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Who Gains From Community Conservation?

Intended and Unintended Costs and Benefits of Participative Approaches in Peru and Tanzania

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Who are the beneficiaries from participative approaches in conservation? The authors compare two protected areas AmaraKaeri Communal Reserve in Peru and Selous Game Reserve in Tanzania and show how in similar institutional settings local interest groups react very differently to the possibility of participation. The difference, however, does not regard economic benefits. In the case of Peru, local groups defining themselves as indigenous peoples see a political gain in participatory conservation, which seems to offer the possibility for securing land rights in their area. In Tanzania, however, local actors oppose participative conservation strategies or passively resist those forced on them because they cause high-economic costs and no political gains. By comparing both cases based on a new institutionalism analysis, the article reveals how intended and unintended costs and benefits can explain different attitudes of local groups to participative conservation.

Keywords: *protected areas; participatory management; cost-benefit analysis; new institutionalism; indigenous people; community-based conservation*

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Since the past decade, many scholars have described the paradigmatic change in “conservation policy” characterized by the switch from a fortress vision to the participatory approach. The fortress approach is understood as conservation that excludes local people from a protected area, managed top-down, and involving a military-style control system. By community conservation, we mean approaches that seek more or less intensive involvement of local people, to gain local support for a protected area and to reduce management costs and allowing decentralization (see also Hulme & Murphree, 2001; Pimbert & Pretty, 1997; Rodary, Castellanet, & Rossi, 2003). Following Hulme and Murphree (2001), our hypothesis is that this change can be analyzed as an “institutional change.” The paradigmatic change from fortress to community conservation is said to have been initiated by epistemic communities (Haas, 1992) and fixed at the international level through legal conventions. Its application can be observed at the national and local level in concrete case studies implying participatory experiences. But why does such a change happen and who are the real beneficiaries of such a process? Is it really the economic gains from participation that triggers local stakeholders to be active or are there other more political processes at work?

We decided to illustrate this process with two examples of local attitudes and strategies in two World Heritage Sites, one in Peru (Manu National Park; MNP) and the other in Tanzania (Selous Game Reserve; SGR). The reason for selecting these two areas from the research is that they share many structural characteristics. The MNP and SGR are both recognized as World Heritage Sites by the UNESCO and as biosphere reserves. They both are the largest protected areas in their countries and are based on the same logic of fortress conservation that has changed because of the paradigm shift to community conservation (Hulme & Murphree, 2001). This includes the installation of buffer zone areas and new small participatory projects in an effort to combine both conservation and development. International cooperation supported the creation of both the Amarakaeri Communal Reserve (ACR) in Peru in 2002, and Wildlife Management Area (WMA) and Community Conservation Resources Management (CCRM) in the Rufiji Environment Management Project (called IUCN REMP) in Tanzania in 2001. According to the IUCN classification,¹ both areas correspond to Category II (National Park) for the MNP and IV (Habitat/Species Management) for the SGR.

It was observed that local communities adopt participative approaches to community conservation in very different ways. In 2001, the indigenous groups of the Harakmbut on the border of the MNP organized a manifestation urging the state to set up a communal reserve within their territory. In 2002, this reserve known as the ACR was officially established. But the promised economic gains did not materialize, and as a result, the local indigenous organization *Federación Nativa del Río Madre de Dios y Afluentes (FENAMAD)* is presently faced with political problems. Nevertheless, indigenous groups such as the Harakmbut and the Machiguenga are generally sticking with the strategy of the communal protected area.

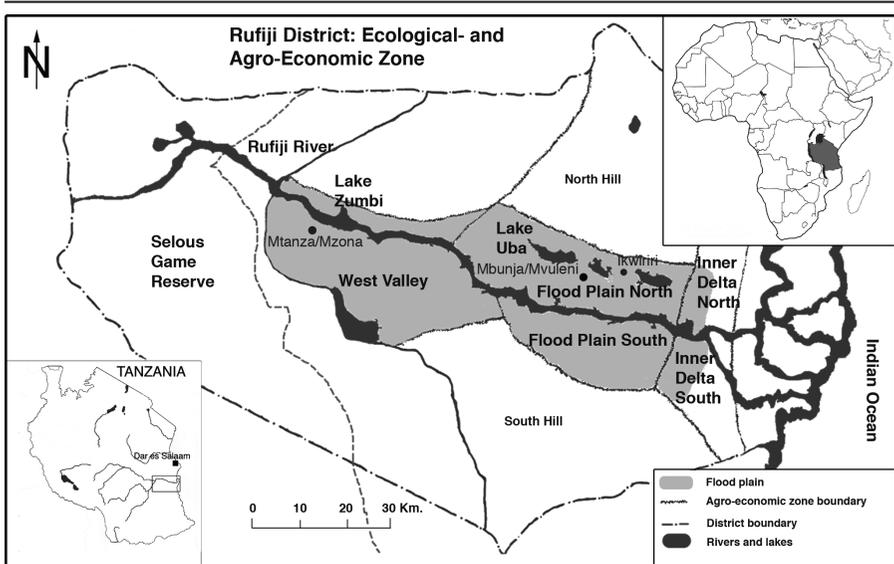
The case of local Rufiji groups living close to the SGR in Tanzania presents a different picture. Between 2002 and 2004, 47 people were killed by two lions and elephant herds regularly leaving the reserve destroy crops and endanger lives. These problems have influenced their attitude toward conservation negatively. Despite a paradigm shift in African wildlife policies, local people are not happy with the way conservation is done. WMAs have been established by the government on local village lands solely in the northern area of the reserve (Morogoro district), allowing a low level of management and gains at the local level such as game meat quotas and park outreach projects (clinic, schools, etc.). But these projects have mostly failed. In the eastern part, where research had been done (Rufiji district), such initiatives do not interest local actors. Benefits from the SGR are seen as minimal when compared with costs. Local people's only interest is the recognition of land titles and not community conservation strategies.

Why is it that some local indigenous federations of Peru are in favor of conservation, whereas in Tanzania, people strongly resist new approaches of participatory conservation, complaining about the consequences and costs? Our hypothesis is that actors are confronted with intended and unintended costs and benefits that orient their positions. We argue that the major difference is political and not economical gain. These stories show indeed that economic gains are not the prime mover for or against local communities and stakeholders being a part of the participative approach. In both cases, economic gains are minimal, as we will show in more detail. In Peru, the indigenous people hope that by collaborating with conservationists, they may be able to exclude immigrants such as settlers, miners, and so on, thus generating not only economic security but also a political and cultural gain for them. In the Tanzanian case, however, despite new participative approaches conservation, local people view this neither as a developmental option nor a political gain but, rather, as a constraint and a burden.

