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**Protected areas in Tanzania:  
from ineffective management to PA certificates?**

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**1. Introduction**

The world's natural ecosystems are being degraded and destroyed at a significant rate (Chapin et al. 2009; UNEP 2010). In order to maintain the future basis for human livelihoods and wellbeing on Earth there is dire and urgent need for environmental conservation and more sustainable use of ecosystems worldwide (Borrini-Feyerabend et al. 2004; Rockström et al. 2009; Biermann et al. 2012).

Protected Areas (PAs) are spatial planning instruments for environmental conservation. They have long been, and remain, a key environmental conservation strategy (CBD 2012). Dudley (2008:8) defines PAs as “clearly defined geographical space[s], recognized, dedicated and managed, through legal or other effective means, to achieve the long-term conservation of nature with associated ecosystem services and cultural values”. According the International Union for Nature Conservation (IUCN), there are currently more than 150,000 protected areas worldwide.<sup>1</sup> Most PA efforts are aimed at rearranging local human-nature interaction, to create synergies between the conservation of natural and biological resources and the maximization of societal or individual human welfare, or at least the avoidance of inferior welfare outcomes (CBD 2010). In most parts of the world, both numbers and sizes of PAs are growing. Between 1990 and 2012, the area covered by PAs worldwide increased by about 50% (Bertzky et al. 2012).

This trend is likely to continue in the near future. The CBD COP10 in Nagoya in 2010 set the ambitious Aichi Targets with the strategic goal (No. C, Target 11) that “by 2020, at

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<sup>1</sup> <http://www.wdpa.org/Statistics.aspx>; accessed on 17/06/2012

least 17 per cent of terrestrial [...] areas [...] should be conserved through effectively and equitably managed, ecologically representative and well-connected systems of protected areas”.<sup>2</sup> Global concerns about climate change underline the need for concerted efforts in this direction.

However, the effectiveness of PAs is often limited (Setsaas et al. 2007). Although an impressive number of PAs have been legally established in the last decades, many of them are not able to offer conservation for the natural and biological resources they contain - and thereby to meet their own reason d'être (Wilkie et al. 2001; Duffy 2006). Instead the PAs remain under threat from anthropogenic modification through habitat- and land cover change that alters the mix of ecosystem services they provide and often results in the large-scale and irreversible loss of natural ecosystems and biodiversity of local, national and global importance (Frazee et al. 2003; King 2009).

PAs need proper management. They require the existence and effective implementation of management plans and structures to guide on-the-ground operations, neither of which is necessarily present in many PAs (CBD 2012). Based on data from 4,151 assessments, Leverington et al. (2010) conclude in their global study of PA management effectiveness, that the management of 27 per cent of all PAs worldwide shows major deficiencies. Another 13 per cent are 'paper parks' (Bonham et al 2008) with completely inadequate management effectiveness. Only 24 per cent of all PAs were found to have sound management (Leverington et al. 2010). The level of PA management effectiveness largely follows a global North-South gradient, although some countries in the global South, such as South Africa and Kenya, are known to host PAs with considerable management effectiveness.

The relationship between PAs and the livelihoods of people living in or around these PAs is complex and often prone to conflict (Ferraro 2002, Tekelenburg et al. 2009). PAs are often located in remote rural areas where poverty is widespread and people depend on agriculture and pastoralism. PAs can offer opportunities for improving local people's livelihoods, but they can also aggravate poverty, e.g. when local communities lose their farmland or when they are forcibly resettled due to the establishment of a new PA. In recent times more emphasis has therefore been placed on the question of how PAs can promote local development and mitigate poverty. All too often, however, participatory and integrated approaches are implemented with limited success (Carew-Reid and Rao 2003; Reid et al. 2006; Ash et al. 2010).

## **2. Conceptual and methodological design of the study**

PA governance is increasingly seen as a critical determinant for PA management effectiveness (Frazee et al. 2003, Lockwood 2009, Bertzky et al. 2012). Protected area

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<sup>2</sup> Aichi Biodiversity Targets, Strategic Goal C, Target 11. ([www.cbd.int/doc/strategic-plan/2011-2020/Aichi-Targets-en.pdf](http://www.cbd.int/doc/strategic-plan/2011-2020/Aichi-Targets-en.pdf); accessed on 26/02/2012)

governance is “about how decisions are made and power is shared among the different actors involved in the establishment and management of protected areas” (Graham 2003). Decision-making in PAs can be carried out by a wide variety of actors, such as government agencies, NGOs, local communities, private companies, or international donors. Often, several actors share the authority, responsibility and accountability for a PA (Bertzky et al 2012). The type and structure of a PA constitutes both the institutional framework in which the actor’s decision-making is fought out (Ostrom’s action arena), and the implementation tools which allow these decisions to be put into practice.

