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The mobilization of international expertise for global governance in IAASTD: a failure in consensus or a successful advocacy strategy?

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Abstract (300 mots)

Initiated in 2002 by the World Bank and the Food and Agriculture Organization (FAO), the International Assessment of Agricultural Knowledge, Science and Technology for Development (IAASTD, www.agassessment.org) is an interesting experience of an international expertise process aiming at improving global governance for sustainable development. It aimed to understand how agricultural knowledge, technologies and sciences could contribute to reduce hunger and poverty, improve rural livelihoods and at the same time reach environmental objectives. It involved the large mobilization of international scientific expertise, but also the participation of a diversity of stakeholders, and a validation of reports by an intergovernmental plenary. The design of the process was inspired by other global assessments like the IPCC and the Millennium Ecosystem Assessment. Among these international assessments, IAASTD is particularly important as its focus on agriculture necessarily puts the stress on trade-offs and synergies between social and environmental implications of development. Assessing if and how IAASTD managed to reach its objectives will prove useful for other assessment processes, particularly in order to understand how social and economical controversies at the heart of the debate on sustainable development might be structured and dealt with by international expertise processes.

Regarding the initial objectives of this assessment and its participatory approach, many analysts criticize IAASTD because it did not reach a consensus among all stakeholders. In this paper, we propose to consider also the alternative perspective of analysis, where this assessment serves an advocacy strategy for a new approach of global agriculture. In this alternative perspective, IAASTD can be considered successful. We also propose to consider that the difference between the two analytical frameworks can be useful in order to re-analyze recommendations for global assessments, and to reopen the diversity of the roles that expertise might play in global debates about environment and development where controversies are central.

I. Introduction

Between late 2001 and mid-2002, the World Bank led numerous meetings with various stakeholders to discuss different issues in agricultural science and technology. The conclusions of this consultation convinced the World Bank and the Food and Agriculture Organization of the United Nations (FAO) to cosponsor a global assessment to "provide decision makers with the information they need to reduce hunger and poverty, improve rural livelihoods, and facilitate equitable, environmentally, socially and economically sustainable development through the generation, access to, and use of agricultural knowledge, science and technology" (IAASTD, 2003). This announcement during the World Summit on Sustainable Development launched officially the International Assessment of Agricultural Knowledge, Science and Technology for Development (IAASTD).

Based on the recommendations of the consultation, the IAASTD governance structure attempts to combine scientific expertise and stakeholders participation in an innovative way. This "unique hybrid of the Intergovernmental Panel on Climate Change (IPCC) and the Millennium Ecosystem Assessment (MA)" ([IAASTD-SYN], 2008) is headed by an intergovernmental structure which meets in Plenary (as for IPCC) and by an integrated Bureau (as the MA Board of Directors) where all stakeholders of the agricultural sector meet together and are supposed to have constructive exchanges. IPCC and MA experiences have also inspired the IAASTD process judging by its "open, transparent, representative and legitimate" ([IAASTD-SYN], 2008) characteristics. This inclusive and participatory approach is confirmed by Robert Watson, director of the IAASTD: "Right from day one, I wanted to make sure there was a wide range of views" (cited by Stokstad, 2008).

In this assessment, the word "agriculture" is used to include a variety of stages of the sector, from food production to consumption of products. Thereby, focusing on agricultural knowledge, science and technology, IAASTD inevitably puts the stress on expert controversies on synergies and trade-offs between social and environmental implications of different development models. IAASTD can therefore be used as a good illustration of the questions raised by international expertise processes and assessments when they have to deal with controversies.

Following a brief presentation of the IAASTD process, the paper proposes a first evaluation of the assessment regarding its participatory and inclusive goal. However, using this first analytic framework is not enough to evaluate such a global and complex exercise, although the failure in reaching a consensus seems quite clear. We propose another framework to analyze IAASTD. This alternative perspective considers IAASTD within the context of knowledge politics (Scoones, 2008), and proposes an interpretation of IAASTD as an advocacy strategy for a new and alternative approach of global agriculture. The paper concludes by proposing to reassess present normative frameworks for future global experts assessments.

II. The International Assessment of Agricultural Knowledge, Science and Technology for Development

Launched in 2002, the IAASTD has been a 6 years global assessment process concluded with the final Plenary session in Johannesburg in April 2008 and the publication of five regional

and one global reports. These six reports were the basis for the redaction of the synthesis report and summaries for decision makers for each regional and global reports. The purpose of this exercise was to "assess the impacts of past, present and future agricultural knowledge, science and technology on the reduction of hunger and poverty, the improvement of rural livelihoods and human health, and the equitable, socially, environmentally and economically sustainable development" ([IAASTD-SYN], 2008).

The governance structure of the assessment reflects the attempt to design a more inclusive and participatory assessment process that in past exercises. The Panel of participating governments was in charge of making major decisions concerning IAASTD in plenary meetings. It was comprised of representatives from the member states of the seven cosponsoring agencies¹. The multi-stakeholder Bureau was comprised of the 2 co-chairs Kenyan Judi Wakhungu, executive director of the African Centre for Technology Studies (ACTS) and Swiss-born Hans Herren, president of the Millennium Institute; 30 government representatives; and 30 representatives from all stakeholder groups (see Table 1). The Panel elected the government representatives of the Bureau, whereas producers, consumers, private sector and non-governmental organizations (NGOs) determined their own representatives in a parallel process. The seven cosponsoring agencies served as ex-officio members of the Bureau.

