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People, Protected Areas and Global Change

Participatory Conservation in Latin America, Africa, Asia and Europe

Edited by
Marc Galvin and Tobias Haller

perspectives
Volume 3

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Marc Galvin and Tobias Haller

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Cover photo:
Conflicts between game wardens and people before the time of participatory conservation in the Waza Logone area, Cameroon. (Anonymous painter; photo of painting taken at the entrance of Waza National Park, Cameroon, by T. Haller)

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Foreword

Global concern about the maintenance of the Earth's biological diversity in 1992 induced broad agreement among governments to establish a Convention on Biological Diversity (CBD), which was endorsed during the UN Conference on Environment and Development (UNCED) in Rio de Janeiro and has since been signed by 168 states. Between 1992 and 2008, protected areas increased from 9% to over 12% of the earth's ice-free land area. This total surface area is as large as the surface for all cultivated land, which feeds humanity and a good part of our livestock. But what are the benefits of these protected areas? What sacrifices must people endure in order to preserve flora and fauna, and ensure eventual use by later generations? How can local land users be compensated for losses that directly affect them?

There are serious problems between people and protected areas all over the world. In particular, numerous land users – be they farmers, herders, businesspeople or tourists – are affected by rules and regulations that were set up by governments and have been reinforced in the CBD ratification process. Public opinion, as well as the attitudes of those who want to make good use of the resources available in protected areas, are often opposed to the idea of area protection. Increasingly, there have been calls for greater public participation in the management of protected areas, and scientists have supported this in numerous publications commissioned by institutions such as the World Commission on Protected Areas (WCPA) of the World Conservation Union (IUCN). The basic question is: does public participation increase the effectiveness of protected area management? Or is it just a means to safeguard or even enhance current human uses in such areas?

As a research partnership programme, the NCCR North-South has gained considerable experience with case studies on people and protected areas carried out since 2001 in different contexts on four continents: Latin America, Africa, Asia and Europe. These individual studies looked at the problems people faced and at environmental issues from a variety of angles, including governance, conflict transformation, livelihoods, institutions and natural resources. On 31 August 2005, Tobias Haller and Marc Galvin, who had both been involved as senior researchers in the NCCR North-South, proposed a transversal analysis and a common synthesis of the case studies on protected areas that were then available. This was a project endorsed with pleasure by the Board of Directors, and for which the necessary financial support was made available in due course. The present book is the out-

come of this project, which took nearly three years to complete. It answers a basic question: what are the ecological, social and economic benefits of enhanced participation in protected area management and use?

All 13 case studies in this book were written by different authors who complied with thorough guidelines set by the Editors, for which theoretical support is presented in their introductory article (pp 13-34). All contributions were reviewed by distinguished external experts. The Editors then analysed them in a comparative manner, using the theoretical framework of New Institutionalism, including a comparison with experience in other protected areas found in the literature, which they present in a concluding synthesis chapter in Part IV of the book (pp 507-549). The basic hypothesis of the Editors is that sustainable conservation in a protected area can only take place if people can fully participate, and if there are incentives at the household and individual level for them to do so.

The synthesis shows that participation in the protected areas under study was generally better in theory, i.e. according to existing regulations, than in perceived practice. In most cases, however, this gap did not drastically worsen the sustainability of conservation efforts, although there are cases where it did. The use of New Institutionalism as a tool apparently made it possible to address the issue of participation in conservation very well. However, this tool is weaker in assessing overall sustainability in general, and ecological sustainability in particular.

What I have personally learnt from this book and from my own experience in one of the case studies presented here is that the participatory approach is very appealing in terms of its promise as a sustainable conservation strategy in protected areas; but it requires careful assessment and application.

Bern, Switzerland
June 2008

Hans Hurni
Director, NCCR North-South

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We also thank the international experts who peer-reviewed the contributions: Marc Hocking, Vice-chair of the IUCN World Commission on Protected Areas (WCPA), and a member of the Commission's Executive Committee and the Global and Australian Steering Committees. He leads the WCPA programme on Science, Knowledge and Management of Protected Areas, and is a member of the Fraser Island World Heritage Area Scientific Advisory Committee. Marc Hocking was the principal author of the IUCN's "Best practice guidelines on evaluation of management effectiveness in protected areas". He is currently managing a joint United Nations Educational, Scientific and Cultural Organisation (UNESCO)/IUCN project that is applying these guidelines in nine World Heritage sites in Africa, South Asia and Latin America.

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Ashish Kothari is Co-chair of IUCN's Intercommission Theme on Indigenous and Local Communities, Equity, and Protected Areas (TILCEPA). He is also a founder-member of Kalpavriksh, a 29-year-old environmental research and action group. He has coordinated the Technical and Policy Core Group to formulate India's National Biodiversity Strategy and Action Plan. He has been a member of the Expert Group on the Biodiversity Act, the committee to revise the National Wildlife Action Plan, the Environmental Appraisal Committee for River Valley Projects, etc., and has served on the governing board of Greenpeace International and Greenpeace India. He is the author or editor of over 20 books, including *Managing Protected Areas: A Global Guide* (edited by M. Lockwood, G. Worboys and A. Kothari, 2006, London: Earthscan).

Neema Pathak is a member of Kalpavriksh and a student of environmental science. She has compiled a status report on the Management Status of Protected Areas in the State of Maharashtra and coordinated a project on People's Involvement in Wildlife Management in South Asia. This project was carried out with the help of a network of people and organisations across South Asia.

Finally, we wish to extend our thanks to all thirty-one authors for their long and patient work in making contributions to this book. We are very grateful to all of them for having embarked with us on this fruitful scientific adventure.

Last but not least this book is dedicated to all people who live near protected areas and are confronted with problems and the promises of community conservation. We thank all of them for having shared their time as well as their knowledge and views with the researchers involved in this book.

Marc Galvin and Tobias Haller, Bern

Introduction

Introduction: The Problem of Participatory Conservation

Tobias Haller[1] and Marc Galvin[2]

Conservation of biodiversity in a territory, usually excluding human use, has been a major and, in terms of scale, a very successful strategy for protecting nature from human use since the 19th century. Protected areas[3] (PAs) are the largest land use category, covering about 12% of the Earth, and number between 104,000 and 113,707 entities (Chape et al 2005; Lockwood et al 2006).[4] A great deal of literature has been published on PAs.[5] This literature has lately addressed the question of what role local people living in the vicinity of protected areas play in their management and therefore whether and how local actors can be involved in protecting the "stock" of biodiversity on the planet (Hulme and Murphree 2001; McShane and Wells 2004; Borgerhoff Mulder and Coppolillo 2005). Some of the main concerns in the debate have lately focused on the question of the social impact protected areas have on local people (see, for example, West et al 2006) and what kinds of power relations are linked to PAs (Blaikie 2006). With so many publications on this topic, is another lengthy publication justified?

Bridging approaches, scales and disciplines: An institutional approach to PA analysis

The present publication compiles results from 13 international research groups of the Swiss National Centre of Competence in Research (NCCR) North-South.[6] These groups focus on environmental problems and global changes that link the North and the South. The uniqueness of this publication consists in assembling and comparing findings from in-depth research in Latin America, Africa, Asia and Europe (Switzerland) on how PAs have been managed over a period of 50 to 100 years and how they are linked with global change. This provides a solid basis for qualitative and quantitative comparison, as the case studies are all structured in the same manner, which is seldom the case with these kinds of publications. We are therefore able to provide a comparison that goes beyond case studies to a large-scale quantitative view. The basis of our analysis is a focus on governance and institutional analysis (New Institutionalism), including an approach based on political economy. In addition – and in line with some of the more recent

anthropological studies – we have decided to include a constructivist approach that views what is called "nature" in PAs as a contested social construction (Escobar 1999; Brockington 2003; West et al 2006). This view, however, is combined with analysis of different actors' interests and strategies, including economic and political contexts, in which global, national and local changes are involved. The major theoretical approach adopted for comparison is influenced by the New Institutionalism in economics, political science, human geography and social anthropology (see North 1990; Ostrom 1990; Ensminger 1992; Ostrom et al 2002; Acheson 2003). Institutions in this context are seen as norms, rules and regulations that shape human expectations and human actions by reducing what economists call the costs of transactions. But this approach has been developed much further to allow room for more realistic analysis than just an economic reading: specifically, the approach used by Ensminger offers the possibility to link external changes with local developments in the political and economic domains or with use of natural resources. It is a theoretical approach that helps to explain why, at a local level, specific kinds of institutional settings are used and why others are not used or advocated. The approach of Ensminger also takes a close look at the issues of actors' bargaining power and ideologies. This is of central importance in the present volume. As we focus on the development of the participatory approach in terms of institutional change, we examine why and how ideologies are used in specific contexts. Ideologies are considered here as worldviews that give major orientation and explain how the world is perceived. From a Marxist perspective, the term is of importance in analysing the legitimacy of actions taken in both global and local contexts. Ideologies also embody discourses, referring to how meaning and orientation are produced in a coherent way in spoken or written language, as well as narratives, referring to how a specific situation is logically described and explained. In the context of PA management, for example, a basic ideology adopted by conservationists is that there is such a thing as pure "nature" and that it is in peril. The discourse then focuses on different types of conservation to protect nature by normative means. The narrative would then argue that, due to population growth or misuse of natural resources by local people, nature has been put in peril (see Haller 2007b; Haller et al 2008).

This framework helps us to bridge different disciplines and to integrate the approaches of political economy, economics and more post-modern and critical readings in the social sciences focusing on constructivist issues. It also means that, regarding the issue of why PAs are implemented, we

believe there are more reasons behind their existence than just conserving nature: conservation is no longer just a noble goal but can be viewed as a kind of global business, which is based on the construction of what we call "nature". The construction of nature produces goods such as tourism, which can be sold internationally and in which large-scale investments are made. But the view of nature in peril also generates cash resources because it gives access to funds, nowadays often combining conservation with development goals. This is increasingly justified by highlighting the fact that local people(s)[7] are enabled to participate in PA management.

History, biology and interdisciplinarity: placing culture in nature and reasons for PAs

The present collection of papers has another central aspect: we adopt a historical perspective focusing on pre-colonial times and on local change and its connection to "global change". By this we understand that each setting is undergoing rapid bio-geophysical, political and economic change affecting human practices at all levels and on different scales (Chapin et al 2000), linking external and internal factors (Ensminger 1992). Therefore, the innovative aspect of this book is to contextualise PAs in time and space and to make global comparisons among well-researched case studies. We are, however, aware that the selection of PAs in this volume is based on wider project logic and that we are dealing with a specific selection. Nevertheless, we believe we are contributing to a central debate.

It is true that in the process of modernity and post-modernity previously established landscapes are and will be transformed in a way that reduces biodiversity and global ecological stability. Due to the great impact industrial and post-industrial development has on biodiversity, some authors even speak of these changes as a new geological force. Human-induced climate change caused by air pollution will lead to large-scale changes in vegetation with often unexpected developments and consequences (Grinevald 2007). Realising the impact of modernisation on our "common future" in the late 1980s, the 'Brundtland Report' (WCED 1987) focused on sustainability. Later on, the first global response was proposed in 1992 at the UN Conference on Environment and Development in Rio de Janeiro, where the concept of biodiversity was specially highlighted and first presented as a key political and economic concept (Aubertin and Vivien 1998). Genes, ecosystems and species were taken as a unique dimension and can be seen today as a specific construction of a reality shaped by the international

community to organise the sustainable and fair use of natural resources (ibid.; see also Haller 2007b). Linked to this political goal was the intention to preserve livelihoods for future generations and to ensure a better distribution of wealth, in order to boost development and reduce poverty at the same time. This paradigmatic change in the perception of nature had a major impact on actions and tools used to face the massive destruction of diversity of species and ecosystems, especially with respect to one of the principal options developed to date: protected areas.

Protected areas: a response to or a problem of global change?

Rooted within the North American philosophy of protection of pure nature in a rather romantic way, Yellowstone National Park, as the first PA, was regarded as a "pleasuring-ground for the benefit and enjoyment of the people" (Shivers Culpin 2003). It became a success story in terms of today's PAs covering more space than agricultural land worldwide. According to the World Database on Protected Areas (WDPA), the number of PAs worldwide doubled during the decade prior to 2005 (Lockwood et al 2006; West et al 2006). This rapid increase represents a potential chance to save endangered species but has also produced rapid changes of livelihoods for many people, mainly local communities in and adjacent to such areas. In a context of human population and economic growth, which supposes growing demand for natural resources, the pressure on land – and competition over access to and control of land – has become greater than ever. The development of new PAs represents a response to, as well as a constitutive element of this global change, and it can be viewed both as a solution and as a problem. Indeed, the type, form and objective of PA management systems can have positive or negative impacts on the livelihoods of millions of people who are directly or indirectly affected by PAs in different ways, as well as on the ecosystems to be protected. In any case, conservation of what is called nature is always driven by political and economic interests linked with the implementation and management of the worldwide PA system.

Comparing governance and participatory management of PAs

As the main focus of the present publication is the interactions of people(s), PAs and global change, based on data from the NCCR North-South, we tried to determine how the participatory approach to conservation evolved in specific settings and who profits from the new approach, considering not only (economic) benefits related to the uses of natural resources but

also (political and symbolic) benefits achieved or unintentionally produced by different actors involved in PAs – taking account of social areas that provide livelihoods and are contested by different actors with different interests, powers, knowledge, histories and perceptions. The principle of participation appears to be an institutional means to mitigate problems of global change, reconciling local people with conservationists, and conservation with development. Syndromes of global change in this volume are defined as clusters of ecological, social, economic and political problems or symptoms that form typical patterns, based on similar processes, and that emerge in different regions of the world, thereby actually or potentially resulting in adverse impacts at the global level (see Hurni et al 2004). Therefore while comparing the formal settings of PA management, and comparing these to the different realities local people face in PA areas, we also focus on lessons learnt from positive developments, best practices, and potentials for mitigation of syndromes of global change with respect to conservation of landscapes and biodiversity.

Two key concepts used throughout this volume and linked to the definition of institutions given above need to be defined and analysed. Literature addressing the management of PAs often uses the term "governance". This refers to how PAs are managed in overall terms and includes especially not just technical but conceptual and political aspects and therefore power issues.[8] The basic governance system in which a PA is located is related to who controls the basic power structures in an area. It is therefore important whether a PA is governed by a military-like organisation based on the notion of total exclusion of local people or whether there is a governance concept that includes more participatory local involvement. Is it generally possible, for example, that local actors might have a say in the way a PA is managed? "Participation" will then be defined at different levels as the possibility of local involvement in management, ranging from just being informed or consulted up to full control by local communities (see also Borrini-Feyerabend 1996, discussed in the next section). The link to New Institutionalism is now twofold. On the one hand, institutions are of major importance because they determine the dos and don'ts implied in a specific governance system that includes a certain kind of participation or lack thereof. Rules and regulations, norms and values of how a PA under a specific label of governance is to be operated and managed are then defined by these institutions. The way such institutions are implemented or negotiated is then part of the process of institutional change, which we can analyse through a historical process. But before we set out to indicate how the case

studies have been structured in order to allow for comparative analysis, we need to have a look at the state of the art in PA studies.

State of the art: selected overview

From fortress to community conservation

The current state of the art in the debate over PAs is linked to the way PAs have been governed in the past and the way they are governed now. This is not the only aspect of the worldwide debate but it is the most central aspect and the one that generates the most tension (see, for example, the World Park Congress in Durban in 2005 or other large-scale conferences). Tensions are largely related to debates over rights of access to natural resources for local (or indigenous) people and levels of exclusion (fortress approach) or inclusion (different levels of participation: collaborative, co-management or community-based). Very often relations between PAs and local people are difficult because concepts of nature, natural resources or PA conservation include restrictions or competition in land and resource use, and issues related to other rights. Historically, especially in African countries, PA implementation has often been linked to the colonial project of conserving areas from local use for colonial use as forests or hunting areas (Neumann 1998). In other parts of the world conservation had to do with colonial projects, although not exclusively so (Asia) and sometimes very little so (Latin America). However, since the emergence of nation-states from former colonies and the move towards greater control by the state, PAs have become a means not only to conserve nature but also to manifest state control over different areas within a national territory (in Africa, see Neumann 1998). Involvement of local people in participatory governance with specific institutions, including community or co-management, was never an issue in this context up to the 1980s. Here, however, the dominant view began to change into what Adams, Hulme and Murphree call a paradigm shift for Africa (Adams and Hulme 2001; Hulme and Murphree 2001). They refer to major institutional changes regarding PA governance and management, from the so-called fortress approach to the community approach. The former refers to police or military-like central state control of a protected area, in which human use is completely forbidden, while the latter recognises and returns power and decision-making to the local level, in communities or in bottom-up, participatory approximation, based on the experience that top-down, interventionist and anti-popular approaches to

PA implementation and management involve too many obstacles and have not contributed to conservation as such. Moreover, they are too costly and inefficient. This point also refers to the fact that many countries in the South lack adequate means to finance monitoring and sanctioning of PAs (see also Gibson 1999). These approaches are in fact often contained in dominant narrative regimes that are used within discourses to deal with protected areas and the way they should be managed.

Governance via local institutions: lessons from the "tragedy of the commons" debate and local knowledge

An important additional issue is the debate on the famous "Tragedy of the Commons" paradigm, which suggests that collectively owned resources should either be protected by the state or privatised, and the subsequent critical debate on the possibility of conservation of natural resources as common-pool resources[9] and of PAs as a particular category harbouring such resources. This led to more participatory strategies. As many studies have demonstrated, local people managed collectively held resources by using clearly defined institutional settings and customary laws, norms and regulations (institutions) for sustainable management of common-pool resources in pre-colonial times. These studies also illustrate how such institutions were distorted, eradicated, marginalised or overlapped in terms of legal pluralism created by the state's own redefinition of natural resources or protected areas (McCay and Acheson 1987; Feeny et al 1990; Ostrom 1990; Berkes 1999; Haller 2007a, 2007c). The notion that local people are indeed able to define rules, "share power" and be key agents in achieving conservation or sustainable use within protected areas as a basic system of governance (Borrini-Feyerabend et al 2004) has finally been recognised. This recognition has recently been manifested in official discourses on the management of PAs, while local and indigenous organisations in turn continue to claim their right to be active agents in these issues. Thus there is presently great interest in understanding the historical conditions under which PAs have emerged and the ways they affect management today, in order to achieve relevant governance and management systems that promote people-centred conservation in most of the International Union for Conservation of Nature (IUCN) PA categories (Adams 1990; Borrini-Feyerabend 1996). And even if not fully implemented in the new IUCN definition of PAs, the involvement of local people in the context of the debate on indigenous peoples worldwide includes the will to cooperate with the grassroots level, fostered by international conventions such as the Inter-

national Labour Organisation (ILO) Convention 169, Agenda 21, and the Convention on Biological Diversity, as well as international organisations such as the United Nations Development Programme (UNDP) and leading conservation NGOs such as the IUCN and the World Wide Fund for Nature (WWF) (see Colchester 2000).

Looking for cross-actor and cross-sectoral linkages

At the international level, collaboration among key stakeholders and people involved in PA governance may lead to the establishment of a more coherent and effective PA system and also advance a more relevant global regulation framework. The intention is to improve collaboration between actors at all levels and inter-cultural communication and negotiation, as well as to define a more efficient and coherent system for applying global, national and local regulations that affect PAs (trans-scale regulations, see Rodary et al 2003). In an IUCN Social Policy Paper written by Grazia Borrini-Feyerabend in 1996, major guidelines for so-called Collaborative Management of Protected Areas were outlined. This is one of the first attempts to analyse management and governance issues as well as lessons learnt, based on case studies. Borrini-Feyerabend also explains the continuum between full control of agency in charge of managing PAs and full control of stakeholders, resembling the two poles of the fortress and community approaches mentioned by Hulme and Murphree (ibid., p 17). Interestingly, her paper shows how locally defined institutions evolved, for example in defining local by-laws in collaboration with state agencies and NGOs (ibid.). The same approach is taken by the World Commission on Protected Areas (WCPA), which has published a series of Best Practice Protected Area Guidelines. A relevant process was also started in 2003 at the IUCN World Congress on Protected Areas, aimed at better understanding the "governance of protected areas" in terms of "who holds relevant authority and responsibility and can be held accountable". Borrini-Feyerabend et al (2004) offer a classification of governance types for PA management.[10] Ideally, different levels of governance should be established: a collective process for managing the PA; a collective process to make coherent the regional or national regulation of several PAs; and an international process to make global conservation by PAs more efficient.

What are good incentives for participation? Economic gains and development gains vs. human rights violations

As governance and participation by local actors in decision-making and defining local institutions through participation have become issues, initial evaluations of participatory approaches (Pimbert 2003; Chambers and Miller 2004; IUED et al 2007) have emerged in the field of sustainable development which are critical of such processes. For some scholars, participation is tantamount to "New Tyranny" in development projects (Cooke and Kothari 2001). Although some participatory projects have been a success, at least on paper, the failure of many projects based on a participatory approach has led to a problematic constellation in PA management. Much of the debate on this issue relates to the fact that legal access to common-pool resources in a park is one of the most critical questions. It is related to access rights, while property rights, security to land and resource tenure, empowerment, and true participation in decision-making are key factors in creating or mitigating socio-environmental syndromes in PAs. Already in 1999 Gibson reviewed the situation in Kenya, Zambia and Zimbabwe and concluded that neither the strong-men policy in conservation nor rhetorical appeals to participation on paper were important for success. What counts are the political and economic contexts in which such approaches take place, their effective results, and their sustainability. If economic incentives for this kind of collective action are not considered or based on an understanding of the calculations of local stakeholders and an evaluation of their power, interests, needs and cultures, participation is likely to exist only rhetorically, on paper. Collective incentives and interests will not be considered by local individuals because collective incentives are badly understood and the gains cannot be harnessed individually (Gibson 1999; Hulme and Murphree 2001). However, this is one of the major challenges to be addressed, for there is no real alternative discourse to link conservation and development in combination with a specific form of multi-stakeholder process (see also Hurni et al 2004), though Chambers and Miller (2004) suggest that an approach that is less top-down and interventionist and more dialogical, intercultural, equitable, negotiated and participatory, is an option. One of the important questions relating to adequate participation is whether this is only possible under few strong democratic systems with bottom-up political processes, such as that in Switzerland (direct democracy) or in countries with a representative democracy – for example, in Europe generally (Borrini-Feyerabend et al 2004). We investigate which kinds of participatory processes that may be possible in PA governance are

required under other political systems and in other cultural contexts. This is a question that is also debated in relation to common-pool resource management (Ostrom 1990; Ostrom et al 2002).

Conclusions and lessons learnt for comparison

The basic lesson to be learnt from the literature, and also highlighted in the case studies presented in this volume, can be summarised as follows: If we look at the kind of governance established as a function of power relations by which a certain constellation of participatory institutions is crafted, we see that we are dealing with power issues and issues of ideology in order to legitimise actions. These ideologies, with their discourses and narratives, are used strategically by all actors in order to structure governance and the underlying institutions for their own gain. One of the major aspects of relevance here is that we often do have institutions at the international, national and local levels that manifest themselves in the governance structure adapted. We therefore speak of legal pluralism, giving a high level of insecurity for actors, on the one hand, but on the other hand allowing actors to make reference to institutional settings at several levels, which is of strategic interest. Therefore, on the local level, participatory approaches are not so much about conservation in the Western sense of the term than about trying to obtain political control, while participation used by NGOs and government agencies is perhaps more about enlarging PA areas for economic and political reasons. Conservation is then often used differently at the on-stage (i.e. official) and the off-stage (i.e. based on hidden agenda) level, illustrating the basic interests of actors. This view has major implications for the comparative methodology used.

Methodology

This volume presents a series of papers that provide very comprehensive information on each of the 13 PAs selected for a case study: 4 in Latin America (2 in Bolivia, Argentina, Peru), 5 in Africa (2 in Tanzania, Madagascar, Cameroon, Ethiopia), 3 in Asia (Indonesia, Nepal, Vietnam) and 1 in Switzerland. In the interest of scientific coherence, each contribution is similarly structured and presents material for comparison in a quantitative but especially a qualitative manner, incorporating: a) setting of the PA (ecological, historical, demography), b) resources, livelihoods and institutional change in the PA (economic activities at local and national levels), c) governance and participatory institutions of the PA (authority and basic structure/organisa-

tion, power relations between stakeholders, norms, values, regulations, etc.), d) discourses and narratives (regarding perceptions, wishes and motivations) and e) conclusions. We are thus able to focus on the colonial and postcolonial past and how this past influences the present-day perception local people have of governments and implementing agencies and NGOs. This defines the level of trust local people have in participatory approaches. We can also examine the political and economic context in which a PA system is situated and which shapes the local and regional interests of powerful actors.