In recent years, practitioners and researchers have been working on approaches to increase the management effectiveness in PAs, particularly in the global South (see e.g. Laffoley 2012). One line of thought evaluates the prospects for international markets for PA certificates, which would guarantee the existence of clearly defined ecosystem services. This idea effectively merges concepts of land use certification and emission cap-and-trade approaches. However, many conceptual challenges must still be answered and practical problems overcome. The main concerns center around limited governance structures in the global South, particularly sub-Saharan Africa, and the question of how the supply side for such a PA certificate market could look – given the low management effectiveness and ‘bearing capabilities’ of PAs.

This paper aims to contribute to this discussion by providing empirical findings on the way national-level decision-makers in Tanzania perceive the management of PAs in their country. The purpose of the paper is to unpack the PA governance theorem by showing concrete causes for PA management ineffectiveness, and elucidate an actors’ framework for PA management in Tanzania based on national decision-makers’ knowledge and experience. The underlying argument is that the practicability of international markets for PA certificates would be largely determined by the level of PA management effectiveness in the ‘supply’ countries.

The research is based on empirical data collected in Tanzania by means of expert interviews. A total of 26 interviews with national-level decision-makers were conducted in August/September 2011 in Dar-es-Salaam, Morogoro, Arusha, Moshi, and Zanzibar Town. We defined experts as “people who have - starting from a specific knowledge that refers to a clearly defined sphere of problems - the ability to structure the concrete field of activities in a reasonable and practicable way“ (Bogner and Menz 2002: 45). In regard to Bogner and Menz’ three-piece classification of expert knowledge into technical knowledge, process knowledge and interpretation knowledge, the research focus was placed on the latter two categories.

The interviewees were selected based on secondary literature and CERPA<sup>3</sup> projects' previous work.<sup>4</sup> Interviews were conducted with four expert clusters, namely experts from

- 1) state agencies,
- 2) non-governmental organizations,
- 3) research projects and university institutes, and
- 4) private companies.

Each expert interview took about two hours and was structured with an introductory open discussion followed by a questionnaire with both open and closed questions. In both parts, the interviewees were given a “great freedom to express themselves using their own cultural constructs” (Bernard, Pelto et al. 1986: 384). This approach helped revealing unanticipated contexts, coherences and ‘hidden agendas’.

### **3. Findings: Protected area management in Tanzania**

#### **3.1. The Tanzanian background**

Tanzania boasts some of the world's richest and most diverse natural landscapes and biological resources, including several global biodiversity hotspots and areas of particularly high endemism (Biervliet et al. 2009; Davies et al. 2011). Millions of Tanzanians, particularly the rural poor, directly depend on ecosystem services through agriculture, pastoralism, and fishing, or as beneficiaries of the country's tourism industry. However, in the last half century, population growth coupled with agricultural expansion, rural poverty and technological progress has massively increased pressure on Tanzania's ecosystems – often leading to their irrevocable destruction.

Over the past four decades, there have been a number of concerted efforts to establish PAs in Tanzania. Today, the country hosts a total number of 792 PAs, which account for more than 38 per cent of the country's total land area.<sup>5</sup> This makes Tanzania one of the countries with the highest percentage of PA coverage worldwide. Figure 1 shows the spatial distribution of National Parks and Game Reserves in Tanzania.<sup>6</sup>

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<sup>3</sup> “International Markets for Protected Area Certificates: Evaluation of international financing and its socio-economic implication using the example of Wetlands of International Importance” (CERPA) at the Institute for Environmental Economics and World Trade (IUW), Leibniz University Hannover, Germany.

<sup>4</sup> Previous work was conducted by Britta Deutsch who conducted a field study on “Certification of Biodiversity Conservation Projects in Kigoma and Coast Region, Tanzania: Prospects and Challenges” within the CERPA project in 2011.

<sup>5</sup> [www.earthtrends.wri.org](http://www.earthtrends.wri.org); accessed on 23/02/2012

<sup>6</sup> Other PAs are not included in the map.