First, we will illustrate the ecological, ethnographic, and historic contexts of the two protected areas and the development of conservation normative and institutional framework. This is followed by an analysis of who gains and pays in which situation illustrated in an evolution of discourses, narratives, and strategic use of ideology for actors to legitimate actions taken or criticize actions of other actors. Finally, we will show how institutional change is influenced by changes in relative prices and how bargaining power and ideologies are shaped by the different actors, whereby local actors who do or do not share the label of "indigenous" have a great incentive to ensure land tenure rights.

The data for this study have been gathered by the Swiss National Center of Competence in Research (NCCR) North-South² research teams³ using methods from social anthropology, human geography, and development studies, such as participant observation, household questionnaires and village surveys, focus group interviews, biographies, and expert interviews. Research for the case studies was conducted between 2002 and 2006 by the research team and was part of PhD programs as well as visits during 2006 by the authors.⁴ Locations of the study sites Tanzania (Map 1) and Peru (Map 2) can be seen in the maps.

Map 1
Selous Game Reserve and Rufiji District



Note: Map by Corinne Furrer, Department of Social Anthropology, University of Zurich, Switzerland.

Participation From a New Institutional Perspective: Outline, Methods, and Theoretical Background

We use an actor-oriented approach influenced by new institutionalism (Becker & Ostrom, 1995; Ensminger, 1992; North, 1990; Ostrom, 1990, 2005) to look at the participative approach and view the paradigm shift from fortress conservation to community conservation as an institutional change. Institutions are seen here as the rules of the game in the form of formal and informal norms that make expected actions of actors predictable and reduce therefore what economics call the costs of transaction for different actors. According to the new institutional theory, institutional change is shaped by individuals or groups who respond to changes in relative prices⁵ for goods and services that themselves are strongly influenced by external political, economic, environmental, demographic, and technological factors. This model is therefore well suited to address comparisons between different cases, on different continents, that require the analysis of different historical, economic, and political contexts and of scale. It is possible to show how dynamic relative prices then have a strong influence on the institutional setting for local people, but are not only determined by these economic and other external factors (see also Mapedza &

Map 2 Manu National Park and Amakaeri Communal Reserve (Peru)



Note: Map by Corinne Gaemperli, Centre for Development and Environment, Berne, Switzerland.

Bond, 2006). However, from a sociocultural anthropological perspective, the approach advocates that institutions are the product of the bargaining power and ideology of actors used to legitimize and enforce rules that bring them the best benefit. Therefore, rules and their evolution are part of a political process shaped by ideological views and justification and do not simply follow the changes in relative prices (Ensminger, 1992; Ensminger & Knight, 1997; Haller, 2002a, 2002b, 2007).

Based on the new institutionalism, we argue that the paradigm shift from fortress to community conservation while having its roots in reducing transaction costs for

protected areas actually reflects different levels of ideology and bargaining power of different actors with different winners and losers. We use the new institutionalism framework because it helps us to analyze changes such as policies and regulations in the management of protected areas. Many such areas that were based on the Yellowstone model in the United States had been protected by the colonial or local state with a police-like force that was difficult and expensive to be paid and not well taken by local people (see Gibson, 1999; Hulme & Murphree, 2001; McShane & Wells, 2004). Since the 1980s, a number of administrators, scientists, and policy makers realized that costs could be reduced if local people were involved in the management of protected areas. It also became evident that for local stakeholders to participate in the monitoring of a protected area system, they had to benefit from wildlife and forest products to have an incentive (see Gibson, 1999; Hulme & Murphree, 2001). Hulme's and Murphree's (2001) paradigm change started with the worldwide problems of violation of conservation rules. Different analysis came to the conclusion that actively involving local people would solve some of the problems that many Third World states suffer from. According to a new institutionalism analysis, community-based and comanagement approaches reflect a process of institutional change triggered by different external and internal changes. We also need to recognize which ideologies, discourses, and narratives have been used to strategically develop issues of conservation as issues of participation and often issues of development.

Being aware of the vast literature on ideology fuelled by Marxist to postmodernist theories (see Galvin, 2004), the term *ideology* is generally known as a worldview and a body of coherent convictions that serves to explain the world. In the new institutionalism, ideology is used as a basic term of reference influencing bargaining power of actors and the way they shape institutions (Ensminger, 1992). In a further step, we consider that ideologies are expressed in discourses and narratives. Discourses refer to debates that rationalize actions to be taken and link them to a coherent thought system: The conservationist discourse arises out of the ideology that pure nature still exists and needs protection. Development discourses for example, based on modernist ideologies, argue that development is important to alleviate poverty, whereas traditionalist ideologies argue that keeping traditions is the way to secure livelihoods. Narratives account for history and explain how a perceived situation actually came about. Hulme and Murphree (2001), for example, cite the narrative of fortress conservation to explain why previous attempts of conservation by excluding local people failed. Ideologies, discourses, and narratives are important because they legitimize actions and allow actors to increase their bargaining power, access funds, and gain economic and political support to shape or influence the institutional design. Conservation then becomes a means for achieving development and livelihood goals (Burgerhoff Muller & Coppolillo, 2005; Therborg, Schaik, Davenport, & Rao, 2002; McShane & Wells, 2004).

This view relates to a wide debate on the problem of conservation and participation: Some even question whether conservation can ever be a means to development. Recent discussions have revived the issues of human rights violation and poverty related to conservation through protected areas (Brockington, 2002; Brockington, Igoe, & Schmidt-Soltau, 2006; Dowie, 2005; Haller & Merten, 2006; West, Igoe, & Brockington, 2006). They also show that indigenous leaders and nongovernmental organization (NGO) supporters strategically follow their aims of greater self-determination by embracing the needs of local indigenous peoples (see also Brysk, 1996; Colchester, 2000; Haley, 2004; Rathgeber, 2003). In addition, large NGOs have used this collaboration to present themselves as “people friendly” (Igoe, 2005).

As we are applying a new institutionalism framework developed by several authors, there is one common feature that is linked to cost-benefit analysis. We are aware of the long-lasting scholarly and activist critique of neoliberal tendencies and the rhetoric of economics (Gudeman, 1991, 2001; McCloskey, 1985, 1994) to quantify all actions taken by humans. However, in our new institutionalism-based approach, we focus on the issue by asking who derives the benefits and who bears the losses/costs. Within the approach adopted here for the analysis, we follow the work of Stephen Gudeman (Gudeman, 1982, 2001; Gudeman & Whitten, 1982) and Deirdre McCloskey (1985, 1994, 2001) who argue that it is important how local people evaluate costs and benefits.⁶ Nevertheless, we will try to evaluate direct monetary costs and benefits, while addressing the limitations, to get a partial sense of what local stakeholders pay (for example, loss of crops by wild animals and the market value forgone) and what they receive in turn (direct monetary benefits from park entry fees).⁷ Last, we argue in line with scholars such as Gudeman and McCloskey that some of the positions taken by local actors cannot be explained by a simple cost-benefit analysis: A cost-benefit analysis approach would lead us to expect that in both settings we have studied because of less gains, local different actors would be against conservation. We will, however, try to explain why in the Peruvian case indigenous people and their leaders have demanded a conservationist policy before realizing that this policy offered very little or no economic gains. Such findings echo the critical position against cost-benefit analysis.