Although each team was encouraged to use its own theoretical framework, two specific analyses were strongly recommended: above all cost–benefit analysis, in order to make economic and political evaluations of the direct and indirect interests involved in processes of participation among stakeholders (groups, family, individual). The other analysis relates to discourses (ideology, major arguments given to legitimise views and strategies) and narratives (views of how a particular problem in the PA area came about).[11] These are important resources which different actors use in order to increase their bargaining power and influence institutional change in PA management for their own benefit.

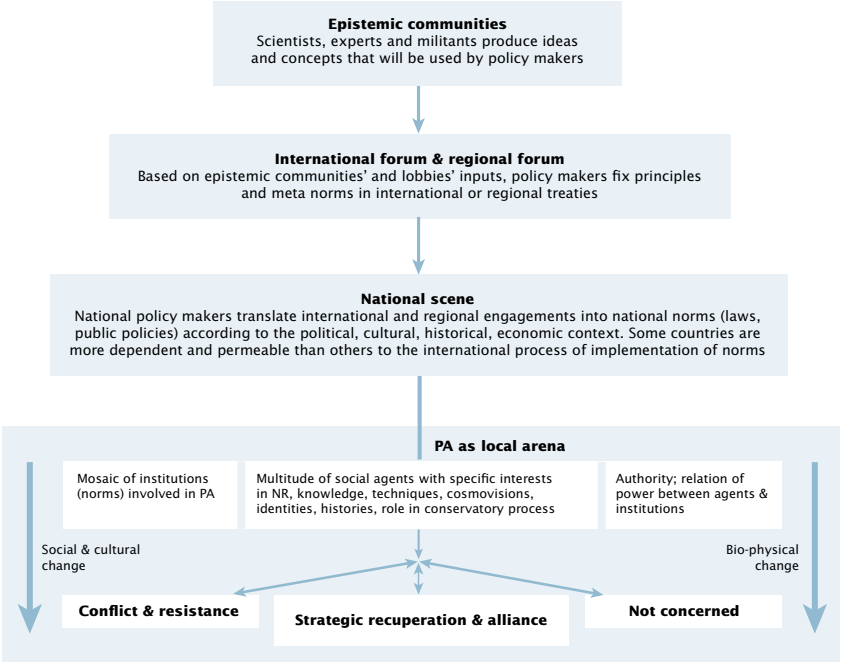

Fig. 1
The multi-level framework of PA governance. (Source: Galvin and Haller 2008)

Analysis of participatory governance and institutional change, the focus of the contributions in this collection, is illustrated in Figure 1, indicating the normative context (at different scales) in which participatory approaches are implemented.

In addition, we have developed Figure 2 to address the debate on the strategic use of PA management in terms of development and economic incentives and level of participation (from fortress to community conservation), in the form of a matrix. The different PAs discussed here can then be located in two different ways to illustrate the difference between on-stage and off-stage ideology and discourse in participatory management. Each PA can be placed both according to what is formally defined in terms of governance and institutional design (on-stage criteria) and to the findings of our studies (e.g. real options that local people have with regard to the management of a PA and perceptions of a given PA; off-stage criteria). Regarding the mitigating effects for biodiversity conservation, we expect that PAs that are placed in the upper right area of the graph will also produce the best conservation outcome. The results of this analysis are presented in Chapter 14 ("Conclusions"), along with a worldmap giving an overview of participation in and benefits from the thirteen protected areas presented in this volume.

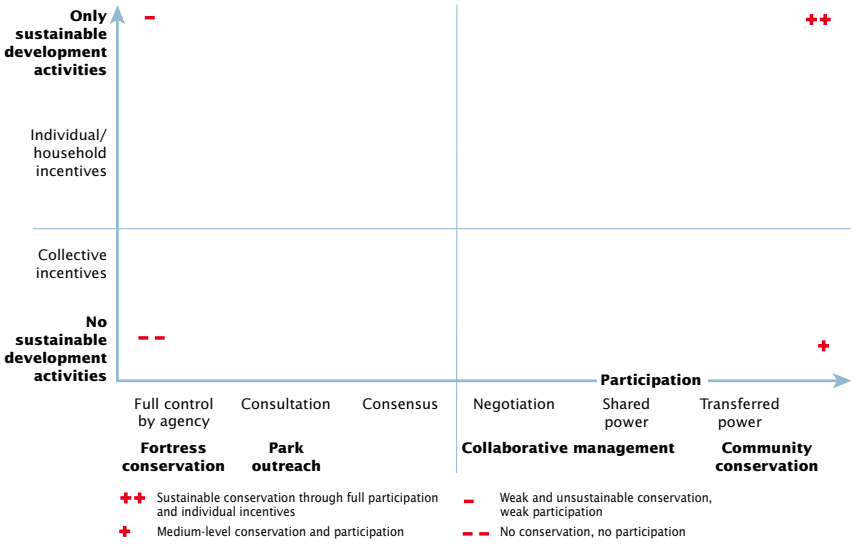

Fig. 2 Comparative Participation–Sustainability Matrix for PAs in the NCCR North-South. (Source: Haller and Galvin 2008, based on concepts by Borrini-Feyerabend [1996]; Gibson [1999]; Hulme and Murphree [2001])[1999]; Hulme and Murphree [2001])

Overview of case studies

Although we address major similarities in the conclusion, each case has its unique features and each team has its own theoretical background, which makes each of the cases interesting for readers with both regional and general interests. In order to provide some orientation, we present short abstracts of all contributions organised according to geographic distribution. The first section deals with cases in Latin America, the middle and the last parts with cases in Africa and Asia/Europe.

The first contribution, *Struggling 'ontological communities': The transformation of conservationists' and peasants' discourses in the Tunari National Park, Bolivia*, by Sébastien Boillat, Stephan Rist, Elvira Serrano, Dora Ponce and Jaime Delgadillo, presents a discourse analysis of the main actors involved in the conflict in the Tunari National Park (Bolivia), close to a major city. Local people perceive themselves as indigenous ontological communities with a special right to nature and natural resources. This leads to conflicts with the city government over the protected area, which indigenous people would like to control, in order to protect land that they perceive as theirs against land dealers, politicians and settlers. The label "indigenousness" in particular is a key concept in the alliance between indigenous leaders and conservationists.

In *Linking 'socio-' and 'bio-' diversity: The stakes of indigenous and non-indigenous co-management in the Bolivian lowlands*, Patrick Bottazzi argues that biodiversity conservation policies are intrinsically linked to ethnic issues in the Bolivian Amazon. The great social diversity that prevails in Bolivia is rooted in specific institutional pluralism according to categories, which makes implementation of participatory mechanisms difficult. Nevertheless, the notion of indigenousness is an important resource for local people to legitimise their presence in PA management.

In *The difficult invention of participation in the Amarakaeri Communal Reserve, Peru*, the Peruvian team composed of Alex Álvarez, Jamil Alca, Alfredo García and Marc Galvin illustrates how, through international debate that promotes the incorporation of local actors in the management of protected areas, the establishment of a conservation structure based on co-management between indigenous people and state administration produces more political and symbolic benefits for advocates of indigenous interests and conservation than economic (and therefore concrete) benefits for the local Harakmbut people.

Marc Hufty, in *Pizarro Protected Area: A political ecology perspective on land use, soybeans and Argentina's Nature Conservation Policy*, proposes an astute analysis of the politics of conservation and development and contention over the attempted, but reversed, declassification of the Pizarro Protected Area (Province of Salta, north-west Argentina). Although the protected area was saved and entrusted to the National Park Administration that intended to make a showcase of its new conversion to the "participatory paradigm", the author says that the main question concerns the factors that made it possible for this case to be won. These can be found in the discourse of participatory conservation and its link to the notion of indigenousness of local people.

The second part presents five African case studies on PAs. In *Government wildlife, unfulfilled promises and business: Lessons from participatory conservation in the Selous Game Reserve, Tanzania*, Patrick Meroka and Tobias Haller illustrate how economic costs and benefits are unequally distributed between the government and tourism on the one hand and local people on the other. The contribution also shows the various ideologies, including discourses and narratives, used by different actors. Participatory conservation and co-management arrangements with NGOs and the government – for example, the installation of Wildlife Management Areas (WMAs) – formally provide major incentives for local people, but in fact increase costs (wild animal attacks, crop raiding, land taken away for conservation) to locals. On the other hand, the dominant state ideology of nature protection and the discourse on participatory conservation provide access to funds and profits from tourism for the government. This is the reason why different local stakeholders believe that conservation creates poverty and not development, as maintained by governments and NGOs. Locals therefore put their hopes in private-sector tourism to help them control land via land titles.

Mkomazi Game Reserve (MGR) in north-eastern Tanzania is one of the protected areas where various groups in society have engaged in contests over resources. In *Conservation for whose benefit? Challenges and opportunities for management of Mkomazi Game Reserve, Tanzania*, Gimbage E. Mbeyale and Alexander N. Songorwa focus on how the fortress approach has led to management problems. This is a very interesting case that argues that the game reserve is not a natural but a cultural landscape, and examines the environment under which the contested resource use has occurred and persisted over the years. The authors conclude by recommending alternative conservation pathways that adopt the new participatory conservation approaches instead of the fortress approach currently implemented by MGR.

In *'Integrated fortress conservation' in the buffer zone of Ankarafantsika National Park: Malagasy narratives of conservation, participation, and livelihoods*, Frank Muttenzer presents the story of the Ankarafantsika Reserve. The Reserve was transformed in 2005 into a National Park. The author argues that evidence of evictions and displacement of local people raises questions about the formally indicated paradigm shift from fortress conservation to integrated conservation, and does not imply substitution of a top–down approach with participation and involvement of local communities. This evidence rather justifies the old paradigm (protected areas) in terms of the new one (community management of buffer zones and biological corridors) based on a new version of the old fortress discourse, leaving no benefits for local people.

According to Hans Hurni, Leykun Abunie, Eva Ludi and Mulugeta Woubshet, the authors of *The evolution of institutional approaches in the Simen Mountains National Park, Ethiopia*, institutional approaches to park administration have changed considerably in the last nearly 40 years of management of the Simen Mountains National Park. After park establishment, people were formally not allowed to continue cultivating, which they ignored for nearly 10 years. Then some were expelled but returned after several years, at a time when the park was not attended due to political insecurity in that remote area. Recently, park boundaries were redefined, excluding most agricultural land from the PA, after negotiation with the local villages concerned. Laws and rules, however, have not yet been adapted to this new degree of participation. The paper concludes by saying that practical experience with multi-stakeholder participation in management is still relatively new (~10 years old) and will thus require additional mutual development and the formation of trust between all actors, especially the government and the local level.

The contribution entitled *Are local stakeholders conservationists? Livelihood insecurity and participatory management of Waza National Park, North Cameroon*, by Gilbert Fokou and Tobias Haller, demonstrates that due to institutional changes local users fear that their very livelihood is at risk, and this naturally leads to a change in perceptions and attitudes towards natural resources and long-term sustainability. This example shows that although policymakers and conservationists (IUCN) were aware of economic and institutional problems and initiated a participatory process, it was not possible to strike a balance of costs and benefits. Local stakeholders (fishermen, peasants and pastoralists) do not benefit directly and do not benefit enough to see this as an incentive for participating in the

protection of the Waza Logone area, which was once a cultural landscape and has been taken away from them.

The third part deals with Asia and Europe. In *"Because the project is helping us to improve our lives, we also help them with conservation" – integrated conservation and development in the Kangchenjunga Conservation Area, Nepal*, Urs Müller, Ghana S. Gurung, Michael Kollmair and Ulrike Müller-Böker present a success story based on the participatory approach. Results indicate an improvement in forest conditions in the area and perceptible growth in the wildlife population, as well as the enhancement of the livelihoods of most of the local inhabitants and creation of a positive attitude towards conservation among most local people. However, the WWF project is based on a park outreach rationale, which makes local people opt for conservation not as a means to protect the area but as a means of gaining from projects, which will not continue in the same way once the NGO has left. However, the basic idea of wildlife damage insurance merits attention for the mitigation of PA problems.

In his contribution *Environmentality reconsidered: Indigenous To Lindu conservation strategies and the reclaiming of the commons in Central Sulawesi, Indonesia*, Greg Acciaioli examines how a local group called To Lindu, who define themselves as indigenous people, are dealing strategically with the option of a PA in their area. Based on the knowledge that immigrant groups have to be integrated but at the same time the government of Indonesia and NGOs have an interest in conservation, the To Lindu leaders use the ideology of nature threatened by immigrant settlers. The indigenous leaders therefore engage in a participatory conservation discourse fostering indigenous knowledge and indigenous institutions, which are meant for application to conservation of the forest area. While showing that they have incorporated conservation issues, their main strategic interest is to control the amount of land used by the immigrant farming communities and to benefit politically from the PA setting in which they participate.

The article *Linking livelihoods and protected area conservation in Vietnam: Phong Nha Kẻ Bàng World Heritage, local futures?* by Peter Larsen focuses on the evolution of livelihood issues and their role in protected area processes. He shows that despite an increase in conservation and development funding, the Vietnamese path to conservation is very close to the fortress approach and the ideology of nature in peril, which do not address livelihood concerns and community participation in the management of the

Phong Nha Kẻ Bàng (PNKB) National Park. Local hunter-gatherers and swidden cultivators are being evicted from the area. Therefore, food security and livelihood vulnerability remain key challenges, particularly for the area's ethnic minorities, who do not have the power to benefit from the political notion of indigenousness to boost their bargaining power.

In *Protection: A means for sustainable development? The case of the Jungfrau-Aletsch-Bietschhorn World Heritage Site in Switzerland*, Astrid Wallner, Karina Liechti, Stephan Rist and Urs Wiesmann analyse a participatory multi-stakeholder process. The contribution shows that if negotiation of conservation issues related to a World Heritage Site (WHS) is to be successful, it must necessarily be linked to issues of development in the entire region. Different visions and perceptions of nature and landscape are indeed an underlying current in the debate, and they influence positions taken in negotiations. But based on the democratic structures and institutions governing the political process in Switzerland, and on the notion that cultural landscapes and not just nature were at stake, it was possible to arrange a participatory project that helped to bridge the gap between the positions of different stakeholders, balancing one side (conservationists and government) against the other (local peasants and local tourist business). What is unique in this case is that everybody has been working within a kind of basic institution that has taken on the form of a broader binding constitution.

Conclusions

In conclusion, the question arises of whether there are positive lessons to be learnt and, if so, in what respect they are positive. The major challenge faced by PAs is to generate enough incentives compared to losses and opportunity costs, and to deal with the fact that historical experience from fortress approaches still undermines trust in the relationship between people and state PA management. One major problem concerns the notion of ownership by local people and the options they see for acting on their own. This refers to the institutional design that regulates the dos and don'ts in the context of a PA. This is of crucial importance, as we see in the examples of how different local stakeholders are able to identify themselves with the institutional arrangements in place. This is linked to the ways in which they were able to participate in formulation of these arrangements and gain empowerment. In addition, the balance of costs and benefits is important, but again, benefits

need not be immediate economic benefits. They can also be anticipated political benefits for local leaders. If we see little direct economic gain, some political gain and very differential ecological gains (in terms of conservation of specific species), it is clear that conservation, in all its different forms, is not primarily a means of distributing benefits but a tool of control and fabrication of nature. The main challenge lies in this basic dichotomy between nature and culture. If we are interested in maintaining biological diversity, we should acknowledge the work done by local people as creators of these biologically diverse habitats. Hence use of biological diversity has to be paid for if we (including donors) hope to "conserve" (i.e. "reproduce" and "keep alive") the diversity of ecosystems. On the other hand, the more different local actors are frustrated by discourse on participation without gain, the more they opt to sell out and overuse common-pool resources. This could be termed the "Tragedy of Protected Areas", which in turn reinforces the arguments of more radical conservationists to opt for a new version of the fortress approach. This is already happening to a certain degree in the biological corridor approach. However, if another approach is to be taken in which participation by local people is taken seriously, the lesson to be learnt from the case studies is that economic and political benefits do matter, and that the development of a common constitutional ground and the trust to be part of a common project are key elements in successful participatory conservation of cultural landscapes.

Endnotes

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Haller T, Galvin M. 2008. Introduction: The problem of participatory conservation. *In:* Galvin M, Haller T, editors. *People, Protected Areas and Global Change: Participatory Conservation in Latin America, Africa, Asia and Europe*. Perspectives of the Swiss National Centre of Competence in Research (NCCR) North-South, University of Bern, Vol. 3. Bern: Geographica Bernensia, pp 13-34.

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[2] Dr. Marc Galvin is currently working as a Programme Officer at the Graduate Institute of International and Development Studies in Geneva, Switzerland. He has conducted socio-anthropological research in Peru since 2001 with a specific focus on local knowledge, nature conservation and governance. Marc Galvin was also co-director of the 2-year research project "TPM: People, Protected Areas and Global Change" of the NCCR North-South.
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[3] According to the International Union for Conservation of Nature (IUCN 1994), a protected area is "an area of land/or sea especially dedicated to the protection and maintenance of biological diversity, and of natural and associated cultural resources, and managed through legal or other effective means". In 2007, the World Commission on Protected Areas (WCPA) set up a process that was to be finished by the end of 2008, in order to revise guidelines concerning the IUCN protected area categories and change their definition. These changes should not substantially alter the meaning of the term, but add some accompanying principles and change the wording slightly to reflect the full range of biomes and services from protected areas.

[4] PAs cover a surface area of about 20.2 million km^2 worldwide. Of this area, 15.3 million km^2, or 75.5%, is land area. 4.7 million km^2 is mountainous, and 10.5 million km^2 (69.4% of the worldwide PA land surface) is non-mountainous. The percentages of protected areas by continent are: Africa 9.8%, Asia 13.2%, and Latin America 20% (Chape et al 2005).

[5] This literature includes specialised journals, such as: *Ambio*, *Conservation Biology*, *Conservation Ecology*, *Environmental Conservation*, *Oryx*, and *Parks* (IUCN journal).

[6] See Foreword by Hans Hurni for more details about the NCCR North-South programme.

[7] In the title of this book, we refer to "people" rather than "peoples", as different groups and actors are involved and not just local ethnic groups such as indigenous peoples. The latter, however, are included in our thinking. In this section we have included the "s" to indicate this thinking.

[8] In a broader sense, "governance" refers to a general conceptual framework for addressing the evolution of governing processes (formal and informal) in a society (local, national, international or global; Hufty et al 2007). More specifically, it refers to the interactions among actors involved in a collective issue that lead to decisions and the formulation of social norms. Governance should ideally be distinct from the normative concept of "good governance", which is action-oriented and not analytic.

[9] Common-pool resources are a specific category with two characteristics: the difficulty of excluding other users (because they are highly mobile or do not occur in a concentrated form than can be controlled easily) and subtractability (the portion used is not immediately available for other users; some common-pool resources regenerate but with a certain time lag). Examples include mobile and immobile resources such as wildlife stocks, fisheries, water for irrigation, forests, pastures, extensively used land, etc. (see Ostrom 1990; McKean 2000; Ostrom et al 2002).

[10] PA management includes: a) government-managed protected areas, b) co-management protected areas, c) private protected areas, d) community-conserved areas.

[11] "Discourses" refers to the way major worldviews or ideologies are used to legitimise strategies that are self-enforcing in this local framework and have specific value and legitimacy. The term "narrative" refers to the way a story explaining a situation is told, based on specific assumptions making reference to a specific discourse. It is about views of how a particular problem in a PA came about (see also Hulme and Murphree 2001).

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Part I
Latin American Case Studies: Conservation as Political Gain for Local Actors

1 Struggling 'Ontological Communities': The Transformation of Conservationists' and Peasants' Discourses in the Tunari National Park in Bolivia

Sébastien Boillat[1], Stephan Rist[2], Elvira Serrano[3], Dora Ponce[4], Jaime Delgadillo[5]

Abstract

The Tunari National Park is located to the north of the city of Cochabamba, and has been settled by over 380 Quechua peasant communities since pre-colonial times. Though the state authorities have only enforced the Law of the Park on 1% of its territory, the communities are in open conflict with them, since the Park restrains their traditional activities. Discourse analysis of the main actors involved in the conflict shows fundamental differences not only in claims of access to resources, but also in the claim of basic principles governing the relationship between society and nature. In this sense, the groups of actors in conflict can be conceived of as different 'ontological communities' sharing a group of basic presuppositions on 'social and natural' reality. These differences state the need for an ontological dialogue among the actors which has, until now, been hindered by the mainstream 'modern-Western ontological community', and its traditional marginalisation of the 'Andean ontological community'. However, recent changes in the Bolivian national scene have opened up the possibility for the state to create a space of communicative action, offering new options for the interaction of the actors involved.

Keywords: protected areas, governance, ontological communities, conflicts, social movements, communicative action.

1.1 Introduction

The Tunari National Park (TNP), the second oldest protected area (PA) in Bolivia, holds a particular position among Bolivian protected areas. It is the only protected area in close proximity to a big city, Cochabamba (Macchi 2002) that also has an important rural indigenous population within its limits. Created in 1962, the Park was expanded in 1991 with the enactment of a very restrictive law that hindered traditional pastoralism, cultivation and agroforestry activities. The governments involved applied highly vertical political processes without consulting the local population or informing them. The Law has only been implemented in the area of the Park established in 1962, near the city (Province of Cercado). This area corresponds to 1% of the total Park area. The government has not yet begun enforcing the Law within the expanded area (Provinces of Quillacollo, Chapare, Ayopaya and Tapacari). To do so would not only mean confronting the over 380 indigenous peasant communities living within the area, but would also require resources and capacities which the state does not possess. In spite of its limited enforcement, the TNP is one of the protected areas that have generated the greatest amount of conflicts in Bolivia. The conflicts not only occur within the area of enforcement, but also within the area of expansion, where the rural population considers the TNP a serious threat to their livelihood and their material, social and symbolic foundations.

These threats to the livelihood strategies of peasant communities contrast sharply with the opening up of the territory to national and international urban financial capital. This expansion was accompanied by the illegal division and sale of land – to which the competent authorities turned a blind eye – and the granting of licences for fishing activities, ecotourism and industrial activities (brewery, hydroelectricity, mining and oil drilling). This situation confronts local actors with a twofold threat to their socio-territorial sovereignty: on the one hand, there was the TNP Law, and on the other, the exploitation of natural resources through investment of financial capital in their territory from national and international urban spheres. Thus a conflict already present in other national park areas arose here. Consequently, local actors started to perceive legislation on natural resources and on protected areas as a strategy of the state to marginalise them from their central role in the territorial management (Orozco et al 2006).

These conflicts are related to a deep crisis of legitimacy in the Bolivian State (Delgado 2002) that arose because the government authorities were

supported by a mestizo-urban national elite, while the rural communities of predominantly indigenous origin were being marginalised. This crisis generated a powerful social movement, which led to the recent election of Evo Morales, the first indigenous president in America. This movement not only questioned the neo-liberal economic policy of the Bolivian government introduced in 1985, but also the organisation of the state, which is currently being reformulated into a constitutional assembly.

The case of the TNP shows how national policies can have serious implications in the management of natural resources within peasant communities, by creating a conflictive social interface. The government, supported by the urban elite, intended to impose a territorial management based exclusively on hydrological-ecological and economic criteria. This is in stark opposition to the affected peasant population, who reject the Park, as it would force them to cease their multidimensional 'traditional' management of natural resources, which is based on their specific perception of the nature–society relationship.

The results of the research carried out within the framework of the NCCR North-South (4 PhD theses and 2 supporting Partnership Action for Mitigating Syndromes [PAMS] pilot actions) show that the conflicts between the actors involved must be understood as conflicts between different ontologies (or basic presuppositions about the constitution of the 'real' world). Against this background, it is evident that any analysis seeking to help balance the positive and negative effects of specific human activities must take into account that different world visions (ontologies) also constitute different value systems or normative bases. These determine the priorities and content of value-oriented indicators for natural resources encompassed by the TNP. Therefore, the conflicts can only be transformed if spaces for negotiation and learning are open enough for the actors involved to establish a dialogue based on their practical, normative and interpretative knowledge. Policies or incentives that ignore this inter-ontological dimension tend to deepen current conflicts instead of solving them.