Government Representatives (30)	Civil Society Representatives (30)
Sub-Saharan Africa (6)	International Institutions (8)
Latin America and the Caribbean (5)	Private Sector (6)
Central and West Asia and North Africa (4)	Producers group (6)
North America and Europe (9)	Consumers group (4)
East and South Asia and the Pacific (6)	NGOs (6)

Table 1: Members of the IAATD Bureau.

According to the IAASTD website (<http://www.agassessment.org>), decisions were taken by the Panel of participating governments and the Bureau, when appropriate. The governments approved goal, scopes, governance structure, budget and timetables at the first Plenary. At the conclusion of the IAASTD process, the Panel was responsible of accepting the Full Report and for subjecting the Global and Sub-Global Summaries for Decision Makers to final line-by-line approval in session of the Plenary.

The Secretariat acted as a technical support for IAASTD. It organized Panel and Bureau meetings, proposed the annual budget and managed the Trust-Fund with the major component being in Washington D.C. and other components in FAO (Rome), UNEP (Nairobi) and UNESCO (Paris). The Director of the Secretariat, Robert Watson, played a key role in the process. Formerly Chief Science Advisor at the World Bank, now Chief Scientific Advisor at the UK's Department for Environment, Food and Rural Affairs, Watson was at the origin of the assessment (he launched the global consultation in late 2001 to determine whether such an assessment was needed). He was responsible, with the co-chairs for the intellectual leadership of the project. His experience as chair of IPCC was particularly helpful and influential in driving the IASSTD process.

¹ Those agencies are: FAO, Global Environment Facility (GEF), United Nations Development Program (UNDP), United Nations Environment Program (UNEP), United Nations Educational, Scientific and Cultural Organization (UNESCO), World Bank and World Health Organization (WHO).

The budget of the IAASTD was about US \$12 million over 4 years funded mainly through a "blind trust" largely supported by governments² and the cosponsoring agencies. This budget was intended to finance different meetings and the Secretariat operating costs.

A total of 400 authors, divided in five categories were recruited to write the different reports, with various roles already identified in other expertise processes: Coordinating Lead Authors, Lead Authors, Contributing Author, Expert Reviewers and Review Editors. All governments and participating organizations identified experts in each category and the Bureau recommended Coordinating Lead Authors and Lead Authors for each chapter of the reports from those experts for a decision by the Panel. Due to the focus put on inclusiveness and participation, the composition of the groups needed to reflect a range of views, expertise, gender and geographical representation, taking into account not only institutional but also local knowledge. Coordinating Lead Authors and Lead Author could enlist other experts as Contributing Authors to assist in their work and then prepare the first draft of the reports. The review process had to be as large as possible (as many experts as possible should have been involved in the review process), objective, transparent and open. After the first order peer-review process, Coordinating Lead Authors and Lead Authors proposed a second draft report. Once again, the peer-review process was implemented and the final draft was proposed and line-by-line approved in session of the Plenary.

This laborious redaction process was supposed to involve all stakeholders of agricultural knowledge, science and technology, in order to correspond to Herren's wish "that everyone is represented equally" (cited by Stokstad, 2008). Moreover, the IAASTD process and structure was designed to "bring together the range of stakeholders of agricultural sector and rural development to share views, gain common understanding and vision for the future" (IAASTD website). This inclusive approach was reinforced by the willingness not to "advocate specific policies or practices" but to "point towards a range of agricultural knowledge, science and technology options for action that meet development and sustainability goals" ([IAASTD-SYN], 2008). The objective here was to treat all points of view equally, going beyond the narrow confines of science and technology and encompassing other types of relevant knowledge.

After this factual presentation of how the IAASTD was designed as a project, the paper proposes to analyze the assessment process and give some elements of its evaluation with two different conceptual frameworks. The first one, based on the ideal of consensus and global participation that was very central to the initial project of IAASTD and is also crucial for other international expert assessments, will conduct us to criticize IAASTD for not having reached this goal. Proposing another analytic framework, the paper will show why IAASTD can be considered as successful in another perspective. Those two frameworks of analysis are necessarily partial and do not pretend to cover all the issues for evaluation of this very rich and complex global assessment. Focusing on the global process and reports production, the paper will not assess the contents of the report, but the way they have been produced and perceived by stakeholders of the agricultural sector, with the overall aim to propose new or alternative normative criteria for future global assessments processes.

² The governments involved are: Australia, Canada, the European Commission, France, Ireland, Sweden, Switzerland, United Kingdom and U.S.A.

III. A failure in consensus building

"Halfway through this painful exercise (...) we couldn't come to consensus. Now Greenpeace and Monsanto continue to beat each other up". This sentence of Herren (cited by Stokstad, 2008), co-chair of the IAASTD, might sound like an evidence. But the attempt to be both more inclusive and participatory in the design and process of IAASTD proves that for chairs and the first Plenary participants, there was a possibility that a consensus could emerge among the various stakeholders of agricultural sector. This consensus corresponds to one of the objectives of IAASTD: "to gain a common understanding and vision for the future" (IAASTD website). This section exposes different reasons why consensus was not reached, and why the ideals of a consensual, participatory process did not realize in practice during the IAASTD process.