Description of the Two Areas

In the case of Peru, we are dealing with Amazonian rainforest in a highland-lowland area, and in Tanzania, we are looking at an African savannah and floodplain ecosystem. The Peruvian MNP located in the department of Madre de Dios is regarded as a tropical hot spot of biological diversity. The high diversity is because of the Amazonian rainforest, with an annual rainfall of nearly 4,000 mm. The area totals 15,300 km² spread along the slopes of the Andes at altitudes ranging between 365

and 4,200 meters above sea level. It has alluvial plains, hills, and mountains. The Amarakaeri Reserve is situated in the southern part of the park. About 15,000 species of plants can be found in the MNP, with up to 250 varieties of trees being found in a single hectare. The species diversity is also high: 800 species of birds, 159 mammals, 99 reptiles, 210 fishes, and more than 2,000 insects, especially butterflies (Saavedra, 1989). According to the IUCN technical evaluation done in 1989, at least 13 species in the park are known to be globally threatened, including black caiman, giant otter, and ocelot.

The SGR in Tanzania is with 50,000 km² the largest protected area in Africa. It lies in the semiarid zone of forest and savannah with an annual rainfall of only 800 mm and is located in the central south-eastern coastal region of Tanzania. It covers 5% of the country and includes parts of the Rufiji and Ruvu river basins. It encompasses open grassland, acacia, and *miombo* woodlands as well as riverine forests. The center of the reserve is a floodplain area with alluvial valleys, including lakes and swamps and surrounding hilly areas covered with savannah and in part with thick woodlands. One of the main differences to the MNP is the presence of large often migratory animals such as elephant (herds of 60,000 animals), giraffe, zebra, buffaloes, waterbuck, impala, hippopotamus, and antelopes as well as predators such as lions, cheetah, and crocodiles. In addition, there is a great diversity of fish to be found in the lakes of the floodplain (Baldus, Kibonde, & Siegel, 2003; Douglas-Hamilton, 1986; GTZ/Selous Conservation Program, 1995; Meroka, 2006). The main difference, therefore, between the two cases is that in MNP, there are few dangerous animals, whereas in the SGR, local people have to face death and crop destruction by wild animals. This has a major impact on the cost-benefit analysis.

The MNP is inhabited by a small number of different ethnic groups (Amahuaca and Yaminahua) but the most prevalent are the Machiguenga. More to the south are the Harambut. These groups were organized in clans, and while the Harambut, as hunters and gatherers, were known for their warrior-like past (Gray, 2002), the Machiguenga have a reputation for being more peaceful (Shepard, 1999). The shaman played an important role within the community for divination and healing because of their relationship with the natural environment. The different ethnic groups in the Selous area are subsumed under the term *Warufiji*. First comers were fishermen as well as hunting and gathering groups such as the Makonde, followed by Ndenkero groups, who practiced farming in the floodplain areas. The leaders of these groups organized the use of local resources and these practices were later incorporated into the colonial system (see Meroka, 2006; Neumann, 1998).

Therefore, in both protected areas, different groups were using local common pool resources such as fisheries, wildlife, and agricultural land. In both cases, ethnic groups can be seen as ethno-professional groups having major occupations that distinguished them from others. Despite the partly mobile character of these common pool resources, membership of a group or kin defined access to common pool resources regions and therefore to hunting, fishing, and agricultural territories. Local common property

regimes had institutions for regulating and coordinating resource usage. These were often in the hands of ritual masters (*Mpindu*) in Tanzania. Therefore, these areas were not naturally intact before protected areas were established. They must be seen as areas that were strongly transformed cultural landscapes.⁸

Construction of National Conservation Mechanism

The starting point of our analysis is the history and the institutional and political framework of the protected areas studied. It will become evident that conservation is an exogenous and mostly colonial act that however has different roots in the two case areas. In Tanzania, the conservation era begins in the 19th century when conservation issues were linked much more to the ideology of colonial control (see Neumann, 1998). Conservation was based on the view that local people were poachers and doing harm to local wildlife stock. Control was a necessity, especially after the devastating consequences of the slave and ivory trade. After World War I, the British administration built up resource management and conservation policies based on what the Germans had done and extended the protected areas system. The future SGR was enlarged and renamed after the British hunter, traveller, and writer Frederick Courtney Selous. After the reserve was gazetted, the boundaries were extended again between 1936 and 1947 to accommodate an increasing number of elephants.

In Peru, protected areas have only recently been established. After the Spanish conquest and again later in the 18th and 19th century, the rainforest was seen as a promising but dangerous Eldorado. The main aim was to use these resources and not to protect them. It was not until the 1940s that the first protected area called "Reserved Zone of the Pacaya" was established (Paquis & Usselman, 2002). In 1950, a decree establishing the "National Reserve of Cueva de las Lechuzas" was issued, and in 1961, the first National Park in Peru had been set up, even before the National Service of Forestry and Hunting had been established. The initiative for the MNP came from the animal trader Celestino Kalinowski and UK-zoologist Ian Grimwood⁹ who, in 1970, proposed protecting the MNP area.

Under German control, between 1891 and 1912, Tanganyika developed laws, ordinances and protected areas, excluding people from using their landscapes (Ashley, Mdoe, & Reynolds, 2002; Neumann, 1998). Later, in the 1940s, a total of 40,000 people had been evicted from the SGR (Kjekhus, 1977, and Yeager & Miller, 1986, as cited in Neumann, 1998, p. 146). The Society for the Preservation of the Fauna of the Empire urged that locals be totally excluded from hunting in the designated areas. Generally, boundaries were drawn up without acknowledging that these areas were not natural but cultural landscapes (Neumann, 1998). The postcolonial socialist system took over the existing wildlife and conservation strategy because it was a sign of statehood and it was a promising strategy for attracting tourism as a means for developing the country. It complemented the relocation policies on which, in 1974, the regime of Julius Nyerere

based its villagisation (Ujamaa) strategy. The SGR was again extended to cover an area of 50,000 km² (Ashley et al., 2002; Neumann, 1998).