1.2 Context of the protected area (PA)

The main area of the Tunari National Park (Figure 1) is occupied by the Tunari Cordillera, or Cochabamba Cordillera, a massif in the eastern mountain range of the Bolivian Andes formed by Ordovician sedimentary rocks

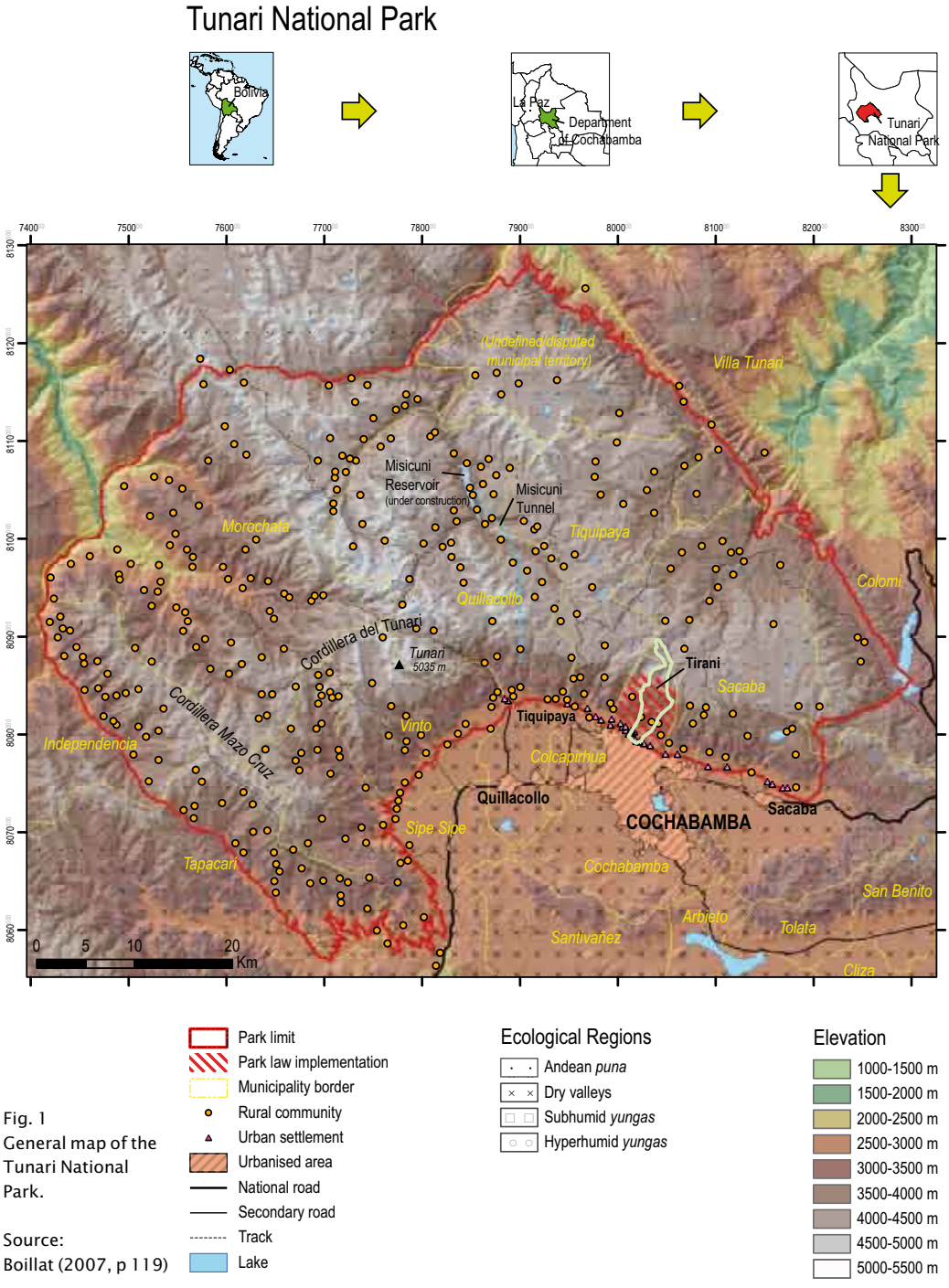

Fig. 1
General map of the Tunari National Park.

Source:
Boillat (2007, p 119)

(Claure 1995), with plateaus and lakes of glacial origin. The Park ranges from the foot of the mountain range, at an altitude of 2,750 m, to the Tunari Peak, at an altitude of 5,035 m. The area has three ecological stages: the *dry valleys* below 3,200 m, the *pre-Puna*, between 3,200 and 4,000 m, and the Puna, above 4,000 m. Although *dry valleys* and *pre-Puna* have potential native forest cover, these have been reduced to isolated spots by cultivation, logging and grazing activities during pre-colonial and colonial times (Fjeldsa and Kessler 1996; De la Barra 1998).

The initial idea of creating a protected area in the Tunari Cordillera stemmed from a small group of highly educated members of the elite of Cochabamba. The objective for the area was to counteract the environmental problems relating to the expansion of the city of Cochabamba's northern limit towards the foot of the mountain range, by preserving the valley countryside, by protecting the city from mountain flood streams with forestation, and by promoting tourism. The disastrous floods of 1958, caused by mountain streams, convinced the city and government authorities to create the Tunari National Park through a decree in 1962. Back then, the Park covered an area of approximately 240 km^2, and was restricted to the mountain range area located above the city. The Park Law's enforcement began in 1968, with plantations of pines and eucalyptus, under the successive responsibility of diverse state institutions entrusted with Park management. The tree plantation activities were supported by German and Swiss development agencies. However, the city's encroachment on the mountain range could not be stopped, and was accelerated by the migration of populations from other regions of the country, following the closing of the mines in 1985. Ironically, some state institutions granted lands from the Park to their officials (Nina 2005; Aguilar 2006).

In 1988, a proposal to expand the area to the entire Tunari Mountain Range was published, motivated by increasing urbanisation in the satellite cities of Quillacollo and Sacaba (Pereira 2002). The expansion was enacted in 1991, under the current Law "No. 1262", which governs the Tunari National Park. The TNP reached its current extension of 3,000 km^2, distributed among 5 provinces and 10 municipalities. The Law prohibits, or strongly restricts, the traditional use of resources, and was established without previously consulting the population living in the area.

The expansion of the TNP coincided with the creation of a set of new protected areas throughout the country, each with the specific objective of biodiversity

conservation. However, at the same time, the decentralisation process had begun in Bolivia, granting decision-making competence to the intermediate government level (municipalities). It was during this process – which began in 1996, with the enactment of the Law of Municipalities – that the peasant communities in the Tunari Cordillera were informed that they now lived within a protected area (AGRUCO 2002). Their opposition to the Park was clear from the beginning, and the conflict was aggravated when studies and proposals to zone the Park (CLAS 2001) were carried out. These studies were requested by the prefectural government, and were based exclusively on technical information. An extreme proposition of the departmental government, with the goal of forcing the 7 peasant communities within the implementation zone to relocate out of the Park (Los Tiempos 1999), worsened the conflict. Fortunately, this plan was not carried out due to governmental changes after the social movement in 2003.

The conflicts in the area are rooted in legal, administrative and technical problems (AGRUCO 2002). In creating and expanding the Park, the rural and urban property in its actual territory was not considered. Moreover, the competences assigned by the process of decentralisation were cancelled by the National Park authority, and the central government was given custody of the Park's territory, which covers up to 70% of the area of some municipalities. Although the administration of the area would legally lie within the competence of the central government, it has been transferred to the Prefecture of the Department of Cochabamba. The Prefecture not only lacks the resources and capacities to manage the area, but also has drafted management proposals that do not recognise the management capacities of the local communities. The category of "National Park", the most restrictive one in Bolivia, generates technical problems, because it does not correspond to the ecological characteristics of the area, and has not been established on the basis of biodiversity studies. This technical flaw is even recognised by the Servicio Nacional de Áreas Protegidas (SERNAP), and is expressed in inadequate management of exotic tree (pines and eucalyptus) plantations, managed by the Park's administration as if they were natural forests.

The marginality of the rural indigenous population and unequal power relations are a characteristic of the Andean highlands (Milbert et al 2004). This situation is rooted in social and racial discrimination, which makes intercultural comprehension between actors impossible. It hinders the integration of rural communities in the decision-making process related to the management of natural resources, and is one of the causes of the problems related

to the Park. Other causes are the incoherence of public policies and the lack of response to social demands, as well as conflicts over centralisation and decentralisation, which, in turn, cause governance problems for the area, as well as a decrease in the territorial responsibility of state institutions. Finally, the globalisation process, with its tendency towards privatisation and the free market, has negative effects on the economy of the rural population, furthering the process of reduction in the size of landholdings, overexploitation of natural resources, and conflicts related to their access.

According to the census of 2001, the TNP has a permanent population of 84,000 people, including 73,000 rural and 11,000 urban inhabitants within its limits (Aguilar 2006). The vast majority of all rural inhabitants are Quechua peasants, who live mainly in dispersed habitats and organise themselves in "peasant communities", usually between 100 and 1,000 people. The peasants practise traditional cultivation and pastoralism activities destined mainly for self-consumption and sale in local markets. They distribute these activities according to the three ecological belts in the area, which they call *Ura* (lower part) for Dry Valleys, *Chawpi* (middle part) for Pre-Puna, and *Pata* (upper part) for the Puna (Camacho 1993; Delgadillo 2004). The urban inhabitants who live within the TNP are recent settlers located at the southern limit of the Park, who practise economic activities linked to the urban centre of Cochabamba.

1.3 Effect of the Park: the case of Tirani

Peasants living close to the city have seen their lifestyles transformed since the establishment of the Park and the growth of the city of Cochabamba. Within the context of the AGRUCO–NCCR North-South research project, a case study was carried out in the community of Tirani located in this zone. The community borders directly on the city of Cochabamba, and can be accessed by public transport. It is located at an altitude of 2,700-4,500 m and has a population of approximately 1,200 inhabitants. With an area of 19 km^2, the community represents approximately 50% of the total territory in which the Law of the Park has been enforced. The Tirani territory corresponds to the former property of a large landowner, and was granted to the peasants by the Agrarian Reform of 1952. Back then, the land was distributed among the 58 members of the Agrarian Syndicate, which currently constitutes the community's basic social organisation. While some lands were distributed as private property to the members of the syndicate, others were declared

the collective property of the entire community. Both types of property have supporting legal documents.

Prior to the implementation of the Park, the families used to settle all over the community's territory, engaging in cultivation and herding livestock for self-consumption and commercial purposes; these were important to keep the Cochabamba market supplied with goods. Production was organised according to the three ecological stages mentioned above: the *Pata* zone, above 4,000 m, was covered by grasslands which used to be burned to facilitate grazing by llamas. The *Chawpi* zone, between 3,000 and 4,000 m, consists of a mosaic of crop and fallow plots, scrubland, grassland and small spots of native *Polylepis* forests. In the *Ura* zone, below 3,000 m, irrigated cultivation was practised, as well as extensive grazing on land without access to water. The Agrarian Reform provided each family with 5 ha of land in the *Chawpi* zone, 1-2 ha in the *Ura* zone, and communal access to the *Pata* grasslands. Figure 2 shows the distribution of land access in the community of Tirani.

With the establishment of the Park, the *Chawpi* zone has been progressively planted with exotic forest species of pine and eucalyptus, eliminating the original landscape and causing a general decrease in native vegetation (Crespo 1989). The objectives of the plantations were to avoid erosion, to obtain environmental benefits from the plant cover, and to bring economic benefits to peasant families through the sustainable use of timber (PROFOR 1995). The prospect of a supplementary crop in the form of timber motivated the families of Tirani, who set aside not only their collective land but also their private lands to establish timber plantations, and worked arduously on them. They also received training in forestry, which included plantation management, tree nurseries, and also a carpentry workshop for wood processing.

Nevertheless, when the plantations had grown enough to be felled, they could not be used, since, according to the argument established by the Park Law and the transfer of the Park's management to the Prefecture, the extraction of timber and firewood was strictly prohibited. The families who owned the lands in question received no indemnity. The Law also prohibited the management of the plantations, which would necessitate the thinning and pruning of the trees. This caused a dense cover of exotic trees, and a total absence of vegetation cover in the pine groves. The community expressed a strong concern for this loss of vegetation, underlining the negative effects on local fauna, grazing resources, erosion and risk of fire owing to the

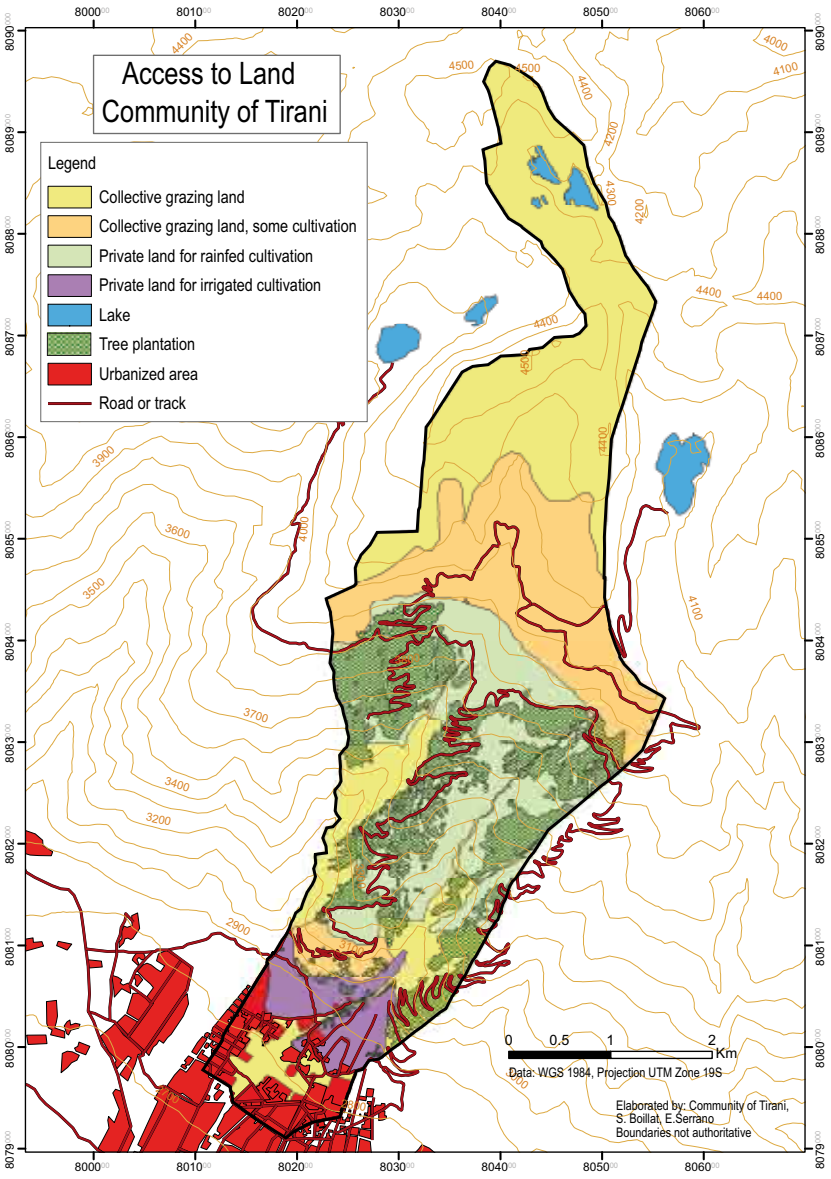

Fig. 2
Access to land in the community of Tirani. (Adapted from Boillat 2007, p 488)

accumulation of dry wood. For these reasons, the community decided to suspend all tree plantation activities.

The implementation of the plantations and the Park Law also brought about the abandonment of pastoralism: the ovine livestock population was reduced to 5% of the population of 1952. In the *Chawpi* zone, cultivation was reduced to a few arable plots that had not been planted with trees. These restrictions forced the population's displacement to a smaller sector in the lower part of the community (*Ura* zone), which has an irrigation system and borders on the city. By now, the young families have lost their relationship to the rest of the territory and ignore the rationale with which it used to be managed before the plantations. However, in the lower zone, 75% of the families continue to carry out agricultural activities, which complement other activities linked to the city. The concentration of the population has caused an intensification of cultivation and the disappearance of fallow land. The main

Table 1

Land use and economic activities in the community of Tirani before and after the implementation of the TNP.

Altitude (m a.s.l.)	Zone	1962 Before implementation of the Park	2005 After implementation of the Park
4400	PATA	Llama and sheep herding, grassland burning, collective property	Reduced llama and sheep herding, grassland burning, collective property
4200		Shifting agriculture, potato, *chuño* making, llama herding	Agriculture reduced to a few plots, grasslands with reduced herding
4000		Collective property, some private lands	Collective property, some private lands
3800	CHAWPI	Rainfed agriculture; potato, oca, papalisa, wheat, barley Sheep grazing, grassland burning Private property, some collective lands	Tree plantations protected by the Park, without management or use Few crop plots Private property, some collective lands
3200	URA	Rainfed agriculture, sheep and goat herding Collective property	Rainfed agriculture, reduced herding of cattle Collective property
3000		Irrigated agriculture; corn, vegetables, fruits Houses Private property	Intensive irrigated agriculture; floriculture; fruticulture; corn, vegetables Houses Private property
2800		Sheep and goat herding Collective property	Urban expansion, conflicts, collective property, private property foreign to the community

Source: Adapted from Boillat 2007, p 173.

agricultural activity is market-oriented floriculture; the rest of the crops are for self-consumption, still allowing a high level of cultivated biodiversity. The scarcity of manure, as a result of livestock reduction, forces the families to bear the high costs related to agricultural production, such as the purchase of fertiliser, and has led to a greater use of chemical fertilisers. Furthermore, the increasing concentration and growth of the population has caused problems by reducing the size of landholdings and making water more scarce.

The city's growth also caused the community to lose control over the lowest portion of their territory. The community planned to use this former grazing area to build houses for its own growing population. However, closeness to the urban centre has generated a land market system, which led to the establishment of many settlements foreign to the community. Though the Park forbids urban construction in the area, corrupt land dealers forged signatures and land approval stamps, with the assistance of some corrupt community leaders at the time. The land dealers quickly acquired wealth by selling plots of land at attractive prices, and tricked people with low incomes who were unaware of the illegality of the construction. Urban settlements were formed with people from Cochabamba, relocated people from the mines, or migrants from rural zones. Some also possess legal property rights, because they settled before the southern limits of the Park were established (Quinteros 2003). Table 1 offers an overview of the effects of the Park described above.

1.4 Configuration of social actors around the community of Tirani

The actors in the Tirani social territorial space represent a 'microcosm' of representative social actors in the rest of the TNP. Figure 3 shows the relations between the actors around the Tirani community for the 2002-2003 period (Serrano 2004). The community has good relations with its representatives such as the Federation of Peasant Syndicates of Cochabamba (FSUTCC), and with development non-government organisations (NGOs). Relations with the university vary according to the different institutes. As in the rest of the Park, relations between the community and the Bolivian State and SERNAP are highly conflictive. The legitimacy of the "Management Committee", which is in charge of representing the different actors related to the Park, was questioned, and the committee was dissolved. The relationship between the Tirani community and the Cochabamba Prefecture reached open confrontation when a "Technical Park Management Committee" was

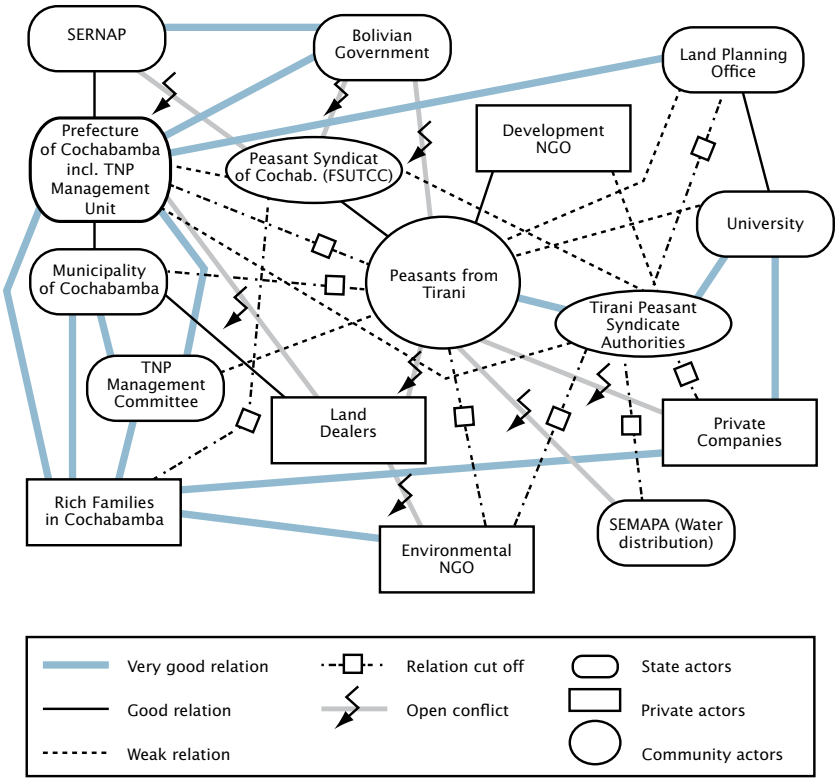

Fig. 3
Typology of relations between actors around the community of Tirani and its territory between 2002 and 2003. (Adapted from Boillat 2007 and Serrano 2004)

created with unilateral representation of authorities from the public sector, and peasants' requests were directed to a secretariat and not taken seriously. For similar reasons, relations with the Municipality of Cochabamba were also cut. Relations with private enterprises (beer company and tourist-spa complex) in Tirani are also conflictive. The companies established corrupt relationships with the community, buying collective land from their ex-leaders and exerting influence on the Park authorities, who then instructed the community leaders to make decisions beneficial to the companies. Relations with the Cochabamba Water Distribution Company, SEMAPA, are also a source of conflict, due to litigation over the use of water. The community is also in conflict with illegal land dealers and inhabitants of the urban settlements whom they refuse to acknowledge. On the other hand, the government initiated actions to tear down illegal houses, resulting in violent confrontations with urban settlers. The conflicts related to the illegal land deals receive high media coverage. The environmental NGO present in the

Park used to report tree felling by peasants to the Park's authorities, and is in conflict with the community. The NGO is related to the wealthy families of the city, and sustains good relations with the state organisations in charge of applying the Park Law.

1.5 Influential factors in natural resources management in the PA

Despite the Agrarian Reform of 1952, Bolivian economic policies were oriented towards the development of industry and the capitalist agrarian sector, which had much higher growth than the peasant agriculture sector (Maletta 1988). The effect of these policies – executed under the sponsorship of the International Monetary Fund (IMF) since 1957 – was a reduction in the terms of trade for peasant products in relation to other consumer goods (Zimmerer 1993). The New Economic Policy based on the neo-liberal model, decreed in 1985 by the government of Victor Paz Estensoro, accentuated this "scissors effect" (Morales 1990). To face these unfavourable economic conditions, the peasant population of the highlands of Cochabamba expanded first cropland area and then herd size. However, when extensive growth was no longer possible, the farmers began to diversify their economy, which led to an increase in temporary migration towards off-farm labour (Zimmerer 1993). This strategy has been based on the complementary interests of traditional activities oriented mainly towards self-consumption, non cash-accumulative schemes, and temporary migration oriented towards earning sufficient income to cover basic needs. However, in most cases this strategy has not allowed the farmers to access basic services: more than 90% of the population of the Tunari Cordillera live below the poverty line (INE 2001).

Consideration of environmental changes has a long-standing tradition in the communities of the cordillera, where high intra and inter-annual variability in precipitation linked to natural cyclical phenomena characterises the climate. Peasants use strategies for climate prediction and risk management based on local knowledge. Observation of botanical, zoological, atmospheric and astronomical indicators allows peasants to sow plots located in areas with ecological characteristics better suited to the forecasted weather conditions, and to leave other plots fallow (Ponce 2003; Serrano 2003). In the communities where Park Law is not applied, this variability in cultivation is made possible with a more or less even repartition of the plots throughout the territory. However, in Tirani, this flexibility is limited due to the con-

centration of the population in a small part of the territory and to the loss of local knowledge by the younger generation (Chirveches 2006). In this sense, one cannot speak of environmental changes influencing the management of natural resources in the TNP, but rather of a lesser diversification of the ecological space, linked to diverse external factors which expose peasant activities to greater climatic risks.

The existing infrastructure in the Tunari Cordillera is linked mainly to the supply of water from the highlands to the valley. Water management is a very conflictive theme in Cochabamba, as the famous "Water War" of April 2000 showed (Hoffmann et al 2006). There is a lot of small irrigation infrastructure managed by traditional organisations that receive external support. The expansion of these irrigation systems causes sporadic conflicts between highland and valley communities. There are also over 80 small lakes within the TNP, most of which are artificial and are used for traditional irrigation, fish breeding, industrial beer-making, provision of water for urban centres, and hydroelectric energy (Corani Lake). Private concessions for the lakes and litigation regarding the use of water have also caused conflicts between companies and communities. A 120-metre high dam is currently under construction in the TNP area, and will supply drinking water, hydro-electric energy and irrigation to the valley of Cochabamba through a 19.4 km tunnel. The project, known as "Misicuni Multiple Project", was a national election issue and has generated great expectations among the population of Cochabamba. In order to carry out construction, many peasant communities located in the flood areas of the dam have been evicted. This too has been cause for discontent.