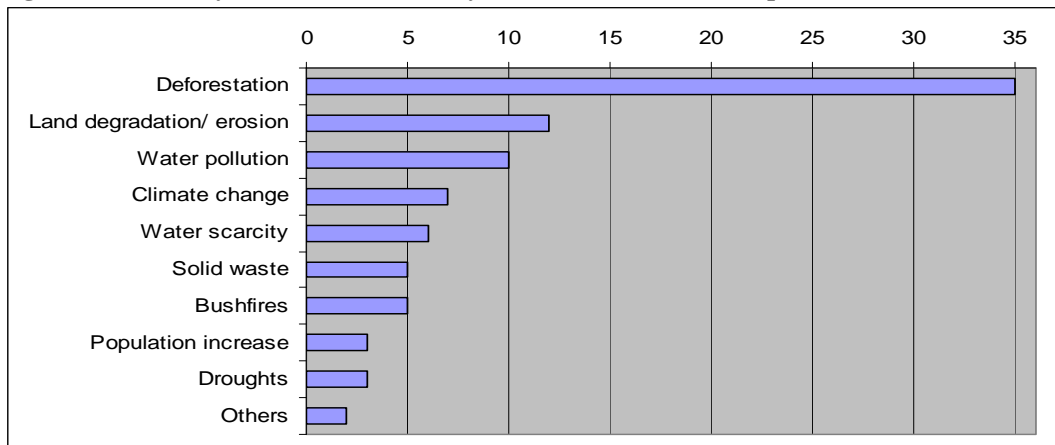
**Figure 1: Protected Areas in Tanzania<sup>7</sup>**



Beyond National Parks and Game Reserves, Tanzania also hosts a full range of other types of PAs. These include Biosphere Reserves, Ramsar Wetlands, Community-based Wildlife Areas (CBWA), Community-based Forest Areas (CBFAs), Joint Forest Areas (JFAs), and Community Conservation Areas (CCAs). They are all planning instruments for the local implementation of environmental conservation measures. However, they are managed based on different aims and concepts, often the outcomes of decision-making processes between different stakeholder groups.

The commitment, support and implementation of environmental conservation instruments such as PAs is influenced by the perception of decision-makers about the magnitude of environmental problems in their area of action. In order to reveal what national-level decision-makers perceive to be the three main environmental problems in Tanzania, we posed an open question to the interviewees, and their first, second and third choices were awarded 3, 2 and 1 points respectively. The scores were then cumulated. The results show that the interviewees considered deforestation to be by far the main environmental problem in Tanzania, followed by land degradation/erosion and water pollution (see Figure 1).

**Figure 2: What do you think are currently the main environmental problems in Tanzania?**



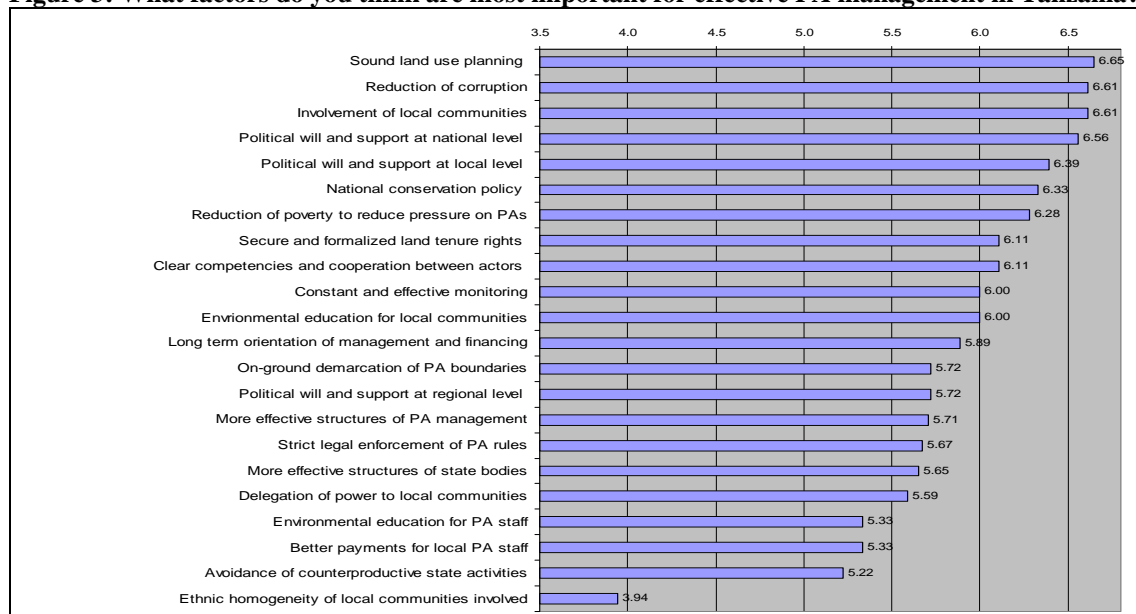
<sup>7</sup> Source: [http://pctanzania.org/repository/Environment/Tech%20Manual/tz\\_protected\\_areas.jpg](http://pctanzania.org/repository/Environment/Tech%20Manual/tz_protected_areas.jpg)

These results are not surprising. Tanzania is a country where otherwise unmet demands for food and fuel lead to massive forest degradation and deforestation (Fisher et al 2011). The main causes are overgrazing and unsustainable pole-cutting, logging and firewood collection as well as manmade wildfires. Forests around towns are particularly affected by charcoal-making (Milledge et al. 2007; Burgess et al. 2010).