The principle of evicting local people was evident not only in Africa but also in Peru. However, these operations took place much later on in the 1970s when the military used force against the Machiguenga people to establish the MNP (Instituto de Manejo de Agua y Medio Ambiente, Consejo Transitorio de Administración Regional–Cuzco, & Proyecto del Manu, 2000). Interestingly, the legal framework was lagging behind the formation of protected areas. In 1975, the first Peruvian law dealing with protected areas was enacted (Forestry and Forest Animals Law) based on a regional inspiration. The same year, the MNP became a UNESCO World Heritage Site. The 1990s mark the beginning of the construction of a consistent national framework for protected areas in Peru (Galvin, 2005). This began with the setting up of a civil society corps (for Latin America in general, see Gudynas, 1992; Varese, 1996). Fujimori's reduction of the public budget in universities (Galvin, 2002), and the support from international cooperation (mostly GTZ, USAID, and Finnish Development Aid, as well as GEF/PNUD), fuelled this plan. The first objective was to establish a national institutional framework, more specifically, a governmental body for protected areas called *SINANPE* (National System of Protected Areas) and *FONANPE* (National Fund for Natural Protected Areas, administered by PROFONANPE). A master plan was developed in which 15% of the Peruvian territory was set aside for conservation. In 1996, a USAID project was financed to redact and establish laws on protected area. It officially encouraged indigenous participation and became law in 1998. Of the 63 protected areas, only half receive regular financial help. Conservation in South America is a costly service that provides more international prestige than direct economic benefits. The economic engagement of the Peruvian state has always been very modest, and 85% of the general costs of the protected areas system are covered by international cooperation (*SINANPE*, 2005).¹⁰

In Tanzania, the situation is different, and parks procure revenues from the hunting levies imposed on tourists. The SGR management collect around US\$2 million per year, compared with US\$20,000 for the MNP. In the 1980s, 28% of the entire Tanzanian territory was under a protection regime (Neumann, 1998). However, since the mid-1980s, the economic crisis of the state and the resultant structural adjustment programs led to low financial income for the state and lack of money for monitoring protected areas; thus, transforming them into an open access regime (Meroka, 2006). Because of the rise in poaching in the SGR, the population of elephants decreased from 110,000 in 1976 to 30,000 animals in the late 1980s (Baldus et al., 2003). In the mid-1980s, in collaboration with the Frankfurt Zoological Society, a report was produced to propose a so-called emergency program, allowing international assistance to halt the destruction (Stephenson, 1987). The Tanzanian government accepted and was given this assistance by the Federal Republic of Germany, and so the Selous Conservation Program was introduced in 1987.¹¹ The aim was to safeguard ecological integrity of SGR and its tourism capacity, but at the same time, donors requested on the basis of the paradigm

shift, participative conservation as a new strategy supported by the local people. In addition, SGR became a UNESCO World Heritage Site but foresaw collaboration with the private sector of tourist and hunting companies, lodges, and the local communities of 51 villages in the buffer zones. As a major incentive for the locals, quotas have been established on animals such as wildebeest and buffalo. However, all animals remain the property of the state and local people have no influence in the state-run management (see Ashley et al., 2002; Baldus et al., 2003). In 1998, a new wildlife conservation policy was drafted. To achieve active participation, the WMAs were classified as a new land category, developed in the SGR and tested in pilot villages. The basic idea was to give “full mandate” to local people, despite their inability to influence the basic structures of the management (Goldmann, 2003). In the areas where the NCCR North–South research was carried out, WMAs have not been implemented but participatory approaches have been launched by the IUCN REMP. These succeeded in drafting locally defined by-laws for conservation and development but failed to deliver legal land titles for the villages.

Cost–Benefit Analysis I: The International and the National Political–Economic Context

The way we use the cost-benefit analysis in this section is a qualitative comparative approach. We are interested in the sources of gains that could be made from the participative conservation approach (see also Ballet, Sirven, & Requieris-Desjardins, 2007) and we compare the two different countries. We argue that in Tanzania, the conservation interest was based primarily on colonial control over wildlife resources and later on tourism, whereas in Peru, the driving forces are minerals, land, and fossil fuel resources. Alerted to the destruction following high rubber and gold prices, the international scientific community and environmental groups created protected areas in Peru and formed an alliance with indigenous federations (Haller, Blöchliger, John, Marthaler, & Ziegler, 2007). This reflects the general trend in Latin America (Chase Smith & Pinedo, 2003), where indigenism has been turned from a weakness into a strength or asset. It has become an ideological resource to boost bargaining power (see also Brysk, 1996; Colchester, 2000; Haley, 2004). This development is shaped by the rise in relative prices for tourism in Tanzania and oil in Peru. The increase in prices is relative to other price development such as cash crops in Tanzania (coffee) or other resources in Peru (rubber). Whereas in Tanzania, this shapes the way in which participative conservation is practiced by the government, the rise in gold and oil prices makes the Peruvian area attractive for gold miners and foreign oil companies. Although the first are not at all controlled, the latter, because of local pressure in their countries of origin, feel forced to adapt to the rising power of the label “indigenism” linked to conservation, albeit with minor costs (see Brysk, 1996; Colchester, 2000; Haley, 2004; Haller et al., 2007).

After the fall of the Inka empire in the 16th century, the colonial power had no real interest in the Madre de Dios rainforest areas. It was only at the turn of the 20th century, following political crises with neighboring states, and in the presence of increasing population, that Peru established a political and administrative structure in the area in 1911. At that time, prices for rubber were internationally high as a result of the worldwide industrial revolution and World War I. After 1915, the demand for rubber from Peru decreased only to be replaced by timber in the 1950s and gold in the 1970s, which attracted many immigrants. The political system based on an extremely unequal distribution of good agrarian land acted as the main incentive¹² for poor people to migrate from the Andes to the Amazonian rainforest either as gold miners or as settlers. Therefore, population numbers in the Department of Madre de Dios have been on the increase since the 1970s. Since the 1980s, oil companies receive concessions to exploit the fossil resources in the area. As prices are increasing for oil and as national production has been decreasing since the 1980s,¹³ there is strong state interest to develop these resources as a means of reducing the national debt (Haller et al., 2007). Another driving force is timber and gold mining. As the price of gold increases,¹⁴ still more miners migrate to the area. During the 20th century, slavery and sickness had devastating effects on the local indigenous groups. But since the 1970s, indigenous groups have become active and gained a series of constitutional changes, which, in theory, protect and secure the rights of indigenous peoples (Haller et al., 2007).

In Madre de Dios, a wide range of ethnic groups representing 28 communities today decided to set up a regional federation, FENAMAD. Because of the increase in deforestation and immigration to the area, local people as indigenous groups are receiving support from international human rights and conservation movements. Despite the advances made on the conservation front, several initiatives were launched to reclaim ancestral territory, spurred on, for example, in this case, by the UK-anthropologist Andrew Gray of the International Work Group for Indigenous Affairs.¹⁵ The relationship between indigenous federations and conservationists in Peru remains unclear (Alvarez, Alca, García, & Galvin, in press). But indigenous representatives were able to organize an alliance with international conservation NGOs for the protection of the Amazon (Chapin, 2004; Chase Smith, 2002; Chirif Tirado, García Hierro, & Chase Smith, 1991).