1.6 Formal laws and regulations

The TNP is regulated by the restrictive Law "No. 1262", which was enacted on 13 September 1991. Besides the expansion of the Park's limits (Art. 1), it states the "public utility of the expropriation of the lands comprised within the area", with the exception of the cultivated lands and those which have industrial installations (Art. 2). The Law institutionalises a "Park Management Unit" comprised exclusively of state organisations, destined to carry out tree plantation activities in the Park area. Important traditional activities are forbidden: "The extraction of construction material as well as livestock breeding are strictly forbidden within the area of the Park" (Art. 7). However, exploitation of wood is allowed and foreseen as a source of funding for

the Park, on condition that only the Management Unit should carry it out and cut only trees which have "ended their vital cycle" (Art. 9). An agreement between the communities and the Management Unit has recently been concluded to extract trees in order to thin out the plantations, but the activity was stopped because the authorisation required from the Forestry Superintendence was not delivered.

When the TNP Law was enacted, Bolivian formal regulation related to environment and biodiversity was very weak, and had only 4 legal provisions. This changed rapidly after the signing of the Convention on Biological Diversity (CDB) in 1992. During the 1990s, 20 formal regulations relating to environment and biodiversity were enacted (Ponce 2004). These included the Environmental Law [*Ley de Medio Ambiente*] (1992), the Forestry Law [*Ley Forestal*] (1996) and regulations for protected areas and their management [*Reglamento General de Áreas Protegidas y Reglamento del Servicio de Áreas Protegidas*] (1997), as well as 6 new protected areas of national importance. The governments that enacted these laws represented the traditional political parties ('megacoalition'), linked with the mestizo-urban elite of the country, which was strongly influenced by international organisations, excluding the rural and indigenous population. As a consequence, the formal regulations are frequently rejected by civil society; they also contradict each other and exhibit many legal disparities.

In the formal aspects relating to protected areas in Bolivia, the following problems were identified:

(1) There is no legal basis for participation with real decision-making power. The regulations of 1997 on PAs allow for a "Management Committee", comprised of indigenous peoples, local communities, municipalities and other public and civic entities. It is, however, basically powerless to make decisions without the approval of the National Service of Protected Areas (SERNAP), which, in turn, depends directly on the Ministry for Sustainable Development and Planning (MDSP). This is one of the reasons why, in the case of the TNP, the Management Committee was not acknowledged by the local organisations.

(2) There is a legal gap regarding the distribution of benefits derived from the use of natural resources in protected areas (Inturias 1998), and a subordination of environmental laws to extractive laws. Although the Environmental Law of 1992 recognises the existence of local communities

within protected areas, it does not specify the way in which their own economic activities, and those of private companies located within the areas, are regulated. Also, the Environmental Law allows the use of natural resources in PAs when national or public interests are at stake. Moreover, the 1996 Hydrocarbons Law[6] [*Ley de Hidrocarburos*] and the 1991 Mining Code [*Código Minero*] precisely declare extractive activities as being of public interest and do not acknowledge PAs. Thus, industrial extractive activities, with strong negative environmental impacts in PAs, are often allowed, while the peasant communities' productive activities can be restricted, due to the fact that they are not considered as being of "public interest". As a matter of fact, the Misicuni Company was never questioned for operating within the TNP. In other PAs, many mining and oil concessions have been granted and there are even industrials companies operating (Orellana 2004; Ortiz 2004). These facts fuel mistrust on the part of local organisations towards public policies, and damage the credibility of environmental regulations (FSUTCC 2003).

(3) There is a strong contradiction between the legal framework of the protected areas and the process of decentralisation begun in Bolivia during the 1990s. The Law of Popular Participation [*Ley de Participación Popular*] (1993), the Law for Administrative Decentralisation [*Ley de Descentralización Administrativa*] (1995) and the Law of Municipalities [*Ley de Municipalidades*] (1999) provide important competence and access to economic resources at the intermediate and local levels. They acknowledge the promotion of environmental management and preservation actions at the departmental, municipal and local levels. However, though the SERNAP regulation states the promotion of departmental and municipal protected areas, there is no legal basis for their implementation. Furthermore, since the national protected areas are under the management of SERNAP, the legal framework withdraws competence from the municipalities on environmental issues. Due to these inconsistencies in legislation, the municipalities cannot identify their role with respect to protected areas. This makes their participation in the enforcement processes of these public policies ambiguous (Ponce 2004). On the other hand, there are also territorial litigations between municipalities that can cover great areas and constitute an additional hindrance to the implementation of any public policy (Aguilar 2006).

1.7 Impact of the international debate on the area

The formal regulations enacted during the 1990s were, undoubtedly, a consequence of the signing of the CDB in 1992 and its ratification in 1994. These regulations were also complemented with new state organisations, such as the Ministry for Sustainable Development and Planning [*Ministerio de Desarrollo Sostenible y Planificación*] (MDSP), the General Board for Biodiversity [*Dirección General de Biodiversidad*] (DGB) and the regional Environmental Boards and Environmental Units in the municipalities. In 2001, a "National Strategy for Biodiversity Conservation and Action Plan" (ENCB) was also drafted through the MDSP (2001) and DGB, which refers directly to protected areas. Though the development of the national Action Plan was based on a wide and systematic process of participation of the actors present at the local, regional and national levels, failure to implement it led to further frustration.

To a large degree, PAs depend financially on international organisations: in 2003, only 3% of the funds for protected areas came from the Bolivian State (La Prensa 2005). Further, some PAs are administered directly by international conservationist NGOs. In the case of the TNP, the impact of the international debate on conservation is felt in the area where the Law has been implemented. In the rest of the area, international economic policies have greater importance. Specifically, the reduction in the terms of trade of the peasant population mentioned above was strongly linked to the impact of the international economic policies implemented by the Bolivian government to ensure the country's access to international credits (Fernández 2003). These 'structural adjustment' reforms, introduced with greater force since 1985, ended with the abolition of protectionism, reduction and privatisation of the public sector, and with a process of decentralisation that led to the creation of rural municipalities. Though the model implemented had the intention of integrating multiple social actors at a local level into state structures, the social actors managed to invert this process and strengthened their organisational capacities, to significantly increase their negotiating powers at the national and regional levels (Rist et al 2005).

The only direct economic incentive of the Park is the hiring of park rangers with fixed salaries and social benefits limited to the area of implementation. Before 2004, the rangers were designated on political grounds and chosen from amongst the urban population. The peasant organisations protested against this, and their request that 100% of the rangers be young people from

the communities was granted. Currently, 19 rangers are hired from the Tirani community. However, this incentive falls far short of compensating the negative economic effects of the Park, such as the loss of croplands, the possibility of breeding livestock and producing natural fertilisers, and the drying up of natural streams caused by eucalyptus plantations, which are difficult to quantify. The concentration of the community's population in the lower part of their territory, combined with the possibility to sell land illegally, led to a great increase in the value of land in this area. Furthermore, the Park failed to put a complete halt to urbanisation in the area. This generated a high-risk illegal land market, which benefited some ex-community leaders and caused internal conflicts. On the other hand, however, the Tirani community benefited from the selling of water to the new urban settlements.

1.8 Governance of the protected area

The governance of the area is characterised by the dichotomy between the formal norms produced by state institutions and the informal norms in force within the peasant communities. In the expansion area, where the Park Law is not applied, the formal norms have little influence on the local governance of natural resources, biodiversity and land use, which is predominantly ruled by the informal peasant norms. The municipal governments, which must at the same time comply with state regulations and respond to local organisations and demands, thus face many difficulties implementing coherent activities (Ponce 2004). In the implementation area, the Law of the Park has had a significant influence on local social organisation, confirming a conflictive interface.

1.8.1 Changes in social organisation related to implementation of the PA

The social organisation of the peasants in the Tunari Cordillera is based mainly on 'agrarian syndicates' resulting from the 1952 Agrarian Reform, which is sometimes complemented by traditional organisation with pre-colonial characteristics (Bebbington 1996). The specific set of the different forms of organisation is the 'community', characterised by self-government (as long as the external and internal conditions allow it). The tangible expression of the principle of community self-determination is the collective property of the community's territory and its familiar use; the intangible expression of the community is rooted in the collective identity, directly related to the historical struggles against attempts of external determination (Rist et al 2005).

In concrete terms, authority is exerted by a set of 8-12 rotating community positions [*cargos*] – which a family undertakes in the course of its history, beginning with minor responsibilities, such as being 'secretary of sports' or spokesperson, up to 'general secretary', the maximum level of authority. All of the community members assume progressive positions, until they reach the highest position of general secretary in the case of the syndicate, or 'field mayor' [*alcalde de campo*] in the case of the traditional organisation. All of the positions, including those of the highest authority, are elected by the community assembly for a period of one year. In most of the communities, the positions are not assumed by a man or woman, but by the whole family, and it is necessary to be married in order to exercise authority. Due to strong social control, authority is considered as a service to the community, not as a way of exerting power (Serrano 2002). Authority is also related to spiritual aspects, as in the case of the *alcalde de campo*, who is in charge of performing rituals to avoid natural disasters.

In the community of Tirani, the only basis for social organisation is the syndicate, which is complemented by neighbourhood committees, irrigation committees, mothers' associations and producers' and religious groups' associations. The agrarian syndicate began to relate to public institutions in charge of implementing the Park when these institutions hired local workers for tree plantation in the 1970s. The community's highest positions were often held by community members working for the Park, who then began to defend their interests as workers from the agrarian syndicate. The community organisation followed the recommendations of the support organisations and of their community representatives. At this time, the Park provided support to the "Tunari National Park Sub Central", a syndicate association which includes Tirani and six neighbouring communities.

However, this relationship changed when the management of the TNP was handed over to the Prefecture in 1997. The Prefecture was under the direct influence of political parties related to the city elite. They implemented a clientelistic relationship with the syndicate authorities, who in turn lost legitimacy within the community. In 2003, a new syndicate board was created, which decided to question the concept of the TNP, and changed its name to "North Cochabamba Farmers' Sub Central". However, the organisation remains unstable, due to internal struggles for syndicate power under the influence of political parties, and to the questioning of traditional norms and principles in the shaping of authorities.

Within the implementation as well as the expansion areas of the TNP, the decentralisation process brought important changes in the structure of state organisation at the intermediate level, such as the municipalities. Before decentralisation, the peasant communities had little influence on municipal governments dominated by the local mestizo elite from the villages and cities. Currently, all the municipalities affected by the Park (except the city of Cochabamba) have a majority peasant population who support the political instrument of several social movements (*Movimiento al Socialismo*, MAS), which currently forms the Bolivian government. While municipal authorities from the highland area dominate the strictly rural municipalities, the municipalities with a populated centre in the valley are dominated by authorities from the valley area, who are linked to the irrigation committees (Crespo and Antezana 2006). The relationship between highland and valley communities is characterised by differences in interests in the use of water; which can lead to conflicts. In the municipalities with a wide rural area and a small populated centre in the valley, there are struggles for municipal power between highland and valley people. In the urban municipality of Cochabamba, the situation is different because the peasant communities are a minority; thus the municipal space remains occupied by urban representatives.

1.8.2 Formal and informal norms

The formal and informal norms on environment and biodiversity management in force in the area of the TNP also reflect the already mentioned dichotomy between public actors and peasant communities. While the communities are formally recognised under the form of 'agrarian syndicates', this is not so with the community institutions that regulate the management of natural resources. From the peasants' point of view, this represents a grave incoherence and is perceived as an affront to the integrity of their social organisation. Therefore, the relevance of the formal norms, as well as their legitimacy, is very low. Many times the public norms and policies are not even accepted by the actors who are in charge of enforcing them. Furthermore, public institutions in Bolivia are greatly destabilised by the practice of 'position moving' [*removido de cargos*], which consists in the systematic redistribution of all administrative positions to members of the political parties that won the elections or benefited from alliances (Ponce 2004). This practice exists at every level, and fosters the prevalence of personal positions in the public sphere, instead of establishing continuity in institutional positions and actions (Macchi 2002). Positions are often handed over to people who lack an adequate professional background and who are thus unaware of established norms and procedures as well as policies in force.

Ideals of reciprocity, complementarity and solidarity guide the fundamental norms of social organisation in the peasant communities of the Tunari Cordillera. In principle, these norms do not try to cancel out particular differences between individuals, but seek to articulate these differences in terms of an organisational structure that offers a greater degree of convergence of particular interests. Norm formalisation is practically absent, since the organisational logic, expressed in the rotating and mandatory system of *cargos*, is oriented towards the successive internalisation – instead of formalisation – of fundamental norms by the families in the community. There are also sanctions, sometimes very severe, for those who do not respect the norms. However, here again the emphasis is on internalisation rather than formalisation. Thus, social organisation gives priority to the continuous formation of all of its components. This creates a collective creative capacity that allows for reacting, resisting and rejecting continuous attempts at external determination by means of highly flexible and specific strategies. For the community governance system, the legitimacy of its authorities is much more important than its legality.

The community rationale of organisation stands in clear contrast to that of the state and other civil society actors. While the state gives clear priority to the norms and sanctions formalised through due processes (constitution, laws, regulations, etc.), civil actors, such as businessmen or some conservationist organisations, usually evade legal norms by misusing their financial status to suit their own interests. The aspect of internalisation of norms and sanctions is delegated from the personal sphere to a diffuse public sphere with an elevated degree of legality, but with low legitimacy in the eyes of most actors.

In the peasant communities of the Tunari Cordillera, the governance of natural resources and biodiversity is characterised by the distribution of land as collective property and as familiar 'private' property called 'peasant home plot' [*solar campesino*]. In the case of Tirani, community norms have been affected by the implementation of the Park, as well as by the city's proximity. Currently, access to land and water is regulated by the community according to the rights of the heirs of the initial 58 members of the syndicate in the Agrarian Reform, instead of according to each family's needs. The use of water for irrigation is regulated by shifts, in the same manner as in other communities. This means that a family 'earns' access to water according to the degree of participation in the work associated with maintaining the irrigation system. The distribution of land has a formal basis founded on a blueprint which dates back to the Agrarian Reform, and that summarily indi-

cates each family's parcels. On the collective lands, the community dwellers that do not have much land have the right to establish cultivation plots, but only temporarily.

In forestry, the community organisation of Tirani has been planning to autonomously norm the use of plantations with criteria for sustainability, distribution of benefits, and community work for technical management and replacement of the trees. However, these claims have been blocked by the Park regulations. The community has also expressed its desire to norm gathering of non-forest resources (mushrooms, wild flowers) for the benefit of the families in greatest need. The syndicate's organisation is similar to that of other communities in that it is mandatory to attend the meetings, but there are internal conflicts about adopting new organisational principles from outside. For example, there are disagreements about the manner of electing authorities – either the traditional way in an assembly, or by secret vote.

1.8.3 Relations between local people and the state; bottom-up experiences

The marginalisation of the rural-indigenous population is rooted in the colonial model and has great consequences for current relations between the state and civil society. According to the experience of the indigenous peasant groups, the state has always been an instrument of power of the elite, in rural as well as urban areas. Thus relations with the formal public sphere have been strictly instrumental, using rejection, resistance and opposition. The social and political pressure exerted to force the state into giving up material and political benefits in the short-term perspective has become a very important pattern of relating to the state.

In peasants' daily lives, this is expressed in the still fresh memories of the years prior to 1952, when today's grandfathers were discriminated against and tricked by the authorities because they were illiterate. Thus they now perceive public actors as engaging in a double discourse, serving only interests that are foreign to those of the country in exchange for personal benefit. Peasants are suspicious of every activity proposed by the government, suspecting hidden intentions – for example, favouring the establishment of companies as is the case in protected areas. Thus the confidence of local actors in the state, especially in rural communities, was minimal up until 2005. Seeing the state as an entity lacking legitimacy is important, since this is not born of theoretical analysis of the current historical situation, but is based on personal and social daily life.

Fig. 4
Peasants watching the city of Cochabamba from the Tunari Park area. (Photo by S. Boillat)

At the local level, community organisations tend to gain strength, thanks to the decentralisation process, due to increased access to education and growing support on the part of external institutions that increasingly recognise the importance of local organisations for the implementation of projects. This process also motivates communities to reflect on their management of natural resources, for example, the use of native forests (Mariscal and Rist 1999), or on the need to manage forest plantations.

At the municipal level, peasant representatives had access for the first time to municipal power spaces. Being conscious of their low level of education, and lack of knowledge of legal and state organisations, the new authorities instigated increased training opportunities, supported not only by the municipality itself, but also by external organisations, NGOs and the university, including the PAMS pilot actions supported by the NCCR North-South. This training process had the effect of an increasing critical appropriation of the state discourse by social movements linked to peasant organisations and the construction of more elaborate alternative proposals. The peasant representatives acknowledged the fact that decisions related to protected areas we are taken at the national and international levels, and they recognised that having a majority at the municipal level was not sufficient to be able to influence the relevant policies. Therefore, the social developed a political programme in which obtaining maximum influence at the national level was a main objective.

By following this programme, indigenous peasant communities that live in protected areas of Bolivia organised the "First National Encounter of Communities Living within Protected Areas" in May 2003 (FSUTCC 2003). They drafted a proposal titled "For the Defence of Nature and the Environment", which opposed the government's draft of a Law of Protected Areas. They denounced the toleration of companies within PAs, and proposed the management and conservation of biodiversity by peasant and indigenous communities. Recently, these organisations created the National Native Indigenous Council of Protected Areas in Bolivia [*Consejo Indígena Originario Nacional de las Áreas Protegidas de Bolivia, CIONAP*] and obtained the support of the new government of Evo Morales to place a Yuracare indigenous representative at the head of SERNAP (El Diario 2006). The new government is also promoting the 'Nationalisation of Protected Areas', in the hope of recovering sovereignty over PA management (FOBOMADE 2006).

1.9 Discourses and narratives

The discourse of the actors involved shows clear opposition of 'public actors' (state organisations) and 'community actors' (peasant communities and their organisations). This opposition is expressed not only in the different perceptions of the TNP's specific problematic, but also in different conceptions of the relationship between society and nature in general.

1.9.1 Discourse of public actors

Local public actors, such as the Prefecture and the Municipality of Cochabamba, use an explicative discourse, justifying the TNP implementation process. They emphasise the environmental services provided by the highlands located within the Park. They stress the view that protection of the city against floods and landslides, the supply of water, CO_2 absorption by plantations, and recreation areas are of more importance. The Prefecture and the Municipality support the idea of 'parks without people' and restrictive legislation, as shown by the following testimony of a representative of the Directorate for the Environment of the Municipality of Cochabamba:

> *In other parts of the world, (...) there are protected areas that are truly reserves, where there are no people who live there, right? Those are really protected areas. In Bolivia, there are people living inside the protected areas. We are misinterpreting what protected areas really are.* (Testimony gathered by Macchi [2002])

The representatives of a local environmental NGO also share the idea of parks without people, and both groups show the strong influence of international debate. The persons interviewed often regretted that parks were not respected in Bolivia, alleging that this was the case in the rest of the world. They thought that it was necessary for Bolivia to make efforts to enforce these international policies in practice (Macchi 2002).

Specialists in the conservation of biodiversity from the public and private spheres, including MDSP, SERNAP, the General Board of Biodiversity, the biodiversity experts from the university and representatives from international NGOs, acknowledge the existence of communities in the protected areas and the need to create benefits for them once the area is implemented. However, they also give priority to the conservation of biodiversity in the PAs, and stress the need to restrict peasant activities as well as keeping some ecosystems free from human disturbance. Despite this, they find it difficult to apply their principles in practice, as is shown by the testimony of a representative of the MDSP:

> *Thus, in order to really make a sustainable area, you have to work with the populations in the buffer zone as well as those within the area, and all that. You must implement high intensity development programmes. (...) [If] we protect, protect and protect (...) sometimes we don't work with the opportunities for the people. Then we will always have some kind of problem.* (Testimony gathered by Macchi [2002])

In the specific case of the TNP, however, SERNAP, as well as biologists from the university, acknowledge the inadequacy of the category of National Park for the TNP. They particularly value the biodiversity of native forests, and criticise the exotic plantations promoted by the Park for their negative ecological effects (Quinteros et al 2007). In general, this group of actors gives priority to the conservation of biodiversity in the area, based on biological studies that define the degree of desired protection, and promote further research.

Despite their differences, both groups of local and specialist public actors, together with private conservationists, represent a dual concept of the relationship between society and nature. Spaces dominated by nature (parks) are created as a balance to spaces dominated by society (urban). There is an intention to plan the landscape based on technical criteria[7] and to conciliate conservation of the environment and economic growth through the imple-

mentation of incentives for the local population. In this sense, they point towards integrating the needs of nature into development, based on the sustainable, restricted use of available natural resources.

1.9.2 Discourse of community actors

The peasant communities and their organisations use a critical discourse in relation to the Park and its implementation process, without questioning the need to take account of biodiversity and reverse unsustainable processes. The Federation of Peasant Syndicates of Cochabamba (FSUTCC) calls for abolishment of the TNP. It emphasises the lack of legitimacy of the TNP and other PAs created by the state without consulting native populations, and mistrusts the government's intention to conserve nature, since it tolerates concessions to mining, oil, hydroelectric energy or tourist companies that also have negative environmental impacts within the areas (FSUTCC 2003). This position is shared by the representatives of the peasant communities located in the area in which the Park Law is not applied, as the testimony of the leader of the peasant organisations of Tapacari Province demonstrates:

> *We are not against keeping the forests, as a matter of fact, we even want to plant more forests, but there is a mistake here. (...) We cannot accept the parks if the communities are not going to manage them. We do not trust the government or the prefecture, because, for example, a protected area appears and then a mining or an oil company gets in. (...) We know that it is necessary to conserve (...) [but] we need help and advice, without needing parks we can take care of nature ourselves.* (Testimony gathered by Delgado and Mariscal [2004])

In the Cercado area, which comprises Tirani and where the Park Law is applied, the communities support the idea of a protected area, since it allows them to defend their territory against the expansion of the city. They propose changing the category to an "Integrated Management Area", which would allow them to carry out traditional activities.

Though at first glance these are two contradictory positions, both community groups tend to define their positions in terms of the ideals of self-governance and territorial sovereignty at the community level; further, their political-social alliance is strong in spite of the apparent contradictions. In the context of deliberations between both these groups, which were supported by the

PAMS, one can see the emergence of a possible consensus that could satisfy these common basic ideals, rejecting the Park in its current category and creating an "Integrated Management Area" whose limits would also be redefined. This would allow for the sustainable use of natural resources and for preserving the legal barriers to resist advances from the urban area.

Beyond the specific problematic of the TNP, the community actors express a different perception of the relationship between society and nature from that of the public actors. This is expressed not only in their discourse in public events, but also in their daily lives. A general interpretation of all testimonies we gathered in communities from the expansion zone as well as from the implementation zone of the Park shows that peasants do not make a fundamental distinction between society and nature. They rather conceive of humans and other organisms, including their environment, as an organic unit related to dynamics and transformations of the cultural-symbolic-spiritual basis, which is specific to the Andean worldview.

Places with little human intervention, such as high mountains, dense forests and deep ravines, are not conceived of as 'wild' nature, but as places occupied by spiritual entities with mythical references to humans of the past: ancestors, spirits, Incas or saints. In this sense, the concept of space is always related to the concept of time, which follows a cyclic rationale (Estermann 1998; Rocha 1999). In practice, this is expressed in the dynamics of rotating crops and fallow and the transhumance circuits carried out at different scales in space, and in ideas that current uncultivated land was in fact cultivated during the time of the Incas, and thus will some day be cultivated again. In this sense, peasants interpret natural spaces as places located in opposing phases regarding current human activity, within a cyclic space-time scale.

On the other hand, community actors do not propose a difference between what is inert and what is living; further, they do not see humans as the only entities able to reason or possessing a will. Every entity is a being similar to humans, with the capacity to feel and give information: stones ***breathe***, trees ***talk***, birds ***warn***, and all are observed by humans to predict climatic events. Because everything is alive, the elements of the landscape, such as lakes, hills, rivers, stones, animals and plants, are considered as male or female (Serrano et al 2006). In these relationships, matter and mind also interact. Looking at a plant or counting animals which is perceived to be a spiritual activity – can affect their growth and reproduction.

