	Programa Piloto para a Conservação das Florestas Tropicais Brasileiras
PT.....	Partido dos Trabalhadores
RAPPAM.....	Rapid Assessment and Prioritization of Protected Area Management
RBJA.....	Rede Brasileira de Justiça Ambiental
RDS.....	Reserva de Desenvolvimento Sustentável
REBIO.....	Reserva Biológica
REFA.....	Reserva de Fauna
RESEX.....	Reserva Extrativista
RFB.....	República Federativa do Brasil
RIMA.....	Relatórios de Impacto Ambiental
RL.....	Reservas Legais
RPPN.....	Reserva Particular do Patrimônio Natural
RVS.....	Refúgio de Vida Silvestre
SD.....	Sustainable Development
SECTAM.....	Secretaria de Estado de Tecnologia e Meio Ambiente
SEMA.....	Secretaria Estadual do Meio Ambiente
SESPA.....	Secretaria de Estado e Saúde Pública
SIPAM.....	Sistema de Proteção da Amazônia
SIVAM.....	Sistema de Vigilância da Amazônia
SLAP.....	Sistema de Licenciamento de Atividades Poluidoras
SNUC.....	Sistema Nacional de Unidades de Conservação
SPU/PA.....	Superintendência de Patrimônio da União no Estado do Pará
SSE.....	Steady State Economy
SUATÁ.....	Associação Pró-Ilha de Algodão-Maiandeuá
T.....	Kendall's rank-order correlation coefficient
TI.....	Terras Indígenas
TWN.....	Third World Network
UC.....	Unidade de Conservação
UFF.....	Universidade Federal de Fluminense

UFPA.....	Universidade Federal do Pará
UFRJ.....	Universidade Federal de Rio de Janeiro
UN.....	United Nations
UNCCC.....	United Nations Conference on Climate Change
UNCED.....	United Nations Conference on Environment and Development
UNCHE.....	United Nations Conference on the Human Environment
UNEP.....	United Nations Environment Program
UNFCCC.....	United Nations Framework Convention on Climate Change
UPI.....	Unidades de Proteção Integral
US.....	United States
USA.....	United States of America
UUS.....	Unidades do Uso Sustentável
UV.....	Use Value
VF.....	Value Form
W.....	Kendall's coefficient of concordance
WB.....	World Bank
WBSCSD.....	World Business Council for Sustainable Development
WCED.....	United Nations World Commission on Environment and Development
WCPA.....	World Commission on Protected Areas
WSSD.....	United Nations World Summit on Sustainable Development
WTA.....	willingness-to-accept
WTO.....	World Trade Organisation
WTP.....	willingness-to-pay
WW II.....	World War II
WWF.....	World Wide Fund For Nature
ZEE.....	Zoneamento Ecológico Econômico