In Tanzania, however, the situation differs because of the different colonial background. The colonial legal system from German and British times still prevails in part, and the independent socialist government was also highly interested in the control of protected areas. The government believed that conservation would bring revenues from tourism. The economic problems that originated in the mid-1970s with a high oil price and reliance on international loans contributed to a high national debt that eventually led to the decline in terms of trade and cuts in development activities of the state. In the 1980s, Tanzania was one of the poorest countries in the world and had to submit itself to serious structural adjustment programmes (see Ashley et al.,

2002). These included reductions in the state budget, downsizing state activities and salaries and demands for decentralization, and privatization of other sectors such as coffee. Falling coffee prices, which hit lower-quality coffee hardest, in the 1990s made Tanzania seek to reduce its dependence on coffee. The coffee sector shrunk and tourism became one of the main sources of income. In the 1990s, tourism became the fastest growing sector in Tanzania as it profited from the political unrest in Kenya, which had formally been a major destination before for game viewing and trophy hunting. In Tanzania, the tourist sector generated a growth of 6% in the 1990s and of 7.5% in 2000. It is estimated that 16% of the GDP of the country will come from tourism in the future, and this sector has now overtaken coffee as a leading source of GDP (see Ashley et al., 2002; Ponte, 2002).

By formally submitting to the new paradigm and collaborating with donors on the SGR project, the state was able to redevelop the tourism infrastructure and some local developmental issues without incurring any costs as the program had paid for these. In addition, the success from conservation actually based on the fortress approach was leading to an increase in animals that subsequently attracted more tourists: According to Baldus et al. (2003), revenues from game viewing and photo tourism have increased fifteenfold, whereas revenues from hunting have trebled. Nevertheless, the latter contributed to 80% of the total income from the game reserve that was nearly US\$4 million in 2001 (Baldus et al., 2003).¹⁶ This kind of tourism involves private companies of about 20 in number operating in 44 so-called blocks that are allocated by the state (Baldus et al., 2003). In addition, there are six lodges that are mostly fully booked from March to November (local lodge manager of Rufiji River Lodge, personal communication, November 2006).

Therefore, in both countries, we have changes in relative prices that have the potential of raising bargaining power for local people. However, while in the Peruvian case, the political notion of indigenous peoples plays a crucial role; this is not the case in Tanzania. Local people in the Rufiji district and other districts surrounding SGR area are not seen as indigenous to the area and cannot profit from this political capital.

Cost–Benefit Analysis II: What Happens on the Local Level?

When observing the actual livelihood problems of the local stakeholders, we see the following pattern. In the Amazonian case, the pollution especially of rivers caused by gold miners affects both the Harakmbut and the Machiguenga, although in varying degrees. In addition, the logging companies and the settlers from the Andes who occupy and pollute land also pose serious problems (Galvin & Thorndahl, 2005). Furthermore, a new threat is emerging from oil and gas companies, now setting up business. Therefore, the major threat is not only poverty but also the competition for adequate territories and political control, which is seen as the basis of poverty or on the contrary of development. These threats are at the forefront of what is at stake for

local peoples leading to two major strategies: (a) to secure their ancestral territory and (b) to control the access and use of resources to secure their basic livelihood needs. Conservation now does not seem to be a major threat but in the contrary, conservation NGOs are seen as allies in the struggle to defend the territories.

In the SGR area, like most rural areas of Tanzania, one of the basic livelihood problems is poverty. However, this poverty is accentuated by the close proximity to the reserve. Roaming wild animals do not respect boundaries. Although monkey damage is widespread in the country, several villages where we conducted fieldwork have a high level of crop damage stemming from elephant herds and other animals living on the reserve.¹⁷ In addition, elephant herds and lions move into the villages and endanger the lives of local inhabitants. The movements of people especially women are restricted. Consider the following statements:

We can't do our daily work, especially during the dry season when animals are looking for water and pastures. The animals then move all over. We are then afraid to get water and wood. We then need escort by men. They then cannot work because they have to protect us. If we want to go to the toilet in the evening up to early morning this is a problem for us. (focus group interview among a women's group in Mtanza-Msona, Rufiji, Tanzania in 2004)

All focus group interviews conducted in 2006 mentioned this problem, not only for women but also for men. We were shown traces of elephants and their droppings inside the villages. Besides endangering lives, food security is compromised when elephants move to the fields and feed on the crops. Because of constant danger from wild animals, there is also a problem with artisanal fishing. Access to fishing grounds is very restricted (within the protected area) and also dangerous because of crocodiles and hippos.

However, how serious is the problem of crop raiding, and how does it affect the livelihoods of local people? And are local groups in Peru and Tanzania affected in the same way? We conducted a limited cost-benefit analysis among the villages we researched to assess the material problems of conservation and chiefly the possibilities of participant models to mitigate these problems.

In ACR, on the boundary of the MNP, a 3-year project with a budget of US\$1 million funded by the Global Environmental Fund intended—among other things—to introduce ecotourism and a medicinal plants projects in the area. This project has failed to generate income for the local households of the eight communities of 300 households involved. Gains for the local level are very limited, because ecotourism does not attract many tourists into the area (less than 30 in 2006). From the 300 households involved, only about 15 are profiting because a member is working as a guide or a guard. This means that only 5% of the households are directly benefiting from the project. Therefore, locals are also engaged in the lumber trade or in gold mining that generates about 100 to 450 U.S. dollars per month (Alvarez et al., in

Table 1
Cost–Benefit Analysis for the Two Cases, Amarakaeri Community Reserve
and SGR/Villages Studied in Swiss National Center of Competence in
Research North–South (NCCR NS; 1 US\$ = 1,240 TSH)

Country/Case	Benefit for Village per Year From PA	Benefit per Household per Year (per month) From PA	Average Annual Monetary Income (monthly)	% of Annual Cash Gain From PA	Cost Per Household (crop damages in 2006)	% of Loss Compared to Gain From Game Reserve Hypothetical HHrevenue
Peru, Manu	0	5% of all households between 200 and 70 US\$	4,800-1,200 US\$ (400-100 US\$)	50% for those who earn, 0 for 95% who do not earn	0	0
Tanzania Selous and villages in the South area	6,000,000 TSH 4,800 US\$	44,400 TSH (3,700 per month). (2.9 US\$ per month)	1,250,000 THS. 1008 US\$ per year (84 US\$ per month)	3.4%	129 US\$	73%

Source: Research Peru by Jamil Alca and Alex Alvarez (NCCR NS); Focus group and discussion in Tanzania by Meroka (Meroka & Haller, in press).

press). In addition, controls in the park have not improved from the time before local people took up management in the reserve. Therefore, as shown in Table 1, economic gains from the reserve are minimal.

The situation in Tanzania is different; however, the conclusion as to the economic benefits is about the same. In the pilot villages of the WMAs in the northern part of the SGR area, one tangible benefit is in particular a game meat quota, from which people can profit next to gains from tourism and trophy hunting. However, these quotas are much too low: only 1.8 kg per household per year and the exploitation rate is only 30% to 80%. In addition, meat has to be bought by the local households and is hunted by scouts under the supervision from the Wildlife Department under the auspices of the Ministry of Natural Resources and Tourism (Ashley et al., 2002; Baldus et al., 2003). As Ashley et al. (2002) report, people are frustrated by the decision and feel cheated. The meat is extremely little compared with the losses they incur from crop damages.