The position of humans as part of an interdependent set of social, material and spiritual spheres of life configures a relationship between society and nature, where one 'speaks' with the other as a basis of a 'development', which is perceived as the result of co-evolution. The set of these three spheres of life is intimately related to a greater entity, the *Pachamama* or 'Earth's Mother' (Rist 2002). The ideal of sustaining a positive relationship with the *Pachamama* is fundamental in families' and communities' quest for wellbeing. This view is also expressed in the construction of knowledge: natural phenomena with negative impact, such as hail, or human illness are interpreted as the anger of the *Pachamama*, provoked by violent action or bad behaviour on the part of humans, which must be resolved through rituals (Rist and Dahdouh-Guebas 2006). As an example, these relations with the *Pachamama* are expressed by the wife of the Tirani leader in the following manner:

> *When hail falls it is said to be somebody's fault. It is a punishment and I think it must be so (...) Sometimes the children climb up trees and fall and get sick. Then we burn the* q'oa *incense [a ritual offering] we call the animus, we invite the* Pachamama *to heal them. No* q'oa *is made in those places, which is why the children fall sick there, so we have to go there to make a* q'oa *to heal the child. (...) Everybody thinks that, since no* q'oa *was burnt, the* Pachamama *is angry, that is what they think.* (Testimony gathered by Salvatierra [2005])

The characterisation of the landscape also reflects these principles. While the public actors divide the landscape according to different zones of human intervention, peasants plan their activities, dividing the landscape into places to which they assign a proper name. The toponyms thus created can reach great density and precision (Martínez 1989), and are not defined according to predefined parameters, but rather holistically by their most outstanding traits. This bring out the unity of the 'place', such as the topography, vegetation, historical, social or spiritual aspects (Boillat 2007). Only after that is resource-related information – such as soil or species present – added. Further, the unit conformed by a toponym has the quality of spiritual and sacred entity with a personality of its own to which one can relate, and it also possesses a sex (Paulson 2003; Serrano et al 2006). In Tirani, as in other communities of the area, we observe ritual patterns, beginning with a 'call' of toponyms, where the 'places' are symbolically provided with food and drink in exchange for their help for good crop production.

These considerations demonstrate that both groups of actors' discourse contents differ not only in their practical dimensions, but also in the basic suppositions that govern the relationship between society and nature. In this sense, it is pertinent to speak of different '*ontological communities*'[8] which concern the actors' groups that share a set of basic presuppositions on what 'social and natural reality' is, independent of the presence of an observer and relations between these two realities (Rist and Dahdouh-Guebas 2006). This concept expands upon Haas' (1992) '*epistemic communities*'[9] which share a belief in a common set of cause-and-effect relationships and common values.

The community and public actors hold different worldviews. While one advocates a diachronic final causal explanation (public actors), the other (the peasant communities) advocates a synchronic vision which emphasises integral and eternal interconnectivity among the spheres of social, material and spiritual life (San Martín 1997; Rist 2002; Serrano et al 2006). The latter goes beyond understanding reality based merely on causal logic. Then there is the need to consider these differences in both actor groups as an expression of different '*ontological communities*'.

1.9.3 Actors' visions of institutional design

The vision of institutional design in the TNP is conditioned by ethical values guided by the ontological principles underlying actors' discourse. Besides the conflicts caused by restrictions on the use of resources in the area, there is a confrontation between a dual vision that separates humans and nature, and a relational vision that integrates them. Public actors insist on the priority of conserving nature by limiting human intervention. They give priority to the economic aspects of the negative consequences of reducing activities, and propose compensatory economic incentives for the communities, such as ecotourism, the sale of environmental services, or bio-trade. They seek to solve ecological problems, integrating them into a free market logic of services compatible with the conservation of the environment.

On the other hand, the community actors state the importance of human intervention for the management of the area, within the framework of principles and ethical values that, in their perception, express good development of the material, social and spiritual relations with the entities in nature. These principles are, for example, respect and reciprocity, which mean that good and respectful behaviour of humans towards an entity is rewarded, for example, with a good crop; likewise, an attitude of disrespect provokes

anger and punishment. Powerful entities such as the *Pachamama* also perceive the relations amongst humans, that must be respectful and should provide basic sustenance to every member of the community. This is the foundation for principles such as redistribution and the sense of community, which are expressed in a coexistence of private/family and collective/community ownership of the land and that allow each family to have access to cultivation plots in different ecological zones (Serrano 2003). These principles, however, do not imply a strictly equal distribution of the resources, but rather a distribution that allows everyone's subsistence with access to differentiated resources. The need for sustenance is the criterion that provides access to resources within the framework of reciprocal relations with natural entities: one can open a plot for cultivation, fell a tree or kill an animal when the corresponding ritual has been adhered to. However, abusive or commercially oriented exploitation of resources is not allowed. Diversity of access to resources allows minimisation of material risks and also, from a spiritual aspect, establishing reciprocal relations with a maximum of entities. For peasants, this implies that agricultural activities have to be distributed over the community's territory to concretise these relations.

As stated above, the case of Tirani showed that the implementation of the Park, as well as urbanisation, had the result that, on the one hand, economic activities became concentrated in a small intensive cultivation zone, thus undermining the traditional model of land use. On the other hand, conflicts in social organisation arose. However, peasants' discourse still refers strongly to the interdependence between the social, material and spiritual spheres of life, belief in the *Pachamama*, and the use of the same cognitive categories as used by the communities in the expansion area. This shows that although the institutional design has been affected in its normative and practical dimensions, the community of Tirani still affirms its membership in the 'Andean ontological community', and tends to reinterpret the new configuration in light of its principles (Boillat 2007). For example, the villagers of Tirani expressed a will to manage tree plantations not only for economic purposes but also because the plantations "request" human intervention, and the trees "need to be educated".

In conclusion, the fundamental logic guiding external urban as well as peasant indigenous actors is revealed. The peasant communities design institutions on the basis of a permanent dialogue between humans and nature – to which they belong – whereas external actors design institutions to achieve more efficient domination, which is more lucrative for society.

1.9.4 Transformation of the discourses and perspectives

In the period between 2002 and 2006, in which our research was carried out, the discourse of actors changed significantly. This was due in part to the political changes that occurred in the country. Firstly, the departmental authorities which previously were in a position of confrontation with the communities now express the need to build consensus, participation and equity, and recognise the inadequacy of the Park category, as well as of the current legal framework. The discourse of environmental NGOs has changed towards critical discourse, referring to the lack of regulation and political will from previous authorities to implement conservation in practical terms. They also express the principle of equity, emphasising the unsatisfied needs of the highland population, which lacks access to basic services.

The peasant organisations from Cercado, where the Park Law is applied, have changed from a critical discourse based on the impacts of the Park towards a discourse that claims rights and Andean traditions. In particular, the manner in which they handle the information they have accessed through PAMS indicates legal contradictions and anti-constitutionality in the implementation of the Park. The principles made explicit in these groups showed that the new discourse is related to social justice, equity, respect, solidarity and the conservation of biological and cultural diversity. The discourse of the peasant organisations in the rest of the area, where the Park Law is not applied, has changed from a total distrust towards an expression of greater trust in the state, stemming from the change in government. Though they still reject the Park, some communities are now willing to initiate greater actions aimed at conservation of soils and biodiversity, including forest plantations. They express explicitly that distrust in the state was the reason for not carrying out these actions before.

1.10 Conclusions

The most important conclusion of the present study is that the problematic of the Tunari National Park cannot be understood by considering only the logic of its creation. The Park was founded from a disciplinary perspective, separating the legal, technical, social, economic and ecological dimensions, on the basis of a dualistic vision of the relationship between society and nature. The reaction of the peasant communities affected by the TNP caused this dualistic rationale of ‘planned intervention’, to configure a conflictive

social interface with local actors, who defend a non-dual, holistic and integrating vision of ecosystem management that underlies their daily lives.

To achieve a better analysis of the conflict and determine mitigation strategies, it was necessary to integrate the ontological and epistemological dimensions of the actors' discourses. These dimensions sustain the imperatives, principles and ethical values that govern the way actors perceive the relationship between society and nature, and thus play a key role in the problematic. Consequently, it was necessary to understand the partial implementation of the TNP as a social interface where different 'ontological communities' meet and differ. This is particularly important, because it is on this basis that peasant, public or private actors can define the discourses that justify their specific interests concerning access to distribution and management of the natural resources within the TNP.

The peasant population in the TNP clearly subscribe to an 'Andean ontological community', where an integral and holistic perception of a sacred nature that includes the human being prevails. They try to solve ecological, social and cultural problems through a 'dialogue between man and nature': natural phenomena are understood and studied from the perspective of an interdependent community of intangible beings which, according to the case, are associated with the social, natural or spiritual spheres of life. This configures a relationship which, in its ideal expression, gives fundamental importance to the principles of respect, reciprocity and complementary management of the different characteristics of the environment. Thus 'nature' is perceived as an active entity in co-evolution with the human community, based on the specific historical background of the Andean sphere. This co-evolution does not follow a preordained finality, but exhibits a great degree of self-organisation, guided by human efforts to read the 'signs of nature' in the perspective of a collective learning process. In this sense, peasants seek to integrate human as well as non-human actors by transforming strategic action – which according to Habermas (1984) is egocentric and materialist – into a communicative pattern of action, where relationships within the human community are coordinated with those established in natural and spiritual life. Thus, social interaction is based on common comprehension of the current situation of all the implied actors and goes beyond the mere allegedly fixed 'maximisation of utilities'.

The research carried out on the relationship between traditional ecological knowledge and the diversity of ecosystems demonstrates that the Andean

ontological principles, in their ethical, normative and practical dimensions, privilege an integral use of the territory, a rational distribution of resources, and an attitude of respect towards natural entities. In the areas traditionally managed, this leads to highly diversified land use with different co-existing intensities of cultivation, grazing and forest management which create a mosaic-like landscape that harbours a high diversity of ecosystems (Boillat 2004; 2007). As a result, 'Andean ontology' is not only an essential factor in understanding the cognitive basis of the 'traditional' management of natural resources and territory, but also constitutes a fundamental potential for mitigating unsustainable processes. Improving the conditions for applying normative principles stemming from Andean ontology opens a space for revitalisation and innovation of traditional ecological knowledge, which can contribute to sustainable development from an endogenous perspective.

By contrast, the public actors in charge of implementing the Park subscribe to a 'modern-Western ontological community', which places emphasis on the separation between man and nature, and seeks to solve ecological problems through sectoral measures and techniques. This leads to defining restrictions on the use of natural resources, ideally compensated by economic measures. These differences are also expressed in other topics such as education, health and social organisation.

An important limitation is that the opposing actors perceive only partially and implicitly that their opinions rest on a structured basis, composed of normative, epistemological and ontological orientations. Therefore, as long as the search for conflict solution does not integrate a level of dialogue and mutual understanding in relation to these fundamental dimensions, it is difficult to find a common ground that may serve as a platform for collective action and a cooperative design of solutions. Moreover, the strong distrust of the rural communities towards the state accentuates conflict. Power is unevenly distributed: not only have the peasants been subordinate in political, economic, social and cultural-symbolic terms, but they have also been excluded from public decision-making. Finally, this opposition is concretised in the geographical space, where the peasant communities are located in the highlands, and the other actors are located in the valley, conforming to a highland–lowland syndrome context.

Another limitation is the legal framework of the TNP that lacks clarity and reflects the application of international policies which do not reflect local reality or have not been understood by the corresponding authorities. The

area was not studied prior to defining the Park, and the category of National Park is not adequate for a highly populated area with a strong historical background in the use of natural resources and biodiversity. Furthermore, the strict protection of exotic tree plantations as if they were natural forests does not correspond to ecological or technical criteria, even those proposed by international conservationist organisations. If we add to this equation institutional instability and the lack of resources in state organisations, it is no surprise that the Park has only been implemented in a very limited way and in a very conflictive context. This situation generates a lack of responsibility for environmental issues among the communities, the public and private actors alike, who are more inclined to interact in consideration of their material interests and in the short term.

Understanding the conflict as a social interface of different ontological communities has allowed the definition of an interdisciplinary framework wide enough to capture the complexity of the emerging dynamics. This also reveals that, besides the specific configurations within the ontological communities (relationship between practices, norms and interpretative patterns), there are important power asymmetries between them, which are based on institutional hierarchies representing different ontological positions.

Consideration of the ontological dimensions also allows an understanding that researchers themselves have ontological positions that were generally invisible in the context of the ideal of 'objective research'. This understanding has the effect of erasing the limits between the research object and the research itself, and the research becomes part of a dialogue process between different ontological communities. This element contributed crucially to the search for mitigation strategies, because it led all ontological communities to clarify and understand the bases of their actions. In general terms, this opens up a new public space, where none of the ontological communities has a pre-defined predominance. Each must look within itself to create the basis for a dialogue with other ontological communities. Thus the search for solutions becomes an emerging dynamic based on deliberation and cooperation on an intra- and inter-ontological level.

The recent political changes in Bolivia, with the inversion of power relations between the urban-mestizo and rural-indigenous spheres, open up opportunities for the recovery of sovereignty over natural resources on a national scale, and their management based on the local level. In this sense, there is a possible inversion of the ontological frame of reference: the previous

subordination of the Andean ontological community to that represented by the alliance of the public administration, conservationists and businessmen has been inverted. Thus, the proposals emerging from the communities, which seek reconciliation between use and conservation by strengthening their own forms of social organisation, force the opposing actors to include a social and cultural component in the debate on the future of the TNP. In such a debate the dialogue between actors could expand into a wider and more open ontological dimension, offering new options for the interaction between the actors involved.

However, endogenous proposals do not necessarily mean that all 'traditional' practices are sustainable. There are also unsustainable processes in the communities, such as soil erosion, overgrazing, or urbanisation of arable lands. Peasants usually acknowledge these phenomena as unsustainable, but use qualitative rather than quantitative criteria. Furthermore, although they wish to do it, the farmers have little time to initiate actions to counteract these processes, such as soil conservation, because they need to merge into the market through temporary migration (Zimmerer 1993). On the other hand, the introduction of foreign technologies and species during colonial times was coupled with an abandonment of traditional soil conservation and tree planting, thus breaking the process of local nature–culture co-evolution.

Another limitation is that extreme decentralisation of environmental management is a factor that forces local authorities to take important decisions without possessing a complete vision of the problem or the means to access the information. Thus, they are more vulnerable to the pressures of external actors with higher levels of information and power who can influence local leaders and authorities in order to control the resources (FOBOMADE 2006), as seen in the case of Tirani with the land dealers.

These considerations show that proposing sustainable development from the endogenous potential of 'Andean ontology' need not necessarily imply a static continuity or 'business as usual' regarding practices in use within the communities. On the contrary, the interactions of the communities with the outer world should become elements in self-reflexive processes that lead towards more sustainable practices. This can only be carried out when a space for communicative action is created between the communities and the external actors, where both have the capacity to take into account the other's needs. The new government, which enjoys the trust of the rural population, offers great potential to become a key actor in the creation of this space.

Within this framework, the state could articulate a space for definition of the relationship between biodiversity conservationist specialists, who represent the global interest in the conservation of biodiversity (or general natural potential according to Wiesmann [1998]), and rural communities, who represent the interest of securing local sustainable livelihoods (or specific natural potential). At the intermediate level, the state could play a supporting role in the implementation of more sustainable endogenous practices, such as soil conservation, watershed and forest management, by re-conceptualising them. In the case of Cochabamba, it is crucial to create interface spaces between the highlanders and the valley populations, who would benefit greatly from this type of action in the highland area. In spite of the current alliance between the valley and highland organisations in supporting the government, the highland communities are still at a disadvantage when taking into account access to basic services, education and economy. However, the highlanders express with greater clarity their membership in the Andean ontological community, and have a greater potential to manage a high diversity of ecosystems, as stated above. In order to carry out the actions mentioned above, it will be necessary for the valley population to provide greater support and recognition of the role of highland communities. The administrative geography of the area, which gives each municipality access to highland and valley lands – a legacy of pre-colonial organisation – turns the municipality into the adequate space where the relationship between these two geographical spaces can reach consensus.

In order for the state to create a space of communicative action for the sustainable management of biodiversity and natural resources, the following key conditions must be taken into account:

(1) The state must have sufficient freedom to make decisions and should not be in a position of dependency, but of creative responsibility towards international agreements, which would allow it to interpret them in its own way. Sufficient access to the information generated at the international level is required to enable state authorities to develop their vision of global issues, and to revise the current legal framework on environment and biodiversity towards a framework adapted to Bolivian reality.

(2) The still very fragile relations of trust between the communities and the state have to be strengthened. In some cases, municipal authorities of peasant origin have lost contact with the local organisations. This causes suspicion among the population (Crespo and Antezana 2006). The possi-

ble persistence of client-based bias and corruption practices within state organisations constitutes a great risk for the construction of this relationship, and is also a great challenge for the new state.

(3) The state will have to clearly define the role of private actors and the space in which they could evolve. Currently, there are important risks arising from the opposition of actors who are predominantly private, and who have strong international support. The state will have to create a consensus between spaces with ecological and cultural functions and sustainability priorities, and spaces with capital, and devise production priorities which may include large-scale private actors.

1.11 Main lessons learned in this case study

The transformation of the conflicts observed during the research and PAMS activities demonstrated that the actors involved learned how to transform their actions aiming at material and short-term interests to communicative actions, based on the search for a common comprehension of the situation in which all actors are involved.

This is made possible when greater space for deliberation and shared reflection is created, as for example during the multi-stakeholder meeting organised by AGRUCO with the support of the NCCR North-South in February of 2004. Thanks to this meeting, the state actors showed a clear willingness to reformulate the problematic, while peasant organisations showed a greater predisposition to interact with external institutions. Greater acknowledgement of the positions of the other actors allowed them to expand their interaction towards reciprocal acknowledgement of the relationship between concrete positions and their ontological conditioning. The political change that occurred in the country was clearly a key condition that enabled this space, because it led to a more equitable repartition of power.

In this sense, strengthening the weakest actors as a basis for opening spaces of communicative action is a crucial issue. In the research project, this was done with the complementary support of pilot actions (PAMS), which had a first phase aiming at strengthening peasant actors, and a second phase aiming at opening spaces for communicative action. The first phase concentrated on capacity building directed at peasant organisations. This favoured the formation of new peasant leaders who began to assume public positions

at municipal, departmental and even national levels. The second phase concentrated on building agreements for management of the TNP, providing support to the new authorities, gathering proposals from local communities, consolidating an institutional vision of the area, and including the problematic of the TNP in the agenda of the social and political changes at a national level. Nonetheless, PAMS met limitations in training oriented solely towards the community representatives who have rotating positions. Many times, the entire rural population manifested its will to receive training, which was not possible, owing to the extension of the area, its large population, and the limited resources. The research activities also had an important role in furthering reflection and dialogue in the communities and municipalities where case studies were carried out.

In conclusion, a combination of transdisciplinary research and support pilot actions has allowed the identification of entry points for conflict mitigation based on the co-production of knowledge, in order to work jointly towards sustainable development. By inscribing these mitigation strategies in the framework of communicative action, the levels of formal participation of the excluded actors are raised while enhancing change in the balance of power relations. Communicative action is not only about power: it is, above all, the best argument to guide the process of deliberation.

The university, which in its ideal-typical institutional structure is also compromised by communicative action, was able to play an important catalysing role in promoting the collective learning process whose final goal is the co-production of public knowledge for sustainable development. A fundamental role was to show the actors involved precisely that their positions and behaviour patterns rest on different ontological bases which have never been made explicit, excluding these fundamental dimensions from the processes of negotiation and collective learning. When this aspect was included in the social dynamics, rather than providing 'scientifically validated' content, the role of the researchers was to contribute to making social interaction more reflexive, as a fundamental contribution to a collective and public co-production of knowledge. Instead of being oriented towards an 'absolute truth', interaction is based on the inter-subjective validation of all actors who participate.

Endnotes

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[6] This Law was recently abrogated and replaced with a new one after the social movements of 2003.

[7] For example, they lean on geophysical studies (CLAS 2001) to establish a zoning of allowed and restricted activities in the area.

[8] An excellent review of the differences between epistemic and ontological aspects can be found in Packer and Goicoechea (2000).

[9] Haas' (1992, p 4) concept of "epistemic community" is directed at a "network of professionals" who share (1) a set of normative and principled beliefs, (2) causal beliefs, (3) notions of validity, (4) a common policy enterprise. Here, the concept is extended from expert groups to the whole of society structured in social actors who rely on different forms of knowledge.

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2 Linking 'Socio-' and 'Bio-' Diversity: The Stakes of Indigenous and Non-indigenous Co-management in the Bolivian Lowlands

Patrick Bottazzi[1]

Abstract

Biodiversity conservation policies are intrinsically related to ethnic issues in the Bolivian Amazon. The great social diversity that prevails in Bolivia is rooted in specific institutional arrangements according to categories which make the implementation of participatory mechanisms difficult to carry out. The present case study investigates the relation between social diversity and co-management governance of the Biosphere Reserve and Indigenous Territory of Pilón Lajas, located in the Beni department of Bolivia. Starting in the 1960s, productivist colonisation policies brought thousands of Quechua and Aymara people into the Amazonian areas, bringing with them their cultivation methods as well as their social institutions. In the face of this wave of migration, populations considered indigenous, the Tsimane' and Mosetene, had to adapt by adopting some non-native practices. These new forms of collaboration seriously call into question the borders of the protected areas, making it difficult to apply the principles of nature conservation, especially in the buffer zone of the Biosphere Reserve but also in some parts of the core zone. The election of Evo Morales foretells a reconfiguration of the baselines between eastern and western Bolivia with regard to conservation policy.

Keywords: participatory conservation in the Bolivian Amazon; protected areas governance; indigenous territory; institutional diversity; territorial history; Tsimane' and Mosetene people.

2.1 Introduction

From 1939 until the end of the 1990s, the Bolivian government recognised by decree the existence of 26 protected areas in a total area of almost 17 million hectares. Along with those measures, a National System of Protected Areas (NSPA) has been set up to try to guarantee biodiversity conservation in the areas considered of primary importance at a global level.

It turns out, however, that the principles of management defined in the regulations of protected areas are clashing with the multiplicity of local and national logics. The conjunction between the colonisation policies of the eastern parts of the country and those of nature conservation brings up logics of appropriation of natural resources which are very different and even oppose one another. Moreover, it is interesting to analyse these opposing logics in a context where the Quechua and Aymara populations are presently at the threshold of significant changes in the government and in official institutions with the election of Evo Morales to the Presidency.

The case study presented here on the Pilón Lajas Biosphere Reserve and Indigenous Territory puts in perspective the multiplicity of space occupation logics in what we will call the area of influence[2] of the protected area. An analysis of the territorial historicity of Pilón Lajas makes it possible to understand the difficulties in the application of the biodiversity conservation mode. What are the consequences of agricultural colonisation by the Quechua and Aymara of Andean origin, on the eco-social systems of the indigenous Tsimane' and Mosetene? What links can one establish between institutional diversity and the conservation of biological diversity in the context of the governance processes of Pilón Lajas?

This contribution begins with an examination of the social and historic processes which led to the implementation of the current governance mechanisms of Pilón Lajas. This is followed by an explanation of the consequences these processes have for the local forms of appropriation of natural resources. A final section points out in what way the change in government has brought new baselines within the framework of governance of protected areas in Bolivia.

2.2 General characteristics of the Biosphere Reserve and communal lands of Pilón Lajas

2.2.1 Geographical characteristics

The Biosphere Reserve and Indigenous Territory of Pilón Lajas is located 350 km north of La Paz in the outer limits between the western cordillera of the Andes and the plains of the Beni department.[3] It is situated between two biogeographical subregions: montane cloud forests (yungas) and the Madeira humid forest. The altitude variation within the reserve ranges between 300 and 2,000 meters. The longitudinal centre of the reserve marks the border between La Paz Department and that of Beni (VSF 1995). It is characterised by its intertropical position, with hot and wet winds from the north and a very strong wet condensation facilitated by the barrier constituted by the Andes cordillera. The climate is marked by an average temperature of 24.9°C within the reserve with constant and high precipitation with an annual average of 2,444 mm, oscillations between 1,500 mm and 3,500 mm and a dry period between June and July (300 mm). The existence of internal climatic variations in the protected area is a major factor in biological diversification. The highest areas are even wetter and rainier and have the lowest temperatures with the moisture present for most of the year (VSF 1998). This ecosystem diversity (Figure 1)[4] justifies zoning in 4 categories of use, each divided into several polygons: strict protection (37 %); extensive extractive use (41 %); intensive extractive use (17 %) and moderate use (5 %).