The first critics expressed towards IAASTD concern what some call an "imbalance of expertise" (Swaine and Dubock, 2008). The general aim to be inclusive and participatory translated into rules and procedures attempting at giving equal access to diverse sources of expertise (scientific expertise and traditional or local knowledge, academics from northern or southern countries, male or female scientists...), but without explicitly mentioning the power imbalances at stake. A purely procedural solution was found to deal with these imbalances. According to American economist Carl Pray, the rigid makeup of authors teams is "excruciatingly politically correct in some ways" (cited by Stokstad, 2008): each chapter must have the same number of men and women as authors, one of the two Lead Authors on each chapter has to be a woman and one of them has to be from a developing country. Those critics reflect a northern-dominated view of science: local, traditional and formal knowledge are not the same than sciences. Rodney Brown of Brigham Young University in Provo, Utah – he was then deputy undersecretary for research, education, and economics at the U.S. Department of Agriculture – summarizes "Like it or not, not all input is equally valuable," (cited by Stokstad, 2008). On top of the acknowledgment by IAASTD that all knowledge sources would be of equal value for the process, the difference in statute of these various knowledge sources should have been dealt with more specifically.

Another graduation of scientific evidences is revealed by Deborah Keith – Syngenta employee who decided to quit the assessment. Speaking about biotechnology, she affirms that "sadly, social science seems to have taken the place of scientific analysis". She adds that "the draft put forward claims not supported by the evidence" (Keith, 2008). This kind of comments shows that levels of legitimacy between the different scientific fields still exist for some influent stakeholders in the field. When they are asked to express themselves in an inclusive and participatory exercise, it seems foreseeable that consensus will not happen. In such a field as agricultural development, the necessity to involve both social sciences and hard sciences should also have been considered as a major challenge for innovation.

The issue of "imbalance of expertise" seems to be inevitable and refers to critical questions for all global assessments: what is an expert? what are the limits of what can be considered legitimate science? what is an evidence? what is not? can we classify different types of proof? if yes, are there any criteria? Those questions were not solved before launching the process, and IAASTD has to face the same controversies as other global expert assessments already have.

Beyond these controversies due to the different definitions one can have of science, IAASTD is criticized by several people for the way biotechnology was treated. Biotechnology is one of the eight subjects addressed in the Synthesis Report – with bioenergy; climate change; human health; natural resources management; traditional knowledge and community based-

innovation; trade and markets; and women in agriculture. The Synthesis Report claims that "information can be anecdotal and contradictory, and uncertainty on benefits and harms is unavoidable", admitting that "there is a wide range of perspectives on the environmental, human health and economic risks and benefits of modern biotechnology; many of these risks are as yet unknown" ([IAASTD-SYN], 2008).

The reserves towards biotechnology expressed in the IAASTD reports are definitely not shared by all stakeholders of agricultural sector. CropLife International³ refuses to endorse the IAASTD reports "because of its failure to recognize the role (...) plant biotechnology (...) can play in increasing agricultural crop productivity" ([CropLife International], 2008). Several other stakeholders agree with this point. For example Joanna Chataway – Maths Computing and Technology Faculty, Development Policy and Practice, The Open University, Milton Keynes – Joyce Tait and David Wield – both Institute for the Study of Science, Technology and Innovation, Edinburg – "don't believe the report provide a particularly insightful picture of potential contribution of new genomics" (Chataway, Tait and Wield, 2008). Keith notes the "biotechnology potential [is] ignored in the report" (Keith, 2008). The Alliance Executive of the CGIAR⁴ points the reports "minimize actual and potential benefits" of biotechnology ([Alliance Executive of the CGIAR], 2008).

Those quotations are just few examples of critics expressed towards the approach of biotechnology in IAASTD reports. Some people even complemented their critics by comparing the different way organic agriculture and biotechnology are treated. For Keith Jones – manager of stewardship and sustainable agriculture at CropLife International – "the report tends to overstate the potential of organic and 'ecological' agriculture" (cited by Stokstad, 2008). According to Deborah Keith, "organic agriculture was not subject to the same scrutiny [as biotechnology]. Its limitations (...) do not appear in the report" (Keith, 2008). Those commentaries attempt to show an imbalance in the way the different types of agriculture are treated in the global assessment.

More generally, some reproaches are made to IAASTD because it would not emphasize technology and future progress of science – and not only biotechnology. This is the opinion of Howard Minigh – president of CropLife International – who believes that "a vision of science and technology's future contribution to all type of agriculture is missing" (Minigh, 2008). Nature-Biotechnology editorialist speaks of a "negative attitude toward technology" ([Nature-Biotechnology], 2008) when Philipp Aerni – Swiss Federal Institute of Technology, Zurich – pretends "the implicit assumption of the report [is] that the promotion (...) of new technologies [is] the problem rather than part of the solution to the food and environmental crisis" (Aerni, 2008).

Those comments, principally made by people involved in the biotechnology sector, reflect three main oppositions among worldviews that can be encountered in the agricultural sector about biotechnology, organic farming and the use of technology and science. Even refusing a simplistic and naive vision of agriculture sector, it seems clear that someone who is radically opposed to the use of genetically modified organism cannot agree with someone who wants their use to be expanded. Indeed, when talking about visions of what should be future agriculture, compromises are not readily accepted and consensus is most of the time impossible to attain. The IAASTD objective to gain a common understanding and vision for the future therefore seems unrealistic, when not supported by specific mechanisms for dispute resolution among worldviews, which are still lacking today, although the field of Science and

³ CropLife International is the global federation representing the plant science industry (CropLife International website: <http://www.croplife.org>).

⁴ The Consultative Group on International Agricultural Research (CGIAR) is a strategic alliance of members, partners and 15 international agricultural centers. The Alliance Executive of CGIAR is one components of the whole CGIAR System, which lead the Alliance of the 15 research centers of the CGIAR.

Technology Studies addresses for some decades now innovative procedures for collective decisions about science and technology choices. What process can lead to consensus people talking about a so broad subject, getting so different opinions on key issues like biotechnology or organic farming, and so contrasted pictures of what should be future global agriculture? Facing incompatibilities with other stakeholders involved in the process, two private companies – Monsanto and Syngenta – decided to leave the assessment process (see below), before the last Plenary session.

Dueling visions about global agricultural trade have been a third obstacle to the quest for consensus. Each of the worldviews about such a very complex issue can not be summarized here. The agricultural sector, and in particular agricultural economists themselves, are divided when answering the question: would agricultural trade liberalization have a positive impact for developing countries? Being inclusive and participatory, stakeholders from two main groups (pros and cons of liberalization in agricultural trade) expressed themselves during the process, and a consensus could not be reached. Parts of the reports about agricultural trade are criticized by several people. Some blame the reports for doing "a selective and unbalanced assessment of the evidence", what conducts to a "treatment of agriculture trade and trade liberalization [which] is biased" ([Alliance Executive of the CGIAR], 2008). Others feel "a visceral dislike of international capitalism" ([Nature Biotechnology], 2008) when a third one, Aerni, condemns the "implicit assumption of the report that the promotion of international agricultural trade (...) [is one of] the problems to food crisis" (Aerni, 2008).

The aim of this section is not to quote all reproaches expressed towards the way agricultural trade has been treated in IAASTD reports. It just shows that trying to conduct a participatory and inclusive process leading to a consensus about benefits or costs of agricultural trade and trade liberalization might not be possible because controversies are so rooted in differing worldviews that convergence or consensus are not the most relevant way to make a synthesis of existing expertise. The stakeholders involved have too distant opinions to get to such a consensus: "compromise becomes impossible where there are irreconcilable differences of value or ideology" (Chataway, Tait and Wield, 2008).

Finally, the attitude of three governments – Australia, Canada and U.S.A. – and some private sector companies – Monsanto and Syngenta – is the evidence, as symbolic as could be, of the failure in consensus building of IAASTD.

Walking out of the process in late 2007, before the final Plenary session, industry representatives will probably undercut the assessment's impact. According to Piet van der Meer – Public Research and Regulation Initiative in Delft, Netherlands – "there is a sense of having lost a wonderful opportunity" (cited by Stokstad, 2008). The official reason advanced by Keith for her withdrawal is that "the draft put forward claims not supported by the evidence" (Keith, 2008). Feldman, Biggs and Raina explain that, more generally "the rationale for exit [is] often expressed in the belief that production insufficiencies and limited land resources required a bio-technological revolution if we were to meet the food needs of an increasing population" (Feldman, Biggs and Raina, 2010). Some justify the withdrawal by a plausible strategy to discredit IAASTD reports ([Bioscience Resource Project], 2008). Whatever could be the real motivations for Syngenta and Monsanto's withdrawal⁵, quitting the assessment, they reject any sort of consensus. Robert Watson is aware about that, admitting he "didn't succeed as director at keeping all players at the table" (cited by Stokstad, 2008).

⁵ Monsanto and Syngenta both quitted the global assessment, but in different ways: Syngenta's representative left the Bureau, while Monsanto stopped funding IAASTD.

No doubt that all countries present at the final intergovernmental plenary held in Johannesburg, South Africa, in April 2008 welcomed the amount of work of the IAASTD. But three of them did not fully approve reports in which they were involved: Australia, Canada and U.S.A. Their reservations are specifically on issues of agricultural trade and biotechnology. In its objections noted in the Annex to the Global Summary for Decision Makers, U.S.A. claims "there is [not] sufficient balance in reflecting use/range of new technologies, including modern biotechnology" ([IAASTD-GLO-SDM], 2008) and it reserves on sentences about agricultural trade (reservations n°6 and n°9 for example). The Australian government argue that "the wide range of observations and views presented are such that [it] cannot agree with all assertions and options in the report" ([IAASTD-GLO-SDM], 2008). Canada justifies its reservations with an argument about objectivity: "there remain a number of assertions and observations that require more substantial, balanced and objective analysis" ([IAASTD-GLO-SDM], 2008).

The behavior of private sector companies and the non-approval of IAASTD reports by Australia, Canada and U.S.A. appear as a refusal for a consensus building by important stakeholders of agricultural knowledge, science and technology. Even if they are motivated by different purposes, the facts are here: consensus does not emerge from IAASTD process. In each Summary for Decision Makers, the same sentence strikes a blow to the initial consensus building hope: "one of the key findings of the IAASTD is that there are diverse and conflicting interpretations of past and current events, which need to be acknowledged and respected" ([IAASTD-GLO-SDM],2008).

This accumulation of points of view not only reflects a lack of consensus but also, more problematically, it may affect the credibility of the assessment. To Andrew McDonald – a crop scientist at Cornell University – the numerous interpretations "devolved into "I'm okay; you're okay"" (cited by Stokstad, 2008). Robert Paarlberg – Wellesley College in Massachusetts – is "skeptical: it's a document that has much less scientific credibility than does IPCC" (cited by Stokstad, 2008). Stokstad himself criticizes IAASTD reports on this point: "by being so inclusive, it ended up more a collection of opinions than an incisive summary of scientific literature" (Stokstad, 2008).