The SGR is obliged to distribute a share of its income to the local communities. About 5,000 tourists and 500 hunters visit the SGR. They leave revenues of approximately US\$300,000 and US\$5 million, respectively. Of the latter, about US\$1.8

million US\$ goes to the reserve making up an approximate income of US\$ 2 million (figures from Ashley et al., 2002, and Baldus et al., 2003). In theory, 25% should be passed down to the village level, but calculations offered by Ashley et al. (2002) and Baldus et al. (2003) are very confusing. The district level is said to get 25%, but in the Morogoro district what trickles down to the village level are common goods such as clinics, schools, and so on and figures given are unclear and confusing (see Ashley et al., 2002).

We also made a more concrete cost–benefit analysis of three villages in the Rufiji Floodplain (Rufiji District, southern part of Selous.), close to the southeastern border of the SGR, but not a part of the WMAs. For this reason, they have no meat quota system, local institutions, or organizational structures. Research conducted by the NCCR North–South (Meroka, 2006) indicates that local villagers have been targeted by IUCN Tanzania in the celebrated IUCN REMP. This project funded by the Danish Development Agency tried to set up local village protected areas, conduct land demarcations, and plans for sustainable management of natural resources using participative methods. However, as positive as the results have been, challenges still remain. The failure to involve all the local stakeholders is a source of many conflicts (see Meroka, 2006). In the village of Mtanza Msona, one of the three villages we are focussing on, the IUCN REMP meant that land zonation encroached on territory, which the villagers have been occupying since the establishment of Ujamaa villages in Rufiji district. This process raised hopes among the villagers (136 households, about 900 people) that in the near future, they would be able to gain control over, and direct access to, natural resources such as forests, wildlife, and fisheries. Mloka and Mwazeni, the other two villages of the area directly bordering the SGR, have not been involved in this program. During research and especially during a series of focus group interviews, the situation of the three villages emerged. Only Mloka village, the one closest to the game reserve has come to benefit to a small degree from park outreach benefits, which in 2006 involved money from luxury camp sites and park entry fees. Mloka village with 135 households has received 6 million TSH (US\$4,800), which authorities claim to stem from the revenues of the game reserve. In theory, this would mean only US\$35 per year, or US\$2.90 (3,700 TSH) per household monthly. Estimations based on research indicate that this is 3.4% of the average annual earnings of the local people. By comparison, 3,700 TSH is sufficient to buy only 1.5 kg of beef or 7.4 kg of maize flour. This is not very substantial, as households average six to seven people this represents the basic requirements for 2 days. Worse still, this calculation is purely hypothetical, as the gains from conservation revenues are not distributed on the household level but goes into community projects. Therefore, as small as the contribution might be on the household level, people cannot directly access these benefits. On the other hand, the costs are numerous. As these villages are close to the game park and buffer zones, roaming wild animals partly or completely destroy fields of rice and maize. The villagers have estimated that in 2006, wild animals have damaged at least half of the rice fields of all households, making an average loss of US\$129. This means that for monetary

gains, the hypothetical income of US\$35 from the wildlife park only compares to about a quarter of the potential loss a household can face.

We have not taken into account the losses from lack of hunting and fishing possibilities, about which local people heavily complain and link it to the narrative explaining why there is hunger and poverty:

Our children are growing thin because they are not getting access to meat; however, we have plenty of animals around in our village. (Mtansa-Msona, by one of the village government leader, thematic interview with village government members done by Patrick Meroka in 2004)

This loss is difficult to estimate, but based on research done with villagers, loss from lack of access to fish and game from the game reserve will cost a household an average of 300 to 400 U.S. dollars annually, as meat and fish have to be separately bought. Last, we have not calculated the "costs" of lives lost by wild animal attacks.

This analysis shows clearly that in both cases in Peru and Tanzania, no economic benefits can be derived from conservation, but in the worst cases can generate very high losses in the livelihood sector.

Evolution of Discourses, Narratives, and Strategic Use of Ideology for Actors

The various actors use their different ideologies, discourse, and narratives to legitimize their actions or explain their situation in respect to the participative approach. In this section, we will highlight not only that there are different ideologies in the two settings used by the different actors but also why some of these can be a resource in one setting and not in another.

In the Peruvian case, we can distinguish between local households of Harakmbut and Machiguenga, the leaders in the FENAMAD organization on one hand and the Dominican church and development agencies, associations of immigrants, and minors in the area as well as local authorities on the other hand.

The indigenous peoples who collaborate with the ACR management and their representatives are in favor of the protected area, as it generates income for the small portion of people involved (guards and guides). This discourse is also the discourse of the administrator of the ACR.

We have to educate indigenous people to respect the ACR. (Regional Director of INRENA, 2004, Puerto Maldonado)

In fact, the younger generation of the Arakmbut viewed the ACR as an alternative to jobs in the mining and logging industries. However, the gains from ACR are

minimal compared with losses. And local Arakmbut realize that they are excluded from resource use in the reserve.

We have requested the expansion of the territory, but have not received this, then the Amaraeri Reserve was decreed. I do not understand why we are forbidden from extracting lumber; we no longer have any lumber left in our community and we can't get any from the reserve. I do not understand why we are forbidden while others from the outside are not, and have received the concession to exploit Lot 76, while we can't get anything. Why do they say the reserve belongs to us? (community leader, Shintuya, 2006)

But the leaders of the indigenous organization FENAMAD maintain the view that there are political and cultural gains from the reserve, including the possibility to design a new future.

We have to preserve the ancestral territory: The reserve is a chance and we have to convince people of the necessity to respect rules. (FENAMAD leader, 2004)

What is used here is the ideology of pure nature to be conserved alongside the traditional way of life. The way to achieve this on the discursive level is to refer to local development, based on tradition and identity, ecotourism, and conservation. To view the ACR as an ancestral territory reinforces the view of local ownership and the strategic possibility to exclude immigrants. These are seen as the main reason for environmental degradation (indigenous rights discourse, colonization as the reason for all the problems, and ideology of indigenous self-determination as a means to achieve development and conservation). This would present the leaders of the co-management of the territory with a victory, giving them symbolical and social capitals gains. In fact, the local people would see this as a major political achievement. In addition to this, participative conservation encourages funding from international donors. The church on the other hand opposes the reserve as they see it as a form of antidevelopment, because basic infrastructure cannot be build, which would be necessary should the local youth wish to move away from poverty. This is then corresponding to the ideology of modernity including the development discourse and narrating neo-traditionalism of indigenous leaders as a cause of poverty.