2.2.2 Hydrology and soils

Pilón Lajas contributes to the water supply of the Amazonian system through the Beni and Mamore rivers. It accommodates 5 main riverbeds: Alto Beni, Maniqui, Quiquibey, Yacuma, and Beni. The soils are characterised by the following categories: Orthent, Tropept and Ochrept, which are not very deep in most cases. The heavy precipitation causes leaching of mineral salts contained in the soil, danger of erosion, strong acidity, poor organic matter content, and excessive moisture. This results in poor fertility and requires special conservation practices (VSF 1995; WCS 2005).

Pilón Lajas Biosphere Reserve and Indigenous Territory

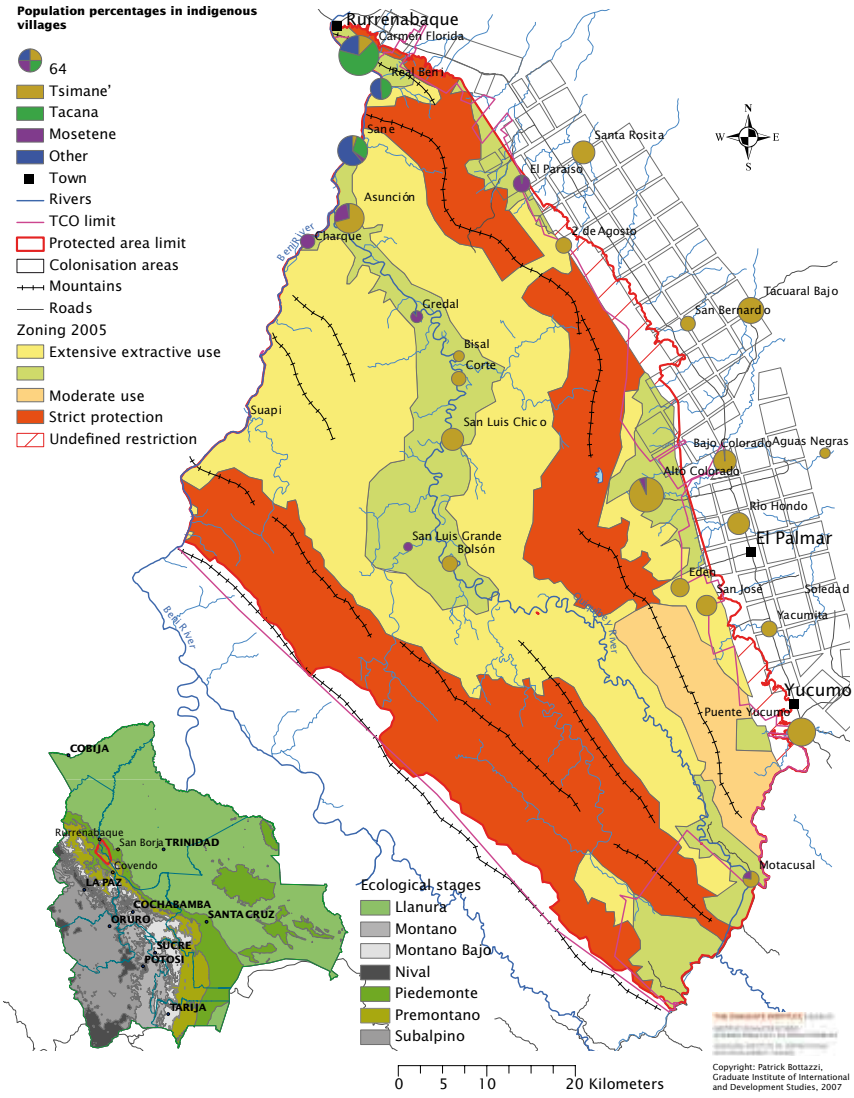

Fig. 1
The Pilón Lajas Biosphere Reserve and Indigenous Territory. (Map by Patrick Bottazzi)

2.3 Fauna and flora

In Pilón Lajas there are between 2,000 and 3,000 species of vascular plants (Killeen 1993). Among these, there are approximately 162 species of various trees, such as mahogany (*Swietenia macrophylla*); cedar (*Cedrela* sp.), *roble* (*Amburana cearensis*), and approximately 26 other valuable species of high monetary value on the markets, such as *almendrillo* (*Dipteryx odorata*), *cuchi* (*Astronium urundeuva*), *ochoó* (*Hura crepitans*), *palo maría* (*Calophyllum brasiliense*) and *verdolago* (*Terminalia* sp.). Furthermore, there are 33 cheap species such as *bibosi* (*Ficus* sp.), *momoqui* (*Caesalpina* spp.), *mara macho* (*Tapirira guianensis*), and *trompillo* (*Guarea* sp.). One of the specificities of the reserve is its great diversity of palm trees, such as *pachiuva* (*Socratea exorrhiza*), *tembe* (*Bactris gasipaes*), *copa* (*Iriartea deltoidea*), *motacú* (*Scheela princeps*), *chontas* (*Astrocryum*), and ivory palm (*Phytelephas macrocarpa*). A plant very often used in the area for building roofs, the *jatata* (*Geonoma* spp.), is also found there. This plant is an economic pillar for the local populations, who specialise in its transformation and sale on the local markets.

Pilón Lajas is also the home 755 different animal species, among which there are 73 mammals, 485 birds, 103 fish, 58 reptiles, and 36 amphibians. The rarest are the black spider monkey (*Ateles paniscus*), the lowland tapir (*Tapirus terrestris*), the spectacled bear (*Tremarctos ornatus*), the jaguar (*Panthera onca*), the giant otter (*pteronura brasiliensis*), the harpy eagle (*Harpia harpyja*), and the chestnut eagle (*Oroaetus isidori*).

2.4 Settlement history of the area in ancient times

As shown by some archaeological sites, the settlement of the Bolivian lowlands dates back at least 1300 years and corresponds to the Barrancoïde culture, which originated in the northern part of the continent. Lathrap thus identifies the Chimay site and the lower Velarde phase as the two oldest complexes in the Bolivian lowlands, dating between 600 and 700 AD. These migratory movements started in Bolivia through the Itenes and the Beni and constitute the roots of the Tsimane' and Mosetene cultures as they are known today (Lathrap in Jiménez Vaca 2003).

Gregorio de Bolívar was the first missionary to be in contact with the Mosetene and Tsimane' in 1621. He drowned during another voyage in the

area a few years later. However, the historical elements of the region were only known starting from the 16th century with the arrival of the first explorers in search of mythical places. Thereafter, the discovery of gold mines in the Kaka and Guanay rivers favoured a significant flow of Western conquerors. Towards the end of the 17th century, the region was under the influence of three great missionary orders: the Dominicans (1670), the Franciscans (1680), and the Jesuits (1682). In 1693 the Jesuits founded the Reduction of San Francisco de Borja, which would become the main pole regrouping the Tsimane' communities in the area. Tsimane' populations, contrary to their Mosetene cousins, are very difficult to contain. In spite of their highly pacifist character they could not stand the change of life within the Jesuit reductions. This led to an uprising in 1696 (Daillant 2003). A little further, in the Covendo area, the beginning of the systematic conversion of the Mosetene started with the San Miguel de Muchanes Mission in 1804 (Métraux 1963, pp 486-487). The Mosetene maintained much closer relations with the Jesuits than the Tsimane' ever did, who, by then, were known for their minimal capacity to integrate into Western society. Tsimane' and Mosetene continue to inhabit the region in which they were colonised by the missionaries in the 17th century. Colonisation had an enormous impact on their societies – one could actually formulate the hypothesis that the current conception of 'community' is strongly influenced by the missionary reductions. This idea is supported by the present differences between Tsimane' and Mosetene in the configuration of their villages.

A little further north, in the San Buenaventura and Riberalta region, the Tacana people were completely integrated into the colonial economy. Thanks to their labour force they were involved in the most important industries of the region: rubber, cashew nuts (*castaña*) and quinoa. The Tacanas did not have the socio-economic characteristics by which we currently know them prior to their forced enrolment in extractive economies. They are the product of an important migration originating from the east, and thus suffered drastic acculturation; this shows particularly in the introduction of Spanish as the lingua franca, the integration of a cash economy, and the gradual loss of their own language and pre-colonial institutions.

This powerful change in the indigenous social and economic systems induced by the missionaries had a considerable influence on all populations in the region, even though there was a marked interruption of the process in 1767, when the Jesuits were expelled. A new wave of religious colonisation came in the 1950s, with the arrival of the American evangelist missionaries of Nueva Tribu. In 1953, Nueva Tribu founded the Fatima de Caracara Mis-

sion, and the Bible was translated into the Tsimane' language. This marked the beginning of a new era for the Tsimane' populations in the region. The time was one of pacifist integration, but it inescapably led to the adoption of the Judeo-Christian values of Western society. Transmission took place primarily through the training of bilingual schoolteachers, among whom were the first modern Tsimane' leaders.

Next to the secular existence of indigenous populations in the region and that of their new evangelist colonisers, a demographic category of equal importance must be considered: the mestizos of Western origin called the Camba. Despite their much more recent origin, these populations are nonetheless the most numerous in the region – at least they were so prior to the massive colonisation by Quechua and Aymara of Andean origin. The Camba were great landowners and cattle breeders; they came in successive waves from Europe, the Middle East and Asia since the economic expansion of rubber, benefiting from economic opportunities offered by the exploitation of the area's natural resources (quinoa, rubber, wood, narcotics, agriculture and cattle breeding). While these populations are very numerous in the Beni department, they are virtually non-existent in the area of influence of the reserve. The Camba are concentrated in the town and in the pampa, where grazing activities are more extensive. They are therefore not included in the present analysis.

Table 1

Indigenous populations in the area of influence of Pilón Lajas.

	Tsimané	Mosetene	Tacana	Others	Total	Colonist
In the area of influence	934	131	187	142	1,394	8,237
In the reserve	508	130	187	142	967	
On the road outside the reserve	332	1	0	0	333	
On the road inside the reserve	371	47	1	3	422	
On the riverside	231	83	186	139	639	
On the roadside	703	48	1	3	755	

Source: Compiled data from management plan (WCS 2005). Statistics for indigenous populations are also represented on the map (Figure 1).

The analysis will focus on the populations considered as indigenous and migrant residing in the area of influence of the Pilón Lajas reserve (Table 1). According to data collected in 2004 by the Wildlife Conservation Society (WCS) team, the total indigenous population was 1394 people with 333 outside the reserve.[5] They were divided into 238 families in 25 communities, and had an annual population growth rate of 2.31%. The ethnic distribution

was as follows: Tsimane' made up 65.4%, Mosetene 9.1%, Tacana 14%, and others 10.1% (WCS 2005). Only 16% of the total population, i.e. 221 people, were located on the section of the road extending from Yucumo (not included) to Rurrenabaque (not included) in what was seen as the buffer zone of the reserve. This was the focus area of our study. The total migrant population in the area of influence of Pilón Lajas amounts to 8,237 people. According to urban poles (Yucumo, El Palmar) this population numbers 3,198 people, with the following ethnic distribution: Quechua make up 28% and Aymara 34%. The annual growth rate is 14.64% spread over 25 localities (WCS 2005).[6] We do not know the exact amount of migrant population inside the reserve, which is mostly concentrated in the southern part outside the indigenous territory.

2.5 Institutional history of the reserve and governance mechanisms

2.5.1 From establishment of the reserve to indigenous co-administration

In 1975 Pilón Lajas was for the first time proposed as a National Park within the legal framework of the Law on Forestry, National Parks, Game and Fish[7] with an area of 280,000 hectares. In 1977, the UNESCO Man and Biosphere (MAB) programme nominated it as a Biosphere Reserve. These first two recognitions did not, however, lead to concrete measures in the field. The zone was truly considered a territorial entity only a few months after the great march for "land and dignity" organised by the eastern indigenous delegations between Trinidad and La Paz, in November 1989. In August 1991, an important meeting was organised by the Centre of Agro-ecological Services (CESA), a non-governmental organisation (NGO) in Alto Colorado – one of the oldest communities of Pilón Lajas – in order to discuss the problems related to the region and elaborate a territorial claim addressed to the central government. During this first meeting, known as the "First Ethno-cultural Tsimane' Meeting", a Tsimane' and Mosetene Regional Council (CRTM) was set up, and the first indigenous representatives were elected. One year later, by the supreme decree of 9 April 1992, the Bolivian President officially created the Biosphere Reserve and Indigenous Territory of Pilón Lajas in the name of the Tsimane' and Mosetene indigenous populations, the majority of whom lived in the forest belts. The reserve covered an area of 400,000 hectares and was given a dual status already at this point: on the one hand

it was considered a biosphere reserve, and on the other hand it was seen as an indigenous territory. At the time, indigenous territories did not yet have a definite status according to the Bolivian land law. It was only in 1996, when the National Institute of Agrarian Reform (INRA) law was adopted, that the indigenous territories acquired the status of Communal Territories of Original Inhabitants (TCO). These titles were granted upon request from the indigenous people on areas of up to 2 million hectares.

With the official recognition of Pilón Lajas both as an indigenous territory and as a biosphere reserve in 1992, the interest of international organisations was quickly aroused. At that time, the regional manager of the French NGO Vétérinaires Sans Frontières (VSF), who was providing assistance to cattle-breeders in the area, decided to get involved in integrated conservation activities with the populations of Pilón Lajas. They quickly managed to obtain joint financing from the European Union and the Swiss Agency for Development and Cooperation, amounting to EUR 4 million over a six-year period, to be shared between conservation and development activities. Several diagnoses were worked out, and a management plan was elaborated in 1997. During that time a first corps of park guards was trained. It was made up mostly of indigenous members and was primarily devoted to protection activities. At the same time, VSF engaged in numerous activities with agricultural colonists in the buffer zone of the reserve. A new forestry law was adopted by the Bolivian government in 1996 and, due to pressure exerted by VSF and indigenous organisations, logging companies which had not been authorised before 1992 were ordered to leave the reserve. These measures aroused the anger not only of powerful logging lobbies in the region but also of a whole segment of the Bolivian population whose incomes were directly related to the exploitation of forest resources.

The important financial means brought in by VSF, combined with the area's forest resources, made Pilón Lajas an important stake for the government's political elite. As for the indigenous population, they could not understand the NGO activities. Most of the productive projects benefited colonists, whereas indigenous people only benefited from nature conservation projects. The leaders of colonist federations such as the Rurrenabaque Colonist Federation (FECAR) and the Yucumo Colonist Federation (FECY) wished to be given more power and, above all, to continue their cattle-raising activities. VSF, in order to meet conditions imposed by sponsors (especially German and Dutch), had to find economic alternatives that were ecologically more acceptable. This constellation of opposing forces resulted in VSF offi-

cials being held hostage and forced to leave by the colonists' organisation. This event marked the beginning of a new era for the reserve, which from now on was managed by the Bolivian government, first through the Biodiversity Department (DGB) and later through the National Protected Areas Service (SERNAP) created in 1998. The reserve has benefited from World Bank funding, even if the funds are not disbursed on a regular basis, making Pilón Lajas one of the best equipped and most operational protected areas in Bolivia (Pauquet 2005). In the time of VSF management, all members of the park guard corps were indigenous people from the reserve. However, the position of a guard was very difficult to assume for indigenous inhabitants. Tsimane' and Mosetene were very resistant to the strict discipline required by the profession. Moreover, relations with their own families became difficult for those who were state representatives. Since the change of regime, the park guard corps has consisted of one half indigenous people and one half mestizos.

The dual categorisation of Pilón Lajas as a Biosphere Reserve and as communal lands of original inhabitants implies substantial participation by local populations in the management of the area. The Tsimane' and Mosetene Regional Council (CRTM) was founded in 1991 through a dynamics between the Tsimane' Grand Council (the main organisation representing the Tsimane' in the area), the Centre of Agro-ecological Services (CESA) and the evangelist missionary organisations of Nueva Tribu. Its first representative was Lucio Turene, elected during the "Ethno-cultural congress" organised by the CESA. In 1993, pressure exerted by the Tsimane' Grand Council led to the election of Claudio Hualiatta as the head of the CRTM. He held this position until 1999. That year, VSF, which continued its activities in the area even though it was longer in charge of managing Pilón Lajas, organised an important workshop on fauna management. At the time, an NGO called Ecobolivia that was interested in developing ecotourism projects in the reserve, launched the idea of organising new elections to choose CRTM representatives. The idea was unexpected, but it met the approval of the indigenous population. Lucio Turene was once again elected President, with José Caimani as the Vice President. The two were accused of maintaining non-transparent trade relations with Ecobolivia. New elections were organised one month later – however, without the approval of the entire population. Claudio Hualiatta was re-elected President and Triniti Tayo Vice President. This led to the co-existence of two Tsimane' and Mosetene Regional Councils, a situation that persisted for nearly two years, during which there was much uncertainty about the legitimacy of the second

organisation. As the sponsors refused to finance the organisation, new elections were organised in 2002. Triniti Tayo and Edwin Miro were elected President and Vice President, respectively. The period coincided with funding obtained from a Danish NGO called IBIS, and there was also financing for specific projects from Conservation International (CI). Starting in 2003, very important negotiations with the government led to a legalisation process for the Pilón Lajas territory, which was completed in 2005, the year when Triniti Tayo decided not to run for President and Edwin Miro was elected instead. The leadership of the CRTM has not been important with regard to individual ambitions as it represents little financial and symbolic interest. The CRTM focused much more on external stakeholder strategies and interests, with a view to maintaining control in decision-making regarding the Biosphere Reserve. The international public good dimension of Pilón Lajas is, to some extent, a factor causing indigenous demobilisation. Leaders are seen by local communities as 'co-opted' by external actors, and the CRTM is losing legitimacy.

Currently the protected area is governed under the co-management concept. The governmental Reserve Administration receives the major part of the funds intended for operating the reserve and for implementing conservation and development projects. The CRTM is to coordinate activities with local communities and serves as an intermediary when decisions have to be made in relation with the TCO. Communities send representatives to the general assemblies that are convened on an irregular basis. It is on these occasions that the most important decisions, such as the election of the members of the Council, are made in a vote by raising of hands. These elections are not organised on a regular basis but depending on financial factors. This uncertainty about the election process partly explains the relative legitimacy accorded by the local communities to their leaders in town. Relations between the Reserve Administration and the CRTM have been changing constantly since their creation. From 2001 to 2005 they were largely conflictive, especially because all important decisions were taken by the director of the reserve. Since 2007, when the principle of co-administration was replaced with the more comprehensive principle of co-management, cooperation has become more productive. The new conventions made the working mechanism between the CRTM and the Reserve Administration more consensual. Both entities are now taking decisions in a more informal and efficient way.

The main task of the CRTM in these past years has been to ensure the process of territorial legalisation with the state authorities to clearly define the

boundaries of the territory and obtain a final land title. The process has made it possible to secure a land title (TCO) on most of the area recognised in 1992. However, a very large part of the territory was lost and titled in the name of colonist federations located in the south of the protected area (Figure 1). This area, which was not occupied by the Tsimane' or Mosetene at the time, could not be claimed as an integral part of the territory, and was allocated to the populations of Andean origin who were actually occupying it. The CRTM was forced to sign the cession of this part of the territory to the colonist organisation. Even if the area has formally remained under the Reserve Statutes, the TCO is now divided into two polygons – one in the name of the indigenous people and one in the name of the colonist federations.

External funds coming from international organisations play an important role in Pilón Lajas Biosphere Reserve governance – and thereby considerably reduce the decision-making autonomy of the Reserve Administration (under SERNAP) and the CRTM. These funds, earmarked mainly for conservation objectives, enforce the economic line policies defined by local authorities. Irregular disbursement based on presentation of regular planning is a way of maintaining constant financial uncertainty and establishing control over local governance.

2.5.2 The colonisation process

While recognising the territorial claims of the indigenous Tsimane', the Bolivian government had very different intentions for the area bordering Pilón Lajas. In 1979, a colonisation law provided a legal framework to the so-called "Rurrenabaque – Secure Colonisation Project". The National Institute of Colonisation (INC) and the National Agrarian Council (CNRA), created in Bolivia in 1965, were used to back up the main objectives in the organisation of a migration campaign intended primarily for former miners that had been idled by the economic crisis in the 1980s.

There were two main stages in the colonisation process. The first began in 1978 and ended in 1980, and the second resumed the process in 1983 and has not finished yet. The first colonists of Andean descent mainly originated from Alto Beni and Potosi and came through the relocation programme for idled miners. These miners had been victims of both sectoral liberalisation measures[8] and the collapse of the international tin markets. The objective was to favour agricultural production in the region and solve the problems of land precariousness in Andean areas. During the first and second stages

of colonisation (between 1978 and 1987) nearly 850 families were settled in the course of planned colonisation (VSF 1998). The INC was in charge of organising the occupation of the colonisation zone, by granting land titles to the colonists who declared that they were willing to develop the land in an efficient manner.

With support from the Food and Agriculture Organisation (FAO) and the World Bank, the colonisation programme was planned for an area of thousands of hectares. Plots of land 25 hectares in size were allotted to each family. These allotments were meant to give families access to credits by pawning their property. According to a pyramidal principle of political organisation, a political representative authority corresponded to each level of land division in production. The Colonist Federation, as well as farmers' labour union syndicates and sub-syndicates joined together to defend their common interests. This form of organisation was consolidated by a very strong feeling of ethnic belonging (Aymara, Quechua) which was not very open to the integration of exogenous entities. Contrary to the indigenous communities, Andean populations benefited from a very strong tradition of labour-unionism inherited from the revolution of 1952. Their basis of organisation were regional federations, which, in turn, were constituted by several syndicates. Each federation was composed of three types of producer organisations: the 'colony' established on a *núcleo* of approximately 1,250 hectares (ha) and made up of about 40 families; the 'communal land' which comprised between 15 and 30 families on a territory of 1,000 ha; and 'cooperatives' that were recognised by the National Cooperative Institute and evolved on a territory of approximately 1,000 ha, as well. Two types of colonisation were taken into account: planned colonisation, on the one hand, spontaneous colonisation endorsed post factum by the INC, on the other. The families received a provisional title for two years which could later be converted into a permanent land title on the condition that real land development could be proven. The requirements for the granting of land and for its legal conservation were quite different from those currently prevailing with the Bolivian environmental system. Initially, the colonisation zone was to cover an area of 150,000 ha; this number was later reduced to 75,000 ha. However, the INC maps of 1993 revealed that the combination of planned and spontaneous colonisation covered an occupied area of 175,000 ha (Rasse 1994 in VSF 1998).

This policy – totally opposed to the policy of protected areas or Communal Territories of Original Inhabitants (TCOs) – advanced intensive exploitation

of natural resources as a criterion to gain a land title. All that was needed at the time was to have fodder or perennial cultures to justify that land was efficiently being developed – without farmers necessarily having to be present. Consequently, migrant populations resorted to extensive and precarious crops in development strategies to justify their occupation of the land. The policy resulted in massive deforestation near zones that had been classified as protected areas (VSF 1995; Pacheco 2002). At the time, the INC was encouraging deforestation by guaranteeing land titles to those who practised extensive agriculture and cattle-breeding as long as they could prove their capacity to occupy the space by 'clearing' the forest. It was only in 1992 that the Bolivian government adopted an environmental law and that the idea to preserve biodiversity began to spread. This idea was concretised in practice by creating the Biosphere Reserve of Pilón Lajas.

2.5.3 Forest extraction in informal arrangement

Forestry is the main source of cash for rural areas in the region. The reserve forest represents an important stock of precious wood. Many logging companies settled there after the road between Yucumo and Rurrenabaque was built in the 1980s. For over 15 years these companies, under the official responsibility of the Centre for Forest Development (CDF[9]), have practised short-sighted and unsustainable exploitation of forest resources inside the reserve. Moreover, the indigenous and colonist populations did not benefit at all from this activity. Currently, very few zones remain intact from this plundering. Several valuable species are scattered here and there throughout the reserve in the most poorly accessible areas, such as mountainsides. However, there remains a large, miraculously saved zone in the centre of the reserve, all along the Quiquibey River and in the south. This is what can be dubbed the heart or the lung of the reserve – the area where all the rivers have their sources. This zone has been subject to close monitoring since the establishment of the corps of park guards and is the destination of an increasing flow of migration by colonists from the high plateaus.

Nevertheless, forest exploitation is still permitted within the reserve: since the adoption of the 1996 forestry law, local communities or small enterprises can apply for legal concessions in the "intensive extractive use" zone (Figure 1). Following a study of ecological impact, the application becomes subject to a process of deliberation between the Reserve Administration and the CRTM. Moreover, concessions must also be applied for at the State Forest Service[10]. Since the forced departure of logging companies due to the joint

efforts of conservation NGOs and indigenous organisations, it is the colonists who have taken over intensive exploitation of forest resources in the area. Their system of functioning is completely different from that of the logging companies. Their farmer federations have obtained community concessions for several areas ranging between 1,000 and 8,000 ha. These areas are located in zones of great ecological fragility and where forestry is, theoretically, prohibited. These concessions provide the basis of a new form of plundering in the region which is seriously endangering the ecological balance in the protected area. Since the beginning of the new forestry regime, a management plan has been approved only for the indigenous community of Paraiso. Other demands are in progress.