Regarding the different arguments of this section, the critics toward the failure of consensus building are legitimate. Shall IAASTD necessarily be considered a global failure for not achieving one of its goals? Of course not. Such a large and complex assessment has to be analyzed and evaluated with other analytic frameworks. As a synthesis of this section, we propose to consider that three major features of the context of intervention of IAASTD have to be taken into account when trying to analyze and evaluate such a global process:

1. The field of knowledge and science should be seen as political, at least in the sense that there are power imbalances between various types of knowledge; Scoones advocates for explicitly dealing with "knowledge politics", in order to better organize or design expertise processes (Scoones, 2008).
2. When developmental and distributional issues are at stake, social sciences are central in such expertise processes. Their contribution to a synthesis of knowledge can not only be seen as participating to reaching a consensus among scientists, because one of the possible aims of social sciences is to point explicitly at the more or less narrow framing of a question, resulting from the power imbalances in the academic field. Therefore social sciences are useful in such processes as they shed light on major controversies among worldviews that can not easily be reduced to an intermediate

option or a consensus. The specific role of social sciences in organizing controversies also would have to be taken into account in the design of such an expertise process.

3. An important part of the discussions during the IAASTD process were centered on the future of agriculture and the future potentialities of different technologies. It is a fundamental challenge to support such a discussion about the future on evidences and proofs: the future can not be known in advance and discussions about the future mainly rely on assumptions, which is at the heart of the field of futures research and scenario planning. The scenario chapter of the IAASTD was not implemented as initially foreseen, and the attempt to have a central discussion about future developments in the most rigorous way possible was not brought to the end, because of an opposition on the framing of the exercise through quantitative models, seen as too narrow by NGOs and social scientists, as Scoones analyses (Scoones, 2008). This might open a field for procedural and methodological innovation for further assessments.

In the next section, we will build on these three dimensions and propose an alternative framework to consider IAASTD within the politically oriented field of knowledge, and to evaluate it as an advocacy strategy for a new, alternative approach of global agriculture, aiming at changing the conditions of the existing debate on future global agriculture and food.

IV. A good advocacy strategy for a new approach of global agriculture?

Based on the main conclusions of the former section, we propose here to use an alternative conceptual framework to analyze the IAASTD process. This framework particularly builds on two important characteristics:

- the political nature of an expertise process, even within the field of academia, which makes it useful to evaluate such a process in terms of strategy,
- the central position of discussions about the future in such a process, which makes it useful to understand the most recent findings of the field of foresight and futures research and their relation with political processes.

Laurent Mermet – a professor in environment management at the Centre International de Recherche sur l'Environnement et le Développement, Paris - developed a conceptual framework to analyze foresight studies on environmental topics (Mermet (ed.), 2005). Mermet defines foresight studies as "the design of conjectures (guesses, or combined assumptions) about a system's evolution and its future states; those conjectures have to be based on rational methods and discussed in a structured way⁶" (Mermet (ed.), 2005). According to this definition, several kinds of exercise can be analyzed through this framework: projections, foresights, forecasts, opinions and assessments. The aim of this section is not to expose the framework exhaustively, but to present the global approach and its two main components.

The first dimension to be considered concerns the analysis of a specific study or a specific discourse about the future. Mermet proposes to analyze each foresight study by looking jointly at three of its characteristics:

- the substance and contents of the study (the vision of the future itself, the methods used to produce it),

⁶ Translation : une « élaboration, fondée sur des méthodes réfléchies, de conjectures sur l'évolution et les états futurs de systèmes dont (...) la mise en discussion [est] structurée » (Mermet (ed.), 2005).

- the forum or procedure within which it is being formulated and discussed (state of the debate, balance of power among stakeholders involved in producing or discussing the study, rules of discussion...),
- and the strategies that link methodological choices in the substance of the study with a particular state of the forum or with procedural choices in the way it is put into discussion.

In such a conceptual framework, discourses about the future are still considered as only made out of assumptions, but there are methodological and epistemological rules to have a structured discussion about future scenarios and discourses about the future: criteria for such a discussion are for instance the consistency, coherence, plausibility and relevance of scenarios (Mermet (ed.), 2005).

The second dimension to be considered is that each foresight study can be seen as only one part of a larger space composed of several already existing foresights, scenarios and debates. By re-integrating each specific study in a larger space of debate, Mermet suggests to analyze the impacts the study has onto the other studies and forums and the way the study is discussed, debated and criticized into this larger space. This approach proposes to consider each foresight study as a strategic intervention both into a debate (the other forums) and onto its contents (the other existing scenarios and discourses about the future).

This conceptual framework has for instance been used in order to describe the possible impacts of the global scale debate about future water scarcity, and for instance the World Water Vision exercise in 2000, on local and regional debates about future water resources management, and the way it enabled alternative visions or management models to gain audience (Treyer, 2006).

Given these two main dimensions of analysis, an expertise process like IAASTD can be analyzed as one particular exercise within the realm of a wider debate about the future of agriculture. In this perspective, it is legitimate to analyze IAASTD as one strategic attempt to change the balance among competing visions of the future of agriculture and food.

As it assesses "options for action on science and technology, capacity development, institutions and policies, and investments" ([IAASTD-GLO-SDM], 2008), IAASTD can be analyzed as a foresight study defined by Mermet. The originally approval by the Bureau of "a chapter on plausible futures, a visioning exercise", replaced by "a more simple set of model projections" ([IAASTD-SYN], 2008) is another reason why it seems legitimate to use this conceptual framework to analyze IAASTD.

The rest of this section is devoted to an analysis of IAASTD using the conceptual framework presented above. The "larger space" considered for this case is the international debate on the future of global agriculture and food. The paper does not attempt to define precisely this debate, but it presents some of its characteristics. It can be useful to look back on this debate in history and to date its beginning at least to the publication in 1798 of Malthus' book *An Essay on the Principle of Population*. Indeed, it is the first time mankind starts to think about its ability to produce enough food to feed global population. Since then, many studies have been published, dealing with the future of global agriculture and food, creating an international debate where different visions of what should be the future of global agriculture are discussed, exchanged and criticized. Today, this debate is mainly structured around three main questions: how to better guide international agricultural research in order to reach development? ; how to manage both global and local food security? ; how is global agriculture linked with climate change? Each of those questions involves different stakeholders and different visions are confronted in order to identify possible solutions or convergences. IAASTD can be seen as a strategic intervention on the specific stream of

debate concerning priorities for agricultural research, but it also had impacts on the other two streams.

In March 2010, the Global Forum on Agricultural Research (GFAR) and the Consultative Group on International Agricultural Research (CGIAR) organized the first Global Conference on Agricultural Research for Development (GCARD). This three days meeting gathered all stakeholders of the agricultural sector to "enhance development impact from agricultural research" (GCARD website: <http://www.egfar.org/egfar/website/gcard>). A special seminar was devoted to "thinking forward" exercises and their usefulness for agricultural research orientations. Along the two preparation days, results of several foresight studies have been presented by their authors and discussed by participants to the working group. The outcomes of this debate organized among existing foresight studies have been exposed to all GCARD participants. Although seen as not having reached consensus, IAASTD was one of these studies, presented by Hans Herren, one of the two co-chairs, and as one of the most comprehensive synthesis of expertise of agricultural research.

The 2008 global food crisis forced FAO to reform the Committee on Food Security and create a High Level Panel of Experts on Food Security and Nutrition (HLPE/FSN). A High Level Expert Forum (HLEF) was convened in October 2009 to "examine policy options that governments should consider adopting to ensure that the world population can be fed when it nears its peak of nearly 9.2 billion people in the middle of this century" (HLEF website: <http://www.fao.org/wsfs/forum2050/wsfs-forum/en/>). This two days forum gathered scientists who debated on different options to feed the world in 2050. Those two FAO initiatives attempt to organize an international debate where scientific expertise is mobilized to answer the question of future global agriculture and food. Once again, the IAASTD results are used and discussed in those forums.

A third key question that global agriculture has to face concerns climate change. Indeed, according to the last IPCC report, agriculture would be responsible for 13.5% of total anthropogenic greenhouse gas emissions in 2004 in terms of CO₂eq. ([IPCC], 2007). No doubt climate change will impact agriculture all over the world and agriculture could play a role in the mitigation of those impacts. Declaring "there is a need to develop agricultural policies that both reduce emissions and allow adaptation to climate change" ([IAASTD-SYN], 2008), IAASTD authors take the flow in the expertise debate on the links between global agriculture and climate change. Moreover, IAASTD reports propose different options for action and a "much more comprehensive future looking agreement [than Kyoto Protocol is] if we want to take full advantage of the opportunities offered by the agricultural sector" ([IAASTD-SYN], 2008). With this proposition, IAASTD authors clearly attempted to build a new forum of discussion where future global agriculture and food would be debated regarding its links with climate change.

Those three examples of discussion forums on different topics are evidences that an international debate exists where several visions of future global agriculture and food are discussed, compared and criticized. This forms the context in which we propose to analyze IAASTD as a strategic intervention.

Can we consider IAASTD as an effort to produce changes in the balance of power in the field of agricultural research? Can IAASTD be reduced to a mere advocacy strategy? Of course, IAASTD was not designed with such a clear and narrow strategic objective, but still, advocating for changes is at the heart of IAASTD's messages: using this strategic perspective is therefore helpful in understanding many of its characteristics and some of its paradoxes.

"Business as usual is not an option". This sentence summarizes the speech of Robert Watson during the presentation of IAASTD results to media. It is presented by Hans Herren as the

main message of the assessment which proposes thus a clear alternative vision for future agriculture and food. Other stakeholders of the agricultural sector formulate a similar vision. According to Patrick Mulvany – policy advisor at Practical Action⁷ – the “stark conclusion of IAASTD [is] hunger, social divisions and environmental destruction will increase unless there are radical changes in the way agriculture is developed, practiced and protected” (Mulvany, 2008). The civil society organizations (CSOs) statement on the outcomes of IAASTD is unequivocal: “the report of IAASTD is a sobering account of the failure of industrial farming [and] it calls for a fundamental change in the way we do farming” ([CSOs], 2008). This vision of future agriculture and food is shared by the Bioscience Resource Project which calls for a “look beyond business as usual” ([Bioscience Resource Project], 2008). The IAASTD vision is strengthened by its presenting a clear objective to reach, through a thorough description of an alternative paradigm (called “ecological agriculture” or “resilient agriculture”). Angelika Hilbeck – Institute of Integrative Biology, Zurich – presents IAASTD’s vision of future global agriculture as the “best guidance available to date for where to go from here” (Hilbeck, 2008). Benedict Haerlin, the Greenpeace representative during the IAASTD process “sees the document as a blazing signpost, lighting the way” (cited by Wilson, 2008). Here are few examples of the interpretation by some stakeholders of the agricultural sector of IAASTD’s main outcomes. They reflect a strategically clear vision of future global agriculture and food and in this respect IAASTD can be seen as part of an advocacy strategy intending to change the balances among paradigms in the field of agricultural research and also in the field of agricultural practices. Indeed, Marta Rivera-Ferre – Autonomous University of Barcelona – points out that “some of the crucial recommendations are to adopt ‘agroecological’ strategies” (Rivera-Ferre, 2008).