Today, we cannot any more present their society with only the label of indigenous. We think that what is necessary is that the indigenous peoples of Alto Madre de Dios could open their own business in order that they integrate the "productive society." They must organize their own development project, working with lumber. And they should be connected with cities, which means that roads must be built. (Dominican missionary, 2005, Mission of Shintuya)

The point is that the Arakmbut are very disappointed by the FENAMAD and the reserve because very few of them have received the benefit they could hope. (Dominican missionary, 2005, Mission of Shintuya)

Moreover, for miners and loggers who are not indigenous, the ACR regulations are not respected, and as their bargaining power is high, there are numerous conflicts. Their discourse is that they are going to a land that is free, that they are just making their livelihood, and that they are part of the modern world (ideology) as compared with the indigenous traditional world. However, this view is much contested internationally and this creates the basis for power of indigenous peoples (Brysk, 1996; Colchester, 2000; Haley, 2004; Rathgeber, 2003). Especially for leaders and their followers, the ACR is a means to defend their territory against the immigrants who are about to take their land. Even if the mission is contesting this issue and even if some of the actors are not able to understand why the forest is theirs while they cannot use it, the notion of indigenoussness used by the leaders gave them more bargaining power against the other actors.

There are main differences in the Tanzanian case. None of the external actors, such as lodge owners, tourist companies, district-level and state-level actors as well as NGOs, and governmental organizations, would ever deny their belief in the participative approach for conservation. This has become the major discourse where there is a paradigm shift from fortress to community conservation and benefit sharing as well as comanagement. The myth surrounding participative conservation, that is, the move from fortress to community conservation was imperative because the former failed, as well as the ideological level of local development is not only in harmony with conservation but boosted by it. However, this is the onstage version. Offstage, the main discourse supporting community-based conservation is that tourism has become a good business, helping to build up a good reputation and attract donors. However, between NGOs and among the government, local capacity is very much questioned and a development discourse with the narrative of an educational participation is often chosen. The ideology of participative development and conservation is profitable for governments, its ministries, and lodges, for it conserves wildlife at a low cost and legitimizes actions that resemble the fortress approach, but which can be hidden by the dominant discourse. In addition with the WMAs, protected areas can be enlarged into buffer zones, which were previously used as village lands (see Goldmann, 2003). This ideology of community development is also profitable at the district level as the distribution of income lies in their hands, and so there is the possibility of compensating cuts in the public sectors or of direct profits and little trickles down to the local level (Meroka, 2006).

Given the major problems of elephant herds and deaths by lions and crocodiles, the discourse by local people that cost-benefit analysis masks a colonial style development of conservation can be easily understood. They argue that they suffer because of the protected area in a way that not only enhances their poverty but also undermines their everyday security. Wild animals are thus seen as animals of the state that inflict harm. A typical statement told to us is the following:

If we see animals entering our fields and we report, nothing happens. If a person is killed and we report, nothing happens either. But if we have to kill one of *their* animals

that threaten us outside the park, rangers come immediately. (one of the participants at the village meeting in Mwaseni village November 2006, italics added)

In addition to these costs, there are also opportunity costs regarding participative projects: Because of the participative approaches, villagers are expected to be involved in the planning and management of the future WMAs in the Selous Conservation Program. The aim is to educate the villagers and show them the importance of wildlife as well as mitigating in the people–animal conflicts. However, these activities are time-consuming and because local people have no trust in government agencies, they fail to see any benefits in them. During participant observation and focus group interviews, local actors heavily complain that actually all activities close to the SGR in Rufiji area have been compromised: Permits for hunting in the adjacent areas are very expensive that is not understood because local actors perceive themselves as owning the land. On the other hand, there are other users from outside, so-called Arabs, who are well equipped and get better shares because of good transport facilities to the capital Dar es Salaam.

In addition, there is a local campsite set up by the village of Mtanza-Msona that was set up by the IUCN REMP to give gains from tourism to local people. This had been closed down with the argument that poacher could use it for staying there. Local people very much resented this as preventing them from gaining also from tourism.

At the same time, there is a huge frustration with the land rights issue. People in Mtanza Msona believed that by the land demarcation, which was done by the IUCN REMP, they would be able to control the area. This hope has been shattered as people have waited in vain for land village titles. They had hope only in private tourist companies that promised them to help with legal paperwork to make business in turn. During a focus group interview in 2006, a young man from Mtanza-Msona summarized what many people were thinking:

We have waited for long to be assisted. We will no longer wait for NGOs to help us. We just want to get help from business people to help us to own land. We no longer want to wait for the government or for NGOs. They have demarcated, but nothing is coming. (young representative, Mtanza-Msona focus group interview, 2006)

There is, however, a difference in the perception on gains between genders: Not only do women see themselves suffering more or being more exposed to the danger but they also cannot profit from small poaching activities that men sometimes go for to meet monetary livelihood needs. Women state in interviews that

[W]e are not involved in management and in decision making, while we are the once suffering most. (Mwaseni focus group interview in 2006)

And in another village, women complain about the distribution of the small gains from wildlife use and sale of game meat by men.

Often men are out, and if we cannot get food from the fields before it gets dark, the children go to bed hungry [for fields that are further away from the village]. For men, they can harvest meat illegally, but the income ends in their own pockets. (refer to smaller animals such as pigs but not the elephants or other bigger animals; Mtona focus group for women, 2004, interview done by Patrick Meroka)

However, participant observations in the villages indicate that hunting is done on a very low level and never large animals but only wild pigs and small antelopes if ever. Because of better state monitoring, locals have little chance of illegally taking larger animals. If this happens, it is professional hunters who can sell meat in the capital Dar es Salaam (see Meroka, 2006).

Discussion and Conclusion

A comparison of the two examples shows clearly that participative conservation is only welcomed by local leaders in the Peruvian case but not in the Tanzanian case. From the view of new institutionalism focusing on changes in relative prices and ideology and enlarged with the critique of the cost–benefit analysis, the paradox can be solved as follows: Our theoretical approach would predict that actors will take up the approach of participative conservation, even if there are no economic gains to be made as long as political gains are provided. This is the case in Peru, where indigenous leaders have ideologically developed high-bargaining power in alliance with international NGOs to try to claim control over their areas. Most important is the fact that this status is not opposed by oil companies, who will always find ways in changing land legislation if fossil fuels are found. But for the time being, the political gains for locals are against settlers. In Tanzania, however, despite the participative approach, local stakeholders are still not receiving an increased bargaining power because their views as such are not recognized. State and NGO actors and not local people define what participation is and how it has to be achieved to capture the benefits from donor money and from tourism that stemmed from changes in relative prices. This indicates that ideologies, discourses, and narratives are important as resources to boost bargaining power. In the Peruvian case, indigenous leaders and their followers could profit from their political position, even if there was resistance and critique from the mission and other actors. They could get some rights to control the reserve linked to the MNP by making reference to the traditionalist ideology that matches well with government agencies and conservationists ideology of pure nature and the discourse of participative conservation. Despite irritations at the local level that their power from being indigenous is limited, the basic issue remains that outsiders can be excluded politically from the area. On the other hand, we have no ideology of indigeneness in the Tanzanian case that can be used politically. There is the ideology of pure nature used by the state and by conservationists that has not

changed. What has changed is that in the discourse and in the narrative, local stakeholders should be involved to boost conservation with gains from tourism. This is exactly what Blaikie has called the Trojan horse of the conservationists and tourist sectors to attract funds and enlarge protected areas in the context of community-based natural resource management initiatives in Malawi and Botswana (Blaikie, 2006). These are thus the actors who increase their bargaining power to shape the institutional design by using specific ideologies, discourses, and narratives. Using a limited cost–benefit analysis to identify material short-term gains, we see that in both cases, gains are minimal or even well below the costs, but we also understand why in Peru local leaders follow the line of participative conservation. In the Tanzanian case, it explains why locals do not see a benefit but it does not explain why the approach is successful on paper. It can only be explained by showing the interests of the more powerful sector of state, NGO, and business actors. For local people, conservation simply means costs that have been externalized by the state and NGOs. Often, local people’s perception is that they have to defend themselves against conservation. The institutional challenge is, however, the same for local village groups in Tanzania as in Peru: trying to control the land and its resources.

Notes

1. Classification issued at the Fifth World Parks Congress in Durban, South Africa in 2003 (Borrini-Feyerabend, Pimbert, Farvar, Kothari, & Renard, 2004).

2. The Swiss National Center of Competence in Research (NCCR) North–South focuses on international research cooperation and promotes high-quality disciplinary, interdisciplinary, and transdisciplinary research. The aim is to contribute to an improved understanding of the status of different syndromes of global change, of the pressures these syndromes and their causes exert on different resources (human, natural, and economic), and of the responses of different social groups and society as a whole. See www.nccr-north-south.unibe.ch.

3. For SGR, Patrick Meroka and Tobias Haller; for MNP and ACR, Alex Alvarez, Jamil Alca, and Marc Galvin.

4. In Peru, two PhD students in social anthropology, who were part of the NCCR research programme, have carried out a survey in 16 families of four ACR communities (Shintuya, Diamente, San Jose de Karene, and Puerto Luz) during 1 month (September 2006). Two types of data were collected by anthropological methods of participant observation, focus group interviews and household surveys, including the gathering of historical, economic, and politically relevant data. Researchers combined qualitative (several form interviews and focus group interviews) and quantitative (household data) methods. The major aim was to capture local perceptions related to the development of the MNP and the ACR.

Parts of the data were gathered in Tanzania by a Kenyan PhD student in the NCCR framework supervised by a senior Swiss scientist. The main focus of the PhD study was not on protected area, but on the management of common-pool resources in the Rufiji floodplain in two village settings including two more villages in 2006 (on protected area, therefore, we have data on the villages of Mtansa: Msna, Mloka, and Mwaseni all bordering SGR in Rufiji district). The student did use participant observation during three fieldwork trips between 2002 and 2004 of 6 month each. He and his supervisor designed and structured thematic interviews on resource use and management for focus group interviews (eight divided among youth, gender [always 10 persons for each interview], and one collective village meeting).

Biographies (eight: five elder men and three women) and household questionnaires (120) for the village of Mtanza-Msona close to the SGR in Rufiji district and focus group interviews in 2002 to 2004 and in 2006 focus groups with semistructured interviews more focused on protected area and participation (five in total, two in Mtanza Msona [village government and community members], two Mloka close to the gate of the protected area [village government and community members], one in Mwaseni village [village government], each having 10 to 20 gender mixed, all in Rufiji district). In addition, we used the work published by the LADDER team of Ashley et al. (2002).

5. For the countries studied, these will be discussed in detail later on. For a basic understanding, it means that these southern countries face bad terms of trade and lowered income for state activities and at the same time, high prices for tradable goods from protected areas, such as game, trophy, ivory, minerals, wood, and so on.

6. This is important as well because behind the figures, economists present in cost-benefit analysis, there is a specific kind of rhetoric that is also often leading to false statistical analysis (see McCloskey, 1985, 1994, 2001).

7. However, our calculations are not used in a strong statistical terms but to give some more sense of the direction to the problem than just being descriptive. In addition, we try to get a sense about who will benefit from participatory approaches and who is paying.

8. Cultural landscapes refer to the fact that the kind of ecosystem that one finds in these places has been shaped by resource use of humans for the last couple of hundreds of years. Cultivation, fire, and cattle husbandry have altered vegetations as well as hunting and fishing activities. Tree cover has been altered and specific species have been planted by humans. For a clearer debate on this, see literature that we have been given and for a general debate, see Fairhead and Leach (1996).

9. The English expert Ian Grimwood, with the help of the professors of the Forestry Department of the "Universidad Nacional Agraria La Molina," proposed to the Peruvian government a list of priority areas to be protected. The 1970s will see the enforcement of this proposition with the opening of four main protected areas (Manu in 1973, Cerros de Amatape in 1975, Huascaran in 1975, and Paracas in 1975).

10. In 1991, the Peruvian parks program received US\$73,000 from public funds, US\$331,000 in 1994, and US\$765,000 in 2004, whereas in 2004, the total budget of this program (the PROFONANPE) was US\$7.8 million. This objective implies automatically the increase of the dependency of the protected areas national system vis-à-vis foreign donors. This dependency is a chance for donors and international organization that can condition their aid to the implementation of specific policies and norms.

11. More different donors stepped in and provided funds or assistance such as the German Government (treasury financed in beginning the entire budget of the SGR, about US\$150,000), GTZ (advisors), German Bank for Reconstruction and Development (from 1,700 km to 15,000 km roads and transport from 3 cars to 47 cars and lorries), African Wildlife Foundation (USA, mechanic and equipment), World Wildlife Fund (scientific staff, aerial counts), and European Union in support for the local NGO Selous Rhino Trust, all collaboration with the Wildlife Division of the Ministry.

12. For example, exoneration of taxes for economic activities developed in the Amazonian department.

13. This has changed in 2006 with the discovery of very important oil reserves in the North of the Peru.

14. According to the London Metals Exchange, the price of gold per ounce (oz) increased in the 1970. The official rate was the following: 1972, US\$35; 1978, US\$200; 1980, US\$350 (Green, 1983, p. 283).

15. International Work Group for Indigenous Affairs is a Danish based nonprofit NGO of anthropologists supporting the claims of indigenous peoples, for example, to protect their land and cultural heritage, see www.iwgia.org.

16. However, from trophy hunting, there is a hunting retention fee of US\$ 1,811,000 that makes the income from SGR only US\$2.1 million.

17. Of course different villages are affected in different ways, depending on how close to the SGR they are and on how much land the village contributes to the WMA or buffer zone.

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