### 3.2. How to effectively manage protected areas?

The success of PAs as instruments for environmental conservation and sustainable use of natural resources is based on the assumption that they are effectively managed to protect the ecosystem functions and services they contain. PA management has to be based on “appropriate management objectives and [...] the timely implementation of appropriate management strategies and processes” (Hockings et al 2006). “Appropriate” means that management objectives, strategies and processes have to be tailored to the specific ecological as well as socio-economic and cultural conditions at the site. When thinking about establishing PA certificates that would depend on the effective management of PAs in the global South, it is important to understand the factors that impede PA management effectiveness. In this study we therefore asked the interviewees what factors they considered most important for the effective management of PAs in Tanzania. The participants ranked each category between 1 (not important at all) and 7 (most important).<sup>8</sup>

**Figure 3: What factors do you think are most important for effective PA management in Tanzania?**



<sup>8</sup> Figure 3 shows the average scores.

The interviewees considered sound land-use planning as most important for the effective management of PAs in Tanzania. This includes balancing conservation and development efforts at national, regional, district and local levels. It also includes the proper and participatory delineation of PA boundaries, development of zoning concepts within PAs, and integrated landscape planning around them. Optimal land-use planning reduces spillover effects and conflicts between conservation and development processes, and can increase ecosystem service provisions.

The reduction of corruption was valued second most important for achieving a more effective management of PAs in Tanzania. “Corruption is both a cause and an effect of poor governance” (Gordon and Lawson 2012:9). It not only hampers the social and economic development of a country but can also lead to the underperformance and ineffectiveness of environmental instruments such as PAs. The processes of transformation towards economic liberalization that have emerged since the 1980s, and those of political democratization, which have been evident since the 1990s, both of which resemble those that have taken place in Russia, have provided an opportune milieu for corruption in Tanzania.<sup>9</sup> There are estimations that only 50 to 60 percent of the money designated for “development projects” in Tanzania is actually effectively used; the rest is often siphoned off through corruption.<sup>10</sup>

The factor valued third most important was the involvement of local communities in PA management. According to recent conservation paradigms, the participatory involvement of people who live and work in and around PAs in decision-making processes is paramount for the long-term success of a PA. While Tanzania’s PA management approaches have been historically exclusionary, most of the currently applied PA concepts do acknowledge the need for participation of local communities in PA management (Livine 2002). However, the understanding of what “participation” actually means is ambiguous (Niedzialkowski et al 2012), and in practice, community participation is often not integrated into the making of the truly important management decision.

### **3.3. The actors behind**

When trying to understand PA ineffectiveness in a governance context, it is important to ask, as Graham (2003) does, how “power is shared among the different actors involved in the establishment and management of protected areas” (Graham 2003). In the case of Tanzania, there are six main clusters of relevant actors, namely state bodies, local communities, NGOs, international agencies and donors, private companies and research institutes. The actors within these clusters have different stakes in PA management, and hold certain resources which they can use to promote their own interests. In order to

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<sup>9</sup> Interview No. 19. Arusha. 19/08/2011.

<sup>10</sup> Interview No. 16. Morogoro. 16/08/2011.

elaborate on the actors' general relative decision-making weight for the management of PAs in Tanzania, we asked the interviewees what actors they thought were most important for the management of PAs in their country. The results are shown in Figure 4. The circle sizes reflect the perceived level of actors' decision-making importance. In subsequent questions we asked where the interviewees saw the strongest cooperation (black arrows) and conflict (red arrows) between those actors.

**Figure 3: Actors' framework for PA management in Tanzania.<sup>11</sup>**

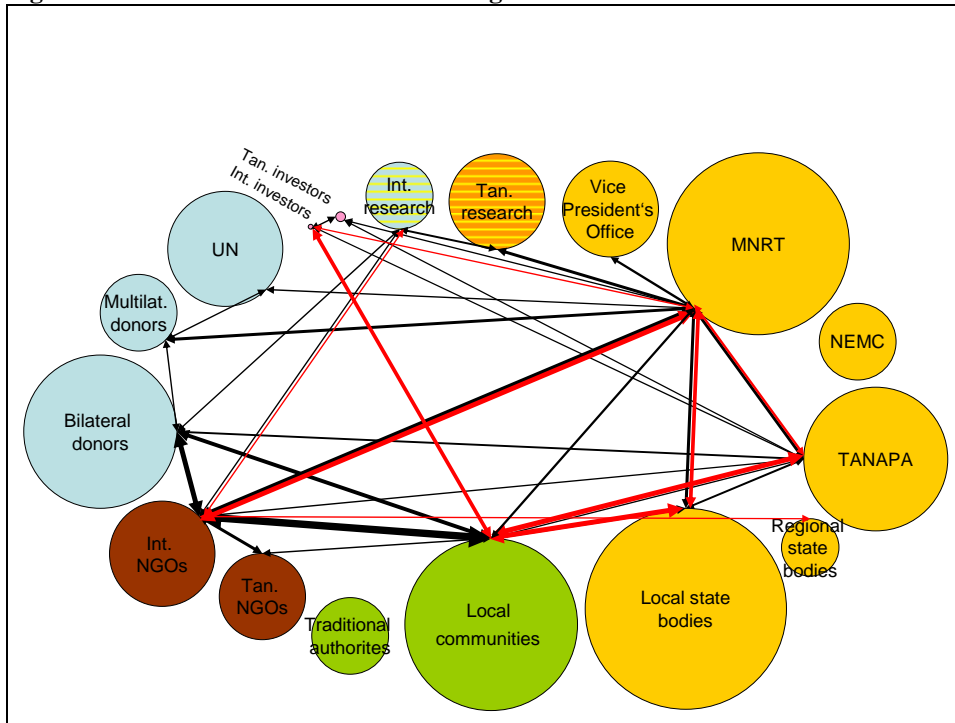


Figure 4 shows that the MNRT and local state bodies are considered the most important actors for the management of PAs in Tanzania, followed by local communities and bilateral donors. TANAPA's importance is ranked fifth, but is however, only limited to national parks. PA management decisions often have to be made jointly between these different actors. Cooperation among them is likely to increase management effectiveness, while conflicts between them are likely to decrease the management effectiveness. Figure 4 shows that the greatest cooperation is seen as being between international NGOs and local communities, and between international NGOs and bilateral donors. Much less cooperation is evident among the various state actors, or between state actors and local

<sup>11</sup> MNRT: Ministry of Natural Resources and Tourism, NEMC: National Environmental Management Council, TANAPA: Tanzanian National Park Authority.



communities. Major conflict lines run between state bodies (local and TANAPA) and local communities, between the MNRT and local state bodies, and between the MNRT and international NGOs.

## **5. Conclusions**

PA governance is increasingly seen as a critical determinant for PA management effectiveness. Although a significant number of empirical studies have been conducted on the local level that show the limited effectiveness of PA management in many sub-Saharan countries, the broader underlying reasons at the national scale have not been sufficiently identified and analyzed. The findings of this study are based on the knowledge of national-level decision-makers in Tanzania, hence people whose daily work centers around questions of PA management effectiveness in the country.

The findings show that deforestation is considered to be by far the main environmental problem in Tanzania. The links between deforestation and poverty are particularly tight and direct. PAs are generally less deforested than non-PA areas. Accordingly, the pro-poor mitigation of deforestation should be prioritized when PA certificates from Tanzania are developed and issued. The results further reveal that sound land-use planning, reduction of corruption and the involvement of local communities are all key to enhancing the management effectiveness of PAs in Tanzania. Accordingly, these factors could be taken as pre-conditional criteria for the development of PA certificates from PAs in the country. The actors' framework shown in Figure 3 illustrates the diversity of stakeholders involved – in one way or another – in PA management in Tanzania. Their individual levels of decision-making importance, however, differ significantly. The picture is dominated by state bodies on different administrative levels. The cooperation and conflict lines show that cooperation between the various actors involved in the management of PAs in Tanzania is limited – particularly between state actors and local communities. Their relationship is characterized more by conflict than by “participatory” cooperation. In contrast, international NGOs are viewed as working in closest cooperation with local communities. The question of which actors are potentially most suitable as certificate-holders of PA certificates in Tanzania can not finally be answered here. However, in order to successfully establish Tanzania as a supplier of PA certificates it would be necessary to navigate within this actors' framework, and be able to cope with the diverse interests of the various actors and their recurrent alliances and conflicts. One should, for example, learn from land-use certification approaches such as that of the Forest Stewardship Council (FSC) which manage to work in Tanzania in the intersection between local communities, NGOs, the private sector and the state with relative high effectiveness.

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