If we consider IAASTD as part of the wider historical debate on agriculture and food security, its focus on agricultural knowledge, science and technology for development also constituted a strategic project of changing this debate, as it introduces a new question that was not considered previously. It allows a reorientation of the debate, including themes that the international community was not used to discuss before. Toby Kiers – Institute of Ecological Science, Amsterdam – calls, with IAASTD, for “structural changes in governance, development and delivery of science and technology” (Kiers et al., 2008). Putting the stress on agricultural science and technology, IAASTD reframes the debate on food security, proposing its own vision to deal with this issue.

What were the means used to implement such a strategy for change? On one hand, IAASTD relied on ensuring scientific credibility of the substance of the messages. The IAASTD process, the involvement of several hundreds of experts, the peer-review process and the final approvals of summaries for decision-makers give a scientific credibility to this assessment. CSOs explain the report is “based on a rigorous and peer-reviewed analysis of the empirical evidence by hundreds of scientists and development experts” ([CSOs], 2008) and Mulvany presents the IAASTD process as “four years of rigorous evidence gathering and analysis by scientists” (Mulvany, 2008). The mobilization of scientific expertise, the reviewing procedures and the methodological choices by the Bureau and the Plenary can be seen as an effort to build as much scientific credibility as possible into the process as to make it legitimate to guide decision making on research or development priorities.

On the other hand, IAASTD also relied on participatory procedures to ensure its legitimacy. The IAASTD vision building process allowed a real discussion between all stakeholders involved. This “path-breaking process” allows governments, major research institutions, industry and civil society [to share] equal responsibility” ([CSO], 2008). Feldman, Biggs and

⁷ Practical Action is a development charity representing NGOs group in IAASTD Bureau.

Raina describe the IAASTD process as a forum where "engaged participation and public discussion and debate" took place (Feldman, Biggs, Raina, 2010). Allowing exchanges on contents of the reports, the IAASTD process created a discussion forum where the final vision on future global agriculture has emerged. In this perspective, the participatory nature of the process can also be considered as another means to make the process legitimate because it would be approved by a variety of stakeholders. But we can also interpret the openness of the IAASTD process as an attempt to change the conditions of debate about the future of agriculture, by giving access and means to debate to stakeholders that were generally unable to participate to international foresights about agricultural research.

All stakeholders of the agricultural sector were invited and pleased to participate to the global assessment, and this changed what Mermet calls "the discussion rules" of the international debate on future global agriculture. It allowed new voices to be heard: those of smallholder farmers and civil society organizations. Stokstad notes that "the voice and experience of small-scale farmers, particularly women, have finally been brought to the fore by the assessment" (Stokstad, 2008). The vision defended by IAASTD is, according to Mulvany, "the message of smallholder farmer organizations for decades" (Mulvany, 2008). Including stakeholders whose voices were neglected in past debates, IAASTD changes the discussion rules of the debate on future global agriculture. It recognizes "the place of CSOs as political actors and their role in keeping vigilant on behalf of those often marginalized from decision making" (Feldman, Biggs and Raina, 2010). CSOs, producers, consumers and private sector all had their own representatives involved in the Bureau decision, expertise and peer-review processes, as governments and international institutions had. In this respect, the IAASTD process responds to usual critiques of top-down and northern-dominated expert assessments.

It seems quite clear that in many respects, IAASTD can be considered as a project to change the conditions of debate about the future of agriculture, in order to question the dominance of a scientific paradigm and to give more space to an alternative paradigm, either by giving access to the debate to different stakeholders, or by introducing alternative visions of the future. In strategic terms, the means that were used to bring about such changes are diverse, and in the end can even seem contradictory. Ensuring scientific credibility is one of these means, but the use of participation is more ambiguous: on one hand, participation of stakeholders was used in a way to make the findings legitimate when approved as a consensus, but on the other hand, participation was instrumental in trying to change the balance of power among stakeholders... In this regard, Mulvany is convinced that advocacy expressed in IAASTD reports is powerful and sound enough to "provide evidences that [stakeholders] can use to justify why it is essential to transform agriculture, policy and institutions" (Mulvany, 2008).

The failure in consensus building should therefore not be regarded as an important feature of IAASTD, as it was probably deemed to lead to controversies, as a good advocacy paper would do. If considered an efficient strategic mix of scientific credibility and participatory openness to marginal worldviews, IAASTD can then appear as a success, as a good advocacy strategy serving stakeholders who call for a change in global agriculture. Such an evaluation relies on the assumption that it is credible enough to be cited and for its main messages to be used as evidences to promote a new vision of future global agriculture, which we do not discuss here.

The alternative conceptual framework used in this section to analyze IAASTD from a different perspective leads to very contrasting conclusions about the successfulness of IAASTD. In the previous section, the failure of consensus building was a serious critic toward

IAASTD process and outcomes. On the contrary, with the alternative framework developed by Mermet, IAASTD can be seen as a good advocacy strategy for a new global agriculture approach. This opposition is reflected in stakeholder's opinions about IAASTD. The negative critics mainly come from private sector stakeholders whereas positive evaluations are expressed by representatives of small-scale farmers and CSOs. Heinemann – Center for Integrated Research in Biosafety, University of Canterbury – emphasizes those dual opinions on IAASTD conclusions: "the report should not be dismissed just because some do not like answers it provides" (Heinemann, 2008). A more thorough evaluation of IAASTD should then use both perspectives to analyze, in the long run and in the coming years, how influential IAASTD will have been in impacting the global debate on agriculture and agricultural research: would a consensus strategy have been more influential than an advocacy strategy? would a consensus strategy have led to different changes than those fostered by the advocacy strategy ? These are the kind of questions than a further evaluation of IAASTD might be asking.

In this paper, we use the discussion among these two frameworks of analysis of international expertise processes as a way to put the emphasis on the necessity to reopen the diversity of the roles that expertise might play in global debates on environmental topics. This will be presented in the last conclusive section.

V. Toward new recommendations for global assessments?

Two major questions emerge from the previous analysis. If the inclusive and participatory perspective is chosen, one need to know what should be done for a consensus to emerge, keeping all stakeholders around the table and IAASTD recommendations approved by all governments. On the other hand, in the strategic perspective, if IAASTD is considered as an advocacy strategy, ways and means to make it more efficient need to be reached. We might also differentiate these two perspectives by calling the first one symmetric, as it apparently intends to treat equally all stakeholders, whereas the second one might be called dissymmetric, as it considers that the balance of powers in the field of knowledge politics necessitates an intervention in favor of a dominated worldview or a dominated category of stakeholders. A symmetric perspective will only attempt to improve discussion rules to reach a consensus whereas a dissymmetric, strategically situated one will build strategies to better orient discussions and contents in favor of a specific goal. Is it possible to use both perspectives in order to gain advice for future global assessments? Do we have to choose the one that seems more relevant to build recommendations upon?

The symmetric perspective can seem more legitimate because apparently all stakeholders are treated equally but, as in the case of IAASTD, it seems to rely too much on the naïve assumption that science is only rational, neutral and objective and that expertise processes can be independent of political conflicts and debates about values. This point of view does not take into account interests, strategies, and balances of power inside the field of scientific expertise itself, whereas at the same time calling for more hybrid processes where local, tradition, grassroots knowledge should be put at the same level as expert knowledge. In this regard, this paper calls for more "realpolitik" in the field of knowledge and science, and proposes to complement the symmetric approach by a thorough analysis of strategic and political issues in the knowledge field that is considered.

The IAASTD process gives good examples of advocacy strategies adopted by various stakeholders involved in global expert debates. Some attempt to be heard and to expose publically their vision of future global agriculture while others refuse it, discredit the vision and finally quit. Future global assessments processes cannot ignore that stakeholders in scientific debates act according to their own strategy. This can best be dealt with by using a dissymmetric perspective, where debate in an expertise process is not seen as only aiming at producing consensus, but rather structuring a clear discussion among options and visions. Making divergences and convergences among experts explicit can be more useful for collective decision than trying to reach a consensus.

Beyond the usefulness of the dissymmetric perspective, other recommendations can be made to ensure efficiency of global assessments in two directions. Because the debate about the future is often central in such processes, it could be acknowledged that the overall objective of such assessments would be (1) to allow the emergence of structured and explicit visions and (2) to create conditions for discussions and debates on stakeholders' visions.

For such a purpose, we follow Ian Scoones' – Institute of Development Studies, University of Sussex – recommendation "that issues of knowledge framing need to be more centrally and explicitly considered from the start" (Scoones, 2008). The knowledge framing includes what is considered as valid knowledge and what is not, the nature of expertise, the place of local knowledge, and also the limitation of the problem that is inherent to a specific formulation of the question under consideration. If a structured debate among visions is to be organized, then the first condition is that framing should be made explicit, should be discussed, and alternative framings considered as legitimate, in order to allow new visions to emerge. Attempting to create conditions for the emergence of a debate among contrasting visions, global assessment would be what Scoones call a 'reflexive institution'. It would be inclusive and deliberative and allow multiple, culturally-embedded versions to be discussed. The debate thus created would allow discussion on stakeholders' visions, the way they are produced, the evidences used by different stakeholders...

However, this last recommendation is not sufficient. Indeed, the definition of a 'reflexive institution' is quite vague and according to Scoones, the IAASTD process is seen as an attempt to create such a reflexive institution by its proponents (Scoones, 2008). But the withdrawal of Syngenta's support and the refusal by Australia, Canada and U.S.A. to sign up is unequivocal: they did not share the vision expressed in the reports for political reasons, as it challenged their own positions in the debate. Organizing a reflexive institution where framing and worldviews are debated is an essentially political process, and as such can lead to controversies and conflicts. It should therefore be considered as such, and seen as an opportunity to confront values and interests in an explicit way, but also as a political intervention in order to give voice to alternative, dominated or marginal worldviews. Contrary to IAASTD where this confrontation was semi-hidden, it seems important to design processes able to explicitly deal with such tensions.

Our last proposal in this paper is a call for using foresight studies in global assessments on environment and development topics, and for making more use of the concepts of the fields of foresight and futures research in order to structure expertise processes in these fields. Foresight approaches, and the criteria developed in the field of foresight to discuss such approaches would be useful to make it possible to have a more explicit and structured discussion among visions of the future. In his analysis of IAASTD, Scoones claims that "a key starting point is to make the framing assumptions (...) more explicit" (Scoones, 2008). Discussing foresight studies outcomes comes down to discuss both the methodology used and

the assumptions made in order to propose visions of the future, and to discuss the more or less implicit visions of stakeholders.

Once the political essence of the expertise processes has been acknowledged, and once we are then brought back to controversies among contrasting visions of the future, reconstructing a capacity for debate and relevance for collective decision is essential, and in this very central challenge it seems that the field of foresight and futures research can constitute one important building block.

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