2.5.4 The decentralisation process of protected area management

The recognition of the Biosphere Reserve and Indigenous Territory of Pilón Lajas took place in the context of important state reforms initiated in the early 1990s. What is referred to as a "Bolivian Environmental Regime" (REB)[11] includes a series of new official state institutions whose role it is to regulate access to natural resources and define in what terms local populations can participate in the management of these natural resources. In the particular case of the forestry regime, the Forest Service, through its local operative units, carries the responsibility for managing forests on the national territory by granting concession titles to logging groups (local communities, municipal associations and private companies). In order to obtain a concession, loggers need to submit management plans certified by experts from the Forest Service. Concessions granted can cover areas of up to 200 ha, but are only partially exploited (by plots of 10 or 20 ha) according to a rotation logic, thus allowing for the remainder of the area under concession to regenerate. Only companies equipped with an approved sawmill are authorised to exploit the forest. By prohibiting the use of chainsaws, the forestry law was built around a production logic that excludes farmers or local indigenous populations who cannot afford to purchase the authorised equipment. These radical constraints imposed on local populations have led to an escalation in generalised disobedience. As a forest engineer says, "for norms to be respected, rights need to be given". Currently, some actors are trying to initiate a reform of the forestry law at various levels; this has already led to some exemptions for small logging groups.

Along with the forestry reforms, the Bolivian government has also adopted very important measures in the fields of biodiversity conservation and land legalisation. The General Protected Area Regulation (RGAP) defines procedures ensuring participation of a majority of the stakeholders involved in the administration of a protected area. The decree on the RGAP[12] was approved following negotiations between civil society organisations[13] and the state. Every 6 months, management committees (MC) are extended to include representatives of indigenous populations, original communities, municipalities, prefectures and other public or private organisations involved.[14] These committees must consist of indigenous people, farmers, and colonists by up to 50%, with the remaining half made up of state representatives.[15] Formally, only indigenous or farmers' organisations recognised by the state as "territory-based organisations" in accordance with the principles of the Law on Popular Participation (1994) were invited to attend protected area management committee meetings. In practice, these management committees did not gain as much influence as expected. Most of the actors are not very interested in participating, and the main political lines adopted are not followed.[16]

The principal task of management committees is to approve elaboration of a management plan defining the main development and conservation policies pursued. In Pilón Lajas only two management plans have been approved since the creation of the reserve in 1992. The first was elaborated by VSF without significant participation by indigenous people. The second was directed by the WCS, who tried to build up a much more complete process of indigenous participation. Colonists were not invited to participate, but a small commission with indigenous members of the CRTM was formed in order to follow the whole participatory process in the communities and at the different interfaces. Nevertheless, from the CRTM position the process was not participatory enough. Indigenous populations were not integrated into public discussions about planning, a concept which is not included in WCS vocabulary. Based on the present study, the main problem of the management plan seems to be its focus on the global aspect of the reserve without taking into account the micro-zonation at the communal level. Holistic communal resource management practices, low mobility facilities, the fragility of each separate economic sector, and the uncertainty of markets are sufficient arguments for focusing more on communal management complexity. For these different reasons, several indigenous assemblies rejected the entire document during one year, before presenting a revised version called a "live plan" instead of a "management plan." Apart from the title, this "live plan" remained very similar to the original version, thus clearly showing

the difficulty felt by indigenous people to enter into this type of normative process based on very different symbolic referents such as scientific and bureaucratic writing.

The decentralisation process and protected areas management are completely dependent on the legal level, and the social and economic implications are important. The municipalities are thus key participants in management committees of protected areas. Their representatives (mayor or councillor) have to approve the management plans.[17] However, as noted above, the management committee does not play such an important role in the governance of Pilón Lajas; municipal participatory planning processes are much more important for the development and conservation of protected areas. This institution has been very strong since the participation law of 1994, which foresees the presence of indigenous representatives at municipal meetings almost five times a year to define their priorities, mostly in terms of basic infrastructure. One of the key stakes of conservation is precisely for the municipalities to take into account the needs of communities living inside the protected areas. These communities, like most social groups, are currently completely in favour of development. They express needs in all sectors under the responsibility of the modern state: education, health, and basic facilities. However, one can note that based on the traditionalist conception of indigenous societies that is still maintained, and because the latter find it difficult to adapt to public spaces of dialogue (due, among other things, to the problems of distance, language and communication habits), municipal planning processes have practically been abandoned. The members of the CRTM try to be present at the municipal assemblies as frequently as they can, but their capacity to persuade is still very weak in the face of colonist federations and urban committees. Therefore, it is not astonishing that local populations exploit wood resources in their immediate environment to cover the costs of development on their own. Field studies have shown that in the case of the two main municipalities responsible for the indigenous communities of Pilón Lajas, the share of the municipal budget which is allotted to them is still ridiculously small.[18]

2.6 Resources, livelihood strategies and institutional change

2.6.1 Institutional change and agricultural practices

Analysis of the settlement history of the area of influence of Pilón Lajas explains to a large extent the changes that have occurred in livelihood strategies for the Tsimane' and Mosetene populations, who have been living in the region from time immemorial. Nevertheless human habitation of the Pilón Lajas reserve began only around 50 years ago. Before the 1980s the funnel represented by the Quiquibey basin was more of a temporary hunting and fishing zone for both Tacana and Tsimane' people than a permanent space for settlement. According to ethnographic studies carried out, these populations are presently characterised by a very high mobility, scattered human settlements, agriculture on small areas called *chacos* with alternating periods for the cultivated spaces, combined with hunting and fishing (Métraux 1963). Their small camps are mostly found on riverbanks. An absence of family ties in close human settlements is almost impossible. Their family tie structures are divided between 'marriageable' (*fom*) and 'non-marriageable' people. Preference is given to cross and parallel cousins.

We note an absence of clear rules of residence, which can be patrilocal, matrilocal or neolocal, depending on need. In many cases young couples oscillate between the residences of the two parents-in-law. The principle of *sóbaqui* or mobility is very important. In Tsimane' the term is defined as walking, travelling, or visiting (Ellis 1998).

The Tsimane' economic production system is limited to the satisfaction of basic needs, i.e. to subsistence. Piland (1991, in WCS 2005) has shown that the Tsimane' grow more than 80 different species of plants. These are used primarily for subsistence, although they are also increasingly sold on the market. The land can be used in three different ways: as a *chaco*, as fallow land (*barbecho*) and as a vegetable garden (*patios o canchones*). The average size of a *chaco* is 0.32 ha according to Piland's studies at the Beni biological station in 1991 (Piland in WCS 2005). Silva (1997) calculated an average area of 2 hectares per family in the colonisation zone between Yucumo and Rurrenabaque (Silva in VSF 1998). According to her, there are extensions of up to 4 ha of rice monoculture intended for sale. Field studies conducted for the present study in 3 Tsimane' communities in the colonisation zone showed that exploited areas vary between 1 and 2 hectares, depending on

each family's productive capacities. These areas are generally divided into several smaller plots of approximately 0.5 ha each. Their distribution falls under a complex system of rotation combining social and spatial logics.

The main crops grown by the Tsimane' in the buffer zone of the reserve are, in qualitative terms: *plátano* (plantains), *yucca* (cassava), *arroz* (rice), *maíz* (corn), *maní* (groundnuts), *locotos* (red pepper), *camote* (sweet potatoes), *sandía* (water melon), *paltas* (avocado). Each *chaco* is planted in rotation, first with rice combined with corn, combined or followed by yucca. The last crop grown on each *chaco* before it is left to fallow is plantain. The productivity duration of each *chaco* varies between 2 and 3 years. The fields left fallow continue to be productive thanks to perennial crops and the fact that these fields attract wild animals like the *jochi* (a type of beaver) or the *chancho de tropa* (a type of wild boar). Work in the fields is divided among nuclear families. Seldom is assistance offered by the rest of the community. It should be noted, however, that in the colonisation zone of Pilón Lajas, such assistance is becoming more common. In theory only one crop of rice is grown on each *chaco*, then it is left in semi-fallow with *plátanos* until fallow is complete. 0.25 hectare of rice can yield up to 15 *arroba*[19] each year. They are then converted into 350 kg of peeled rice that can be sold for BOB 420 (approx. US$ 46). Generally, half of the production is used for consumption and the other half is sold, which represents an approximate value of BOB 210 annually. A study has shown that in the Yaranda area, on the banks of the Maniqui River, the yearly income of a Tsimane' family could vary between US$ 187 and 398, depending on proximity to urban centres (Reyes García 2001). The consumption unit is the restricted family or the domestic unit. Food is seldom shared with visitors. Only *chicha*[20] is very widely shared, it plays an important role in socialisation (Ellis 1998).

The Tsimane' cosmology has been recognised as directly related to natural elements and to society's reproductive system (Daillant 2003). Hunting parties are marked by purification and warning rituals addressed to natural elements. In theory the Tsimane' limit their hunting to the quantities needed for direct feeding. In certain mythical animals (such as the panther) they recognise a 'spirit' whose role it is to supervise reasonable use of the forest. Although these representations can still be found in the Tsimane' living along the banks of the Maniqui River, they are no longer common among the populations living in Pilón Lajas, especially in the buffer zone of the reserve. Social and economic reproduction conditions have changed considerably since the arrival of strangers (logging and farming companies). Hunting

and fishing are currently losing ground. The activities of logging companies have considerably affected the presence of wild animals in the area (hunting resources). Fishing practices with dynamite are destroying fishing stocks in the area and have greatly decreased the availability of animal proteins. Communities living in the buffer zone have to walk for several days to reach areas suited for hunting and fishing. The draining of water bodies due to uncontrolled deforestation along rivers is another factor that affects not only fishing resources but also the agricultural future of the vast plateaux spreading in the eastern part of the country.

2.6.2 The migrant world: a different logic of economic productivity

The activities of the big logging companies, however, are part of history now. The greatest pressure is currently exerted on the Andean colonisation front. Indeed, economic production and social reproduction logics of the migrant communities originating from the Andes differ completely from those of the Tsimane' populations. Their agricultural and political traditions are the product of a long cooperative heritage imported from the Andean zones. A 1997 study shows overall production distribution. The following production could be observed on all the parcels studied: corn (19.73%), rice (27.46%), plantains (20.27%), and fodder (8.64%) (Villegas in WCS 2005). In most of the cases families wish to conduct cattle-raising activities in these areas that are not very suitable for agriculture. The farming parcels are developed in an extensive manner, starting with the parts closest to roads or access paths and moving gradually towards the interior of the parcel. Conquest of the forest is seen as an asset by migrant families. It is seen as proof of the efficient use of land and is also used as a criterion when INRA brigades carry out their land surveys within the framework of the land legalisation process. A great number of colonies located in the buffer zone of Pilón Lajas had obtained land titles before the government recognised the reserve in 1992, and they resort to this precedence when defending their agroforestry practices overlapping with the reserve land.

It is interesting to note that an important part of the Tsimane' and Mosetene people currently living in the buffer zone were integrated as Andean migrants into the colonisation programme for the region. They came from the Maniqui River or from Covendo, respectively. Before moving into the reserve itself, they lived with the colonists for several years, acting as daily workers on the colonists' concession areas. Some of them even obtained plots in the form

of land titles within the colonies managed by the INC. Only in 1996, when Pilón Lajas was recognised as a communal territoriy for indigenous people, that the Tsimane' partially abandoned their concession areas. However, some of them have maintained their agricultural activities in the colonisation zone. The situation is thus far from the traditionalist conception of the territory with migrants on one side of the border and indigenous people on the other. Even if some of the indigenous settlements pre-date the beginning of colonisation, an important part of the Tsimane' and Mosetene populations arrived during the process of colonisation. A great part of Tsimane' and Mosetene were integrated into the colonisation 'system' before becoming 'free indigenous' and living in the wild parts of the reserve. Even if, from a formal point of view, the spatial borders between Tsimane' territory and the colonisation zone are clearly defined, historical forms of collaboration between the Tsimane' and the Andean migrants challenge identity borders. That phenomenon has resulted in mutual borrowing of natural resource management institutions, which tended to increase the pressure on forestry resources even more.

It is thus not surprising that the indigenous people living in the Pilón Lajas reserve, particularly in the buffer zone located along the road between Yucumo and Rurrenabaque, are considerably changing their dependence on ecosystems currently weakened by exogenous anthropogenic actions. An understandable reaction from the Tsimane' and Mosetene people was to adapt in their turn to the mechanisms of accelerated exploitation of resources before they are completely exhausted. Actually, we are witnessing an alliance rather than a conflict for the appropriation of forest resources. The recent titling of Pilón Lajas to the Tsimane' and Mosetene as Community Territory of Original Inhabitants gave those people greater local legitimacy in the eyes of migrant communities. The latter had to negotiate their access rights inside the territory. Two forms of collaboration were established between the colonists and the indigenous people within the framework of illegal exploitation of the forest. In the first case, it was the indigenous people themselves who were given the responsibility for cutting down the trees and chopping them before they are carried away along terrestrial accessways. Then, tradesmen coming from La Paz have to transport them to the capital. In the second case, the indigenous people simply indicate where the valuable species are found, and the colonists carry them where needed. Faced with this alliance, the Agrarian Service and the Reserve Administration are relatively powerless. The shortage of means for monitoring and the lack of legitimacy in the view of unions of farmer organisations politically backed by the new government

oblige the decentralised state authorities to give up. In a few cases the local government even supports the aforementioned practices by creating its own taxation mechanisms, independent from those set up by the state through environmental reforms. Such mechanisms explain why there is an acceleration of deforestation in the area. The yearly rate of deforestation in the buffer zone inside the reserve increased from 36 ha between 1975 and 1987 to 465 ha between 2001 and 2005 (WCS 2005).

2.7 Discourse and narration: perception, wishes and motivations

2.7.1 The colonisation of mentalities

Scientific frameworks offered by interactionist and constructivist sociology provide interesting readings within the governance framework of protected areas. Through discourse, each stakeholder is trying to legitimate his position in local arenas, even if the discourse is no more than a reduced and strategically oriented representation of reality. The paragraphs above addressed cultural, but also institutional diversity revolving around the territorial stakes of Pilón Lajas. The historicity of legitimacies in the appropriation of territorialised resources has led to the crystallisation of agents in social and identity positions, evaluated and recognised by their counterparts. Thus for most of the local observers, the Tsimane' are seen as nature protectors whereas the colonists or the Andean migrants are imprisoned in their mould of relentless producers and destroyers of biodiversity.

Biological diversity is thus closely linked to institutional diversity. Non-governmental organisations intervening primarily in the field of nature conservation[21] concentrate their collaboration on organisations known as indigenous (Tsimane', Mosetene, Tacana, Esse Ejas), whereas organisations oriented more towards development and production[22] collaborate more with the colonists. This division has become so important that the Reserve Administration has set up what is called the "inter-institutional committee", a meeting platform for organisations intervening in the production field. Until last year the meetings only gathered organisations intervening in the colonisation zone, whereas the management committee of the protected areas still refused to recognise them. An ethnic and cultural appropriation of norms and institutional discourses can be observed, suggesting that biological, cultural and institutional diversities are closely linked. State and non-

state institutions whose duty it is to regulate resource use through distribution of rights are strongly embedded in the mechanisms of social and ethnic differentiation.

The definition of territorial categories is thus maintained despite the bubbling evolution of the micro-societies that compose them. In the face of these changes, new institutional needs are being felt. This assimilation between indigenous people and conservation needs to be strongly moderated. Studies carried out on indigenous people in the Amazon forests have shown that they are particularly sensitive to socio-economic changes (Turner 1999). Weakened by the modification of living conditions, they do not hesitate to use natural resources in a depredatory way even if they are located on their own 'traditional' land. These behavioural changes are accompanied by changes in their own representation as illustrated by the words of a former Tsimane' leader:

> *We are not rich, we are indigenous people, we are poor. Sometimes we go in the forest to hunt animals and monkeys and we eat them. If we do not hunt, we do not eat. Sometimes we only eat rice, you will excuse us, because we are indigenous people, we know how people view us, like barbarians. We did not eat well, we are indigenous people, for that reason, we want to exploit the wood; we want to cut it, because we want to earn money with that wood. We want to change. We are different from our ancestors. We do not want our children to inherit that situation. We have undergone training, we want to live, to change, wear shoes, pants, shirts... really change... we want women... we want to live and that's all... we are not like our ancestors who were living with their* corochon *and that's all...* (C.H., May 2005)

That stereotyped but realistic vision of their situation indicates also their desire for a change of status, which would make them move from passive conservation agents to active development agents. However, indigenous organisations in the lowlands, such as the Tsimane' and Mosetene Regional Council, are finding it hard to build alliances with productive organisations as efficiently as they do with conservation organisations. This situation often puts them in disagreement with their own social basis. Indeed, the Tsimane' communities find that the CRTM is too close to the reserve and that it does not intervene enough in development issues and does not initiate enough productive projects.

The CRTM, in its turn, tries its best to build alliances with producer organisations, particularly with tourist agents, but the benefits have remained quite marginal. Thus the temptation to start productive forestry remains high, as in many other indigenous organisations in the region. Proposals for alliances to open a whole section of the reserve to that kind of exploitation do exist. This would represent important financial income, at least for a few years. As long as the financial resources of 'double conservation', i.e. ecological and social conservation, intervene in the area, the CRTM will manage to cover operational needs and does not yet seem to be ready to succumb to that temptation. In any case, this situation would imply that the CRTM would be shared between conservation and development. This duality is perceived with serenity by the authorities, who consider that their work is trying to relate activities to both concepts.

The tourism sector has grown considerably in recent years and tourism is becoming a very important activity, especially for villages situated on the riverside in the reserve. The Mapajo ecotourism project was created in 1998 in the village of Asunción del Quiquibey. It trains more than 200 tourists every year interested in both natural and social aspects of the reserve. At the beginning, the project was meant to implicate five villages, but conflicts concerning benefit sharing pushed the other villages to create their own business. Even if ecotourism presents some very encouraging results it is a very problematic sector. The daily arrival of boats full of strangers has a strong impact on the socio-economic equilibrium of the community. Some residents do not want to work in this sector but are obliged to accept the presence of foreigners. The big gap between agricultural income and income from tourism activities is creating strong inequalities between communities and between families themselves. Domination of the tourism sector in certain villages like Asunción or Gredal is diminishing interest in other activities such as agriculture or non-ligneous forestry. In consequence, when the low season of tourism arrives or when the Quiquibey River is not deep enough to carry tourists, the inhabitants have to resort to illegal forest activities. In the case of the community of San Luis Grande, for example, the great distance from Rurrenabaque induces them to abandon tourism activities and ask for a forest management plan that has been refused until now by the reserve. Thus, between the river people and the road people, differences of vision can be explained especially by differences of opportunity. These opportunities can change very quickly depending on the season and the availability of resources.

2.7.2 Top-down political drivers of change

The political context, however, seems to lend itself more and more to this kind of alliance, particularly with the colonisation sector. When Evo Morales arrived on the political scene, there seemed to be a reconfiguration of the contents of the oppositions between indigenous people and migrants, with the colonists being seen as a new category of legitimate stakeholders in the region.[23] Even if the local federations do not hesitate to change their denomination from 'colonists' to 'agroecological producers',[24] nature conservation is very often presented as an exogenous value, imposed by the 'white power' for secondary interests, in comparison with the survival of local people. The arrival in force of 'new indigenous people' in the lowlands, supported by the Aymara or Quechua government, tends in practice to considerably call into question the values of biodiversity conservation. The lowlands are first marked by a resurgence of the Movimiento al socialismo party (MAS) to which not only the migrant populations of the cordillera adhere, but also the great diversity of indigenous ethnic minorities motivated by their recognition as "indigenous nations". We gradually witnessed an institutional strengthening of values centered on intensive and extensive production, private property, agricultural mechanisation, and urbanisation sustained by extremely effective social and political mechanisms.

This type of clientelist ethnicity is also strongly felt at the level of the main offices for state services. The case of the SERNAP is telling enough in this regard. Until December 2005, John Gomez was at the head of the SERNAP. Following a conflict with the vice-minister of natural resources and environment, Marabella Idalgo, he had to step down and took with him many collaborators. Shortly after the election of Evo Morales as President, Erlan Flores was appointed as the head of SERNAP. When he took office, he undertook a series of reorganisation measures within the protected areas located in the eastern parts of the country. As soon as he took office, he decided to appoint new directors who were seen as colonists by the indigenous people inhabiting the lowlands. That was the case with the Isiboro-Secure Indigenous Territory and National Park (TIPNIS), Apolobamba, and the famous Madidi Park, where he tried to appoint a representative of the Federation of Agricultural and Livestock Producers of Abel Yturalde (FESPAY). During his short term of office, he enabled 70 colonist families to settle in a park at Torregua which is included in the TCO of the Indigenous Centre of Lecos de Apollo Village (CIPLA). The Lecos people, who had not been informed beforehand, rejected by a wide margin the settlement of colonists.

Faced with these actions, representatives of eight indigenous territories, supported by national organisations[25] occupied the SERNAP offices on 11 September 2006. The crisis led to the dismissal of the director, Elan Flores, on 15 September 2007. Before the end of the month a new director was appointed after discussions with the indigenous people. This was Adrian Nogales, the former director of TIPNIS. His experience as the head of TIPNIS and his network of relations maintained with the indigenous communities in the lowlands, gave him a strong social basis at the head of SERNAP. But what undoubtedly constituted his greatest legitimacy was his being a member of the Yuracare ethnic group, a group close to the Tsimane' and Mojeño, mostly situated in the department of Beni. The acceptance of the new director could be explained by the fact that the majority of the indigenous territories included in the protected areas were in the eastern parts of the country. As a matter of fact, whereas only 4 indigenous territories are included in or located next to protected areas[26] in the Andean parts of the country, there are 16 in the eastern parts of the country[27]. Since September 2007, a new coordination organisation for indigenous people living in the protected areas has been implemented: it is the National Indigenous Council for Protected Areas (CIONAP). Its objective is to serve as the main interlocutor representing the indigenous people living in the protected areas, during the implementation process of a new political constitution in Bolivia. CIDOB, the federation of indigenous organisations of the people of eastern Bolivia, is intended to chair the new structure. Its role is still not clearly defined.

2.8 Conclusion

This case study enables us to show to what extent the territorial history is a key element, essential to the understanding of the institutions that control access to natural resources. A purely structuralist analysis of governance situations would not have enabled us to clarify the strength of territorial legitimacies over a long period of time. Even if the recent environmental reforms of the Bolivian government are informed by good ecological intentions, the anteriority of policies of agricultural colonisation and the political strength of the federations of Andean migrants make imposed conservation policies totally inefficient.

It should be said that colonisation occurs not only in a spatial way but also and mainly through institutional mechanisms. The occupation of space is actually only the corollary of an occupation of mentalities in which new

values and new practices are conveyed. Among these values, new farming practices are transferred and end up appearing totally 'natural' even if the ecological contexts are not suitable. Among migrant people, private land rights proved to be one of the main motivations of space occupation, and consequently of the degradation of forests. Private property is after all not recognised as a dominant value in the Andean areas. It is also part of the transferred values which accompany a certain ideological concept of economic growth, of access to credit and a Western way of life.

In the face of many local frictions political organisations as well as regional administrations seem powerless, in particular when it comes to 'educating' local populations with regard to sustainable use of natural resources. The paradigm of community participation protected area management seems totally inefficient when it is separated from its economic dimension. The search for productive alternatives to deforestation is without doubt one of the main priorities for promoters of conservation in protected areas. However, it cannot be carried out without a suitable legal framework. In such a context of de-legitimatisation of local coordination institutions, the power of norms retains all of its efficiency. A reform of the forestry law as well as the implementation of procedures adapted to local populations and enabling them to use forest resources sustainably, would be welcome. Recalling the words of the forest engineer: "For norms to be respected, rights need to be given." The new approach should take into account the holistic necessities of each community to diversify their economic input. The wood sector cannot be treated separately from ecotourism or agriculture, and management planning should integrate micro-zonation at the communal level in its procedures.

At the administrative level, the next big challenge of Pilón Lajas will be what was once called *gestión indígena*. This is no longer co-administration or co-management but indigenous management by itself. The recent election of Evo Morales provides a very good context in which to discuss this theme. The overall question is: Who are the indigenous

Endnotes

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[2] The area of influence is considered here as the area where different actors have strong social, economic or ecological interaction with the reserve.

[3] Geographical coordinates: 66°55'–67°40' western longitude, 14°25'–15°27' southern latitude.

[4] The map shows a zone called "undefined restriction" at the eastern border of the reserve (Figure 1). The undefined status of this zone is due to differences in interpretations related to the presidential decree of creation in 1992. One interpretation is to consider the boundary of the reserve to run at a distance of 5 km from the road. The management plan was elaborated on this first interpretation. The other interpretation is to consider the boundary to be at a distance of 5 km from the road with the exception of the mountain zone. In Figure 1 it was attempted to depict both visions.

[5] These data were available in 2004. However, heavy migration from just outside the border, from the Maniqui River and from Covendo indicates that the population inside the reserve has grown since then.

[6] These surveys are sometimes approximate and are quoted here to give an approximate indication only.

[7] Legislative Decree No.12301.

[8] Decree No. 21060 of 29 August 1985 corresponds to an anticipation of drastic measures for 'good governance' recommended by the World Bank in the famous consensus of Washington of 1989.

[9] Centro de Desarrollo Forestal.

[10] Superintendencia Forestal.

[11] Environmental Law No.1333 of 27 March 1992; Law on Popular Participation No.1551 of 20 April 1994; Decentralisation Law No.1654 of 28 July 1995; Forestry Law No.1700 of 12 July 1996; INRA Law No.1715 of 18 October 1996.

[12] Supreme Decree No. 25925 of 6 October 2000.

[13] Confederación Sindical Unica de Trabajador Campesino de Bolivia (CSUTCB), Confederación Sindical de Colonisadores de Bolivia (CSCB), Central Indígena del Oriente Boliviano (CIDOB).

[14] Art. 47, Section II in the General Protected Areas Act (Supreme Decree No. 24781 of 31 July 1997).

[15] This main point of the decree is made in Art 2.: "Los Consejos de Administración de Áreas Protegidas estarán conformados en un 50% por representantes locales de campesinos, indígenas y colonizadores y en el otro 50% por los gobiernos municipales cuya jurisdicción coincida con el Área protegida, Prefectura y el Servicio Nacional de Áreas Protegidas."

[16] In the event of an overlap between the protected area and the TCO, the "exploitation of natural resources by the TCO in the protected area will be subjected to the legal provisions applicable for each resource", i.e. in case of timber products, to the Forestry Law No. 1700 of 1996 (Art. 149 of Supreme Decree No. 24781 of 31 July 1997).

[17] The division by municipal constituencies of Pilón Lajas varies around 8%, depending one the position of each municipality: Rurrenabaque (46.7% to 38.8%), San Borja (4.6% to 12.5%), Apolo (18.4%), Palos Blancos (30.3%).

[18] In the municipality of San Borja, the share of the yearly municipal budget allocated to community colonies in the buffer zones of Pilón Lajas varies between 0.01% and 0.2%. In the municipality of Rurrenabaque, in 2004 only 7% of its budget was allocated to its rural areas and only 0.7% to the communities residing within the reserve.

[19] Old measurement unit equivalent to 11.5 kg.

[20] An alcohol made from cassava (*yucca*).

[21] These include Conservation International (CI); Instituto para Conservación y Investigación de Biodiversidad (ICIB); Programa Regional de Apoyo has los Pueblos Indígenas del Amazonas (PRAIA); WCS; IBIS; and others.

[22] These include Asociación Nacional Ecuménica de Desarrollo (ANED); German Development Service (DED); Programa para Implementation de Sistemas Agroecológicos (PRISA); Producción, género e ingreso (PROGIN); and others.

[23] Today, colonists want to be considered as 'originarios', another name used to refer to indigenous people.

[24] This is the case with the FECY (Federación de Colonisadores de Yucumo), which changed its acronym to FEPAY (Federación de Productores Agroecológicos de Yucumo).

[25] CIDOB, Consejo Nacional de Ayllus y Markas del Qullasuyo (CONAMAQ), Central de Pueblos Étnicos Mojeños del Beni (CPEMB).

[26] Weenhayeck, Jacha Carangas, Isoso, Guarani Yacuiba.

[27] Bajo Paragua, CIRPAS, Comunidad Ayoreo Guaye Rincon del Tigre, Lecos de Apolo, Lecos de Larecaja, Marka Qamata, Moseten Santa Ana de Mosetenes, Movimas, Multietnio II, San Jose de Uchupiamonas, Pilón Lajas, Tacana I, Tacana II, TICH, TIPNIS.

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3 The Difficult Invention of Participation in the Amarakaeri Communal Reserve, Peru

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Abstract

After ten years of demands by the Harakmbut people, the Peruvian State officially recognised the Amarakaeri Communal Reserve (ACR) in 2002. Supported by the regional indigenous federation FENAMAD, the Harakmbut aimed to recover an ancestral territory lost through a harsh process of evangelisation that began in the 1940s. The Global Environmental Fund, through UNDP, supported their cause by providing $1 million in financial support. However, today, after 5 years of the reserve's existence, the victory of FENAMAD and the Harakmbut has proven unsatisfactory, and doubts and disappointment have begun to appear within the communities. The benefits from this reserve seem to be more of a political and symbolic nature for advocates of indigenous interests and conservation than of an economic (and therefore concrete) nature that would benefit local people. Indeed, the dream of political self-determination has led to conservation being used to support a political struggle. Though international debate promotes the incorporation of local actors in the management of protected natural areas (PNAs), experience with the ACR shows that the establishment of a conservation structure based on co-management between indigenous people and state administration is a hard road, demanding preparation, economic resources and information, and incorporating a high risk of failure.

Keywords: participatory conservation, environmental movement, forests, governance, indigenous peoples, land use, protected areas, Harakmbut people.

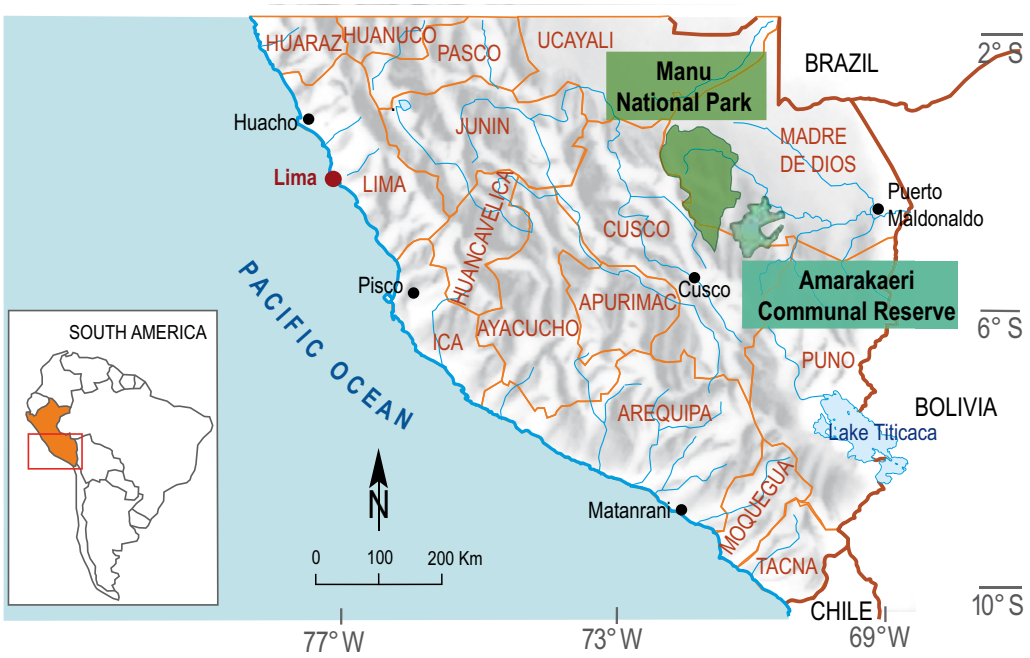

Fig. 1
Location of the Amarakaeri Communal Reserve. (Map by Ulla Gaemperli)

3.1 Introduction

The Department of Madre de Dios (Southeastern Peru) has reserved over 45.3% of its surface area for conservation activities (Dourojeanni 2006). Owing to its enormous wealth of renewable (forest, fishing, fruits, fauna) and non-renewable (oil, gas, gold) natural resources, it is one of the most dynamic regions in the country (PNUD 2005). With the completion of the Southern Interoceanic Highway in 2008, it will be conveniently connected to both Brazil and Bolivia. In this context, recognition of the Amarakaeri Communal Reserve (ACR/RCA[5]) in 2002 was seen as a great victory for indigenous people and an obstacle for economic actors whose main interest lies in the lumber industry and gold-mining.

Currently, there is great tension between the lumber sector, miners and the reserve's management due to illegal exploitation in the protected territory. Further, the ACR is an area of potential drilling for oil and gas, and there is currently pressure for a survey to be carried out by two oil companies (one North-American, the other Spanish) that each own a concession partly within

the ACR. This situation exposes an incoherence in the legal provisions regulating land that is characteristic of Peru. However, after 4 years, the main concern about the future of the ACR comes from within. The population of the eight communities engaged in the project does not understand the real advantages that this reserve could provide for them. From a practical perspective, they see more limitations than benefits (current or potential), to the degree that the Federación Nativa del Río Madre de Dios y Afluentes (FENAMAD) policy is currently opposed by most communities. The participatory promise resulting from the national political process and decentralisation of natural resource management offered great hope at the beginning of the 21st century. Although the Harakmbut people and FENAMAD have gained political and symbolic recognition in relation to the possibility of co-managing a new-generation protected area (PAMS 2004), certain dissatisfaction is evident among the population when analysing the benefits related to the economy and general well-being.The purpose of this contribution is to illustrate and shed light on the reason for this disappointment. Participation in the management of natural resources was proposed in international debate as an effective solution for local development (see Borrini-Feyerabend 1997; Borrini-Feyerabend et al 2004; Rodary et al 2003). Currently, it is well known that participation has many facets (see Pimbert and Pretty 1997) and that the norms which govern it, and the authorities who impose it, can make this participation appear purely theoretical or, on the contrary, turn it into a strategic instrument based on a sincere attempt to share power. In the case of the ACR, participation means co-responsibility within the administrative structure involving indigenous people and the state, under the Peruvian legal pattern governing forest and resource management, which will only tolerate traditional practices. In general terms, sharing power corresponds to the control of a management instrument over a specifically defined territory, and this represents a contradiction. If the initial idea of the ACR promoters was to claim territory to use it in the way their ancestors did, today's management supposes modern knowledge and know-how[6] far from what the Harakmbut can immediately offer, based only on their socio-cultural regulations.

The real challenge is not the struggle for recognition of legal ownership of their territory (today they have only usufruct rights), nor the claim for more rights, but is more a technical one: How can management, administration and control of a territory be achieved in cooperation with other economic or political actors, under the pressure of uncontrollable settlers? This not only means resolving concrete issues, such as the financial role of the state, improvement of communication capacities, and capacity building for social actors. It also

means developing a 'social pact' by instigating collaboration between these and other actors at a time when power relations are redistributed (at least by law). The question also arises that if this collaboration is to have a future with the new political market now in effect in Peru, need it not open up new and feasible local economic opportunities for the more than 1,500 Harakmbut?

The present contribution was drafted within the framework of the Swiss National Centre of Competence in Research (NCCR) North-South programme, based on research for two PhD theses produced between 2004 and 2007 in the ACR. On the basis of a socio-anthropological interpretation of conservation, two types of data were collected with a triple focus (historical, economic and political). Some data are essentially quantitative and correspond to a survey carried out in four ACR communities to obtain domestic data on household economy with regard to natural resource use. The rest was data collected in interviews. The data respond to the need to measure the perceptions, intentions and projections of the main actors with respect to the ACR.

3.2 The Amarakaeri Communal Reserve (ACR)

The ACR is located in an ecologically rich forest area, on the foothills of the Eastern Andean Mountain Range (Figure 1). The Andean chain functions as a watershed for the millions of litres of water held by clouds coming from the Pacific Ocean. This water flows into the rivers, which cross a steep topography, until it eventually reaches the Amazon jungle. The ACR has 13 rivers that cross a very craggy mountainous topography. The vegetation varies according to altitude regions. There is a great variety of species widely distributed along the different forest formations and associations. The area is inhabited by fauna characteristic of high jungles, such as the mono choro (*Lagothrix lagothrica*), oso de anteojos (*Tremarctus ornatu*), and in the low jungle by other animals such as the tapir (*Tapirus terrestris*), huangana (*Tayassu tajacu*), venado (*Tayassu pecari*) and pavas de selva baja (*Mazama americana*). Further, endangered species such as the lobo de río (*Pteronura brasiliensis*) are native to the area (FENAMAD 1992).

The territories of 8 native communities (Shintuya, Shipetiari, Diamante, Puerto Azul, Boca Ishirioê, San José de Karene, Puerto Luz, Barranco Chico) surround the ACR, distributed among the districts of Manu and Madre de Dios. Most of the indigenous population is Harakmbut, an ethnic group that shares a common language (Harakmbut Hate), but with different dialects.

Lyon (1975) classified it as possessing its own unique linguistic family. It was estimated to be the oldest indigenous population in the region. A social organisation based on patrilineal lineage predominates in the Harakmbut communities (Moore 2003). The Yine are of the Arawak linguistic family, together with the Matsiguenka, who also inhabit the zone.

The main economic activity in the Manu district is lumbering, while in the Madre de Dios district it is gold-mining. Data relating to the population within the zone show that in 1992, 925 inhabitants were reported living in the communities of San José de Karene, Puerto Luz, Samaninontime, Barranco Chico, Boca Ishirioê, Diamante and Shintuya (FENAMAD 1992). By 2006 the number had risen to 1,436 inhabitants.[7] Other indigenous communities have been incorporated in the ACR management process (Shipetiari, Queros, Puerto Azul, Masenawa). On the whole there are 10 indigenous settlements with 1,682 inhabitants around the ACR (buffer zone).

In 1992, 11 settlements with 947 inhabitants of migrating settlers from the High Andean regions were reported (farmers, lumbermen and miners), located on the right bank of the Madre de Dios River (buffer zone). In 2006, it was estimated that these same areas had 1,483 inhabitants. Other areas, which existed in 1992, were incorporated in the consulting processes of the ACR, together with new settlement areas. In total, today there are 23 settlements of *colonos* with 8,405 inhabitants in the ACR buffer zone (Plan Maestro de la RCA 2007), with some *colonos* miner's families residing in the ACR.

3.3 History

The native Amazonian territories remained generally autonomous, though economic contacts, as well as wars, were numerous. During the time of the Spanish Conquest (16th-17th centuries), incursions into the Madre de Dios lower jungle were frequent (Quispe Del Maestro 2006); however, few adventurers stayed there. The high jungle was the only place where colonised portions of the Harakmbut territory intended for gold-mining and coca growing existed (Table 1). The region was integrated into global commerce during the boom in rubber exploitation at the end of the 19th century (Moore 2003).

The ACR's history begins indirectly with the Forest and Wild Fauna Law of 1974, which included the communal reserves among the "units of conservation"[8] for the native peoples within the Peruvian Amazon region and other

Table 1

Amarakaeri Communal Reserve chronology. (By authors)

Time	Most important events
1821	Harakmbut attack and burn plots and farms in Kcosñipata, part of the traditional Harakmbut ethnic territory. Peru's Independence from Spain.
1890	Beginning of the Rubber Boom. Death of thousands of Harakmbut and other ethnic groups in Madre de Dios.
1903	Dominican evangelisation programmes in the Harakmbut territory begin; a missionary post is established in Boca Manu.
1920	The International Petroleum Company (IPC) carries out geological surveys in the Madre de Dios basin, in the Harakmbut territory. It finds oil in a stretch of land over 200 km, from the Tono River along the Madre de Dios River.
1930	The Cusco–Paucartambo road and a road leading to the headwaters of the Madre de Dios and Kcosñipata rivers are begun.
1931 - 1949	The state grants gold mine concessions in the Harakmbut territory to Mr. Karel, General Consul of Sweden. The Swedish engineer Sven Ericsson intends to colonise the Karene River (Colorado). He designs a plan to attack the natives with tear gas. He also intends to build a great city in the middle of the Harakmbut territory. These plans were never carried out.
1940 - 1949	The Wenner-Gren (New-York) expedition is carried out, following the Peruvian State's request to explore economic potential. Father José Álvarez of the Dominican mission contacts the Harakmbut.
1950	All the Harakmbut groups are reduced and concentrated in the Dominican Mission of Shintuya.
1969 -1973	Harakmbut diaspora, fleeing the Shintuya mission. They disperse to multiple sites within their traditional ethnic territory in order to establish new communities.
1972	The price of gold increases, causing a strong flow of migration towards Madre de Dios.
1973	Creation of the Manu National Park, next to the Harakmbut territory. The military by force expels the natives of Matsiguenka.
1982	Creation of the Native Federation of the Madre de Dios River and its Affluents (FENAMAD).
1993	Creation of the Harakmbut Council (COHAR). Renamed in 1995 Harakmbut, Yine and Matsiguenka Council (COHARYIMA).
1993 - 1997	The prices of gold and oil rise. Fujimori's government gives priority to the mining/energy sector.
1997 - 1999	Local miners intend to build a highway between Huepetuhe and Boca Colorado, in order to increase mining and lumber extraction, as well as another road through the middle of the reserve.
2000	The State officialises the Amarakaeri Reserved Zone (D.S. 028-2000-AG).
2002	The State acknowledges the Amarakaeri Communal Reserve (D.S. 031-2002-AG) and establishes its buffer zone (RJ 282-2002-INRENA). The GEF grants US$ 1 million to support the implementation of ACR management.
2005 - 2006	The state once again grants an oil concession (Lot 76) in favour of the North American company Hunt Oil, which covers the entire ACR. In October 2006, Hunt Oil sells 50% of its shares to the Spanish company REPSOL. Today, these are the companies that demand their rights to access the ACR's subsoil.

adjacent settlements.[9] Native rights advocates see this as a tool to protect their territories from invading lumber and mining companies or settlers who want to engage in agriculture (Newing and Wahl 2004). The idea was born in the 1980s, and the claim for the creation of a communal reserve within their traditional Harakmbut territory was proposed at the 6th FENAMAD Congress, held in 1989. In 1990, FENAMAD succeeded in making an agreement with the Sub-Regional Agriculture Board of Madre de Dios, which consequently led to the drafting of the respective proposal in 1992, determining that 353,850 hectares met the conditions for establishing the aforementioned communal reserve (FENAMAD 1992).

President Fujimori's coup d'état in 1992, which caused the dissolution of the Congress and regional governments, delayed its approval. In 1995, the government signed a contract to execute a hydrocarbon survey with the Mobil-Exxon-Elf consortium. The investment and the presence of the consortium in Lot 78[10] halted categorisation of the ACR for a further period.[11] The Amarakaeri Reserved Zone[12] was only established in 2000, after the conclusion of Mobil's survey operations in 1999, and due to the pressure of the social movement represented by FENAMAD, the Departmental Agrarian Federation of Madre de Dios (FADEMAD) and other social organisations. The area stipulated as Amarakaeri Reserved Zone encompassed 419,139 hectares, and included the 353,850 hectares originally identified by the incorporation of a separate section in 1992, to grant the deed for an indigenous settlement (Samaninontime) on the Karene River, which later was incorporated into another indigenous settlement (Boca Ishirioê). In April 2002, after a demonstration involving over 1,000 indigenous people in Puerto Maldonado, and taking advantage of the new governments of Paniagua and later Toledo, the ACR was finally established. The area was readjusted to 402,335 hectares[13].

3.4 Economic and institutional changes and continuities in the ACR

Economic activities in the ACR can be defined as systems of traditional and non-traditional production. The traditional productive activities of the Harakmbut are subsistence (hunting, fishing, gathering and horticulture) and migratory activities (Gray 2002a, 2002b, 2002c). These activities are still regulated by norms dictated by nature's spirit world, in the sense of a society that feels it is a part of nature. The Harakmbut traditional or subsistence production system works essentially within its own social structure, in which reciprocity and exchange are the economy's dominant regulating mechanisms.

Non-traditional activity is concerned with extraction and marketing of lumber and gold. During the 1960s the connecting road reached Shintuya and the whole area gravitated towards lumber extraction. In the 1970s, indigenous people first encountered immigrants in search of gold. Thus, due to the interaction between settlers and indigenous natives stemming from mutual interest in exploiting these resources, the communities were quickly absorbed in lumber extraction activities in the west and gold extraction carried out in the south-western region of the territory.[14]

> *They were the ones who taught the Harakmbut to work gold; our grandfathers only collected the plates [small sheets] of gold to wear in their noses as ornaments.*[15]

Since then, indigenous people have had a currency-based economy, simultaneously with hunting, fishing, gathering and horticulture. This satisfies such newly acquired needs as formal education, new clothes, breeding of small animals, new tools for subsistence (hunting rifles, fishing hooks, wheelbarrows, pikes, shovels, chain saws) and industrialised foods to complement their diet. In this context, one can observe that both economic systems are strategically 'connected' and form the basis of the Harakmbut economy.[16] This 'articulated' combination of economic elements demonstrates how the local institutions of indigenous people in the ACR were transformed in response to changing circumstances.

The lumber resources were quickly exploited, especially in the territory of the Shintuya community, as a result of which mahogany (*Swetenia macrophylla*), cedar (*Cedrela odorata*) and ishpingo (*Amburana cearensis*) are currently almost extinct. Many settlers were attracted by the economic potential offered by lumber exploitation, and are currently concentrated in the lumbering settlement that has exerted the greatest pressure in terms of extraction, in the northern part of the Harakmbut territory (Itahuania).

Gold was also extracted on the riverbanks, with increasing intensity in proportion to the international price of gold[17], attracting large numbers of poor people from the southern flatlands (Puno, Cusco, Apurimac). The relation between native indigenous peoples and settlers deteriorated when mining settlers invaded the community territories that were of vital importance to the livelihood of native people. During the 1970s, the number of immigrant miners reached 20,000 (Moore 2003).[18] During that decade, hydrocarbon surveys within the ACR territory – carried out by Cities Service – brought

conflicts with the Harakmbut of Puerto Alegre (nowadays Puerto Luz) and a temporary economy that arose from the presence of this company (Moore 2003). This situation repeated itself during the second half of the 1990s, though far away from ACR territory.

Historically and economically, Peru is a country that depends on the exploitation of natural resources without much added value (Schuldt 2005). According to the *Banco Central de Reserva del Peru* (BCRP 2007), the mining/energy sector accounts for most of the country's exports[19]. This explains why the mining/energy sector has priority over other economic sectors (ibid.), supported by a legal framework that grants various rights in the same space (lands, forests, minerals), and why numerous conflicts arise (García 2005). The Ministry of Energy and Mines sees conservation as an obstacle to the country's economic development plans. At the local level, the Miners' Federation of Madre de Dios (FEDEMIN) initially demanded free access to the protected area to expand mining and extraction activities. This position was supported by mining entrepreneurs, allied with artisan miners, many of them informal, who settled the populated centres of Huepetuhe (Figure 2) and Choque. Once the area's resources were nearly depleted, they moved to other areas such as Delta 1.[20]

Fig. 2
View of Huepetuhe (*Wepetwe* means "place of jaguar" in Harakmbut). (Photo by FENAMAD)

The national company, Perupetro S.A.[21], enjoys great support from the national and regional governments, as well as from the city population of Puerto Maldonado, who expect that exploration and exploitation activities will provide work and contribute in general to the region's economic development. The regional government and the provincial and district municipalities of Manu and Tambopata see the ACR as a hindrance to economic development, especially as it opposes the building of a road that would connect two provinces that otherwise lack a road network.

3.5 Overview of economic pressures in the ACR

In the south-eastern region of the ACR, the native community of Puerto Luz is currently experiencing a mining boom, and its people have allied with mining settlers by refusing to participate in ACR activities. With the establishment of the ACR's buffer zone (BZ) in 2002, mining activities in the area had to be restricted. The *de facto* occupation of many BZ sites by informal gold miners forced the National Institute for Natural Resources (INRENA)[22] to accept mining activities in this BZ, though formally prohibited, through the Protected Natural Areas Intendancy.[23] As it is not feasible to prohibit mining in the BZ, INRENA's plan for the ACR is to turn these people into a 'security belt' through formalisation, thus blocking threats of greater pressure from the population, which would result in the completion of the inter-oceanic highway. In spite of this, one cannot disregard the socio-environmental impacts (Figure 3) that will affect many native communities, among which are: Barranco Chico, San José de Karene and Puerto Luz. These effects will be difficult to mitigate, considering the lack of contingency plans to face the migratory wave that will take place in the zone, due to the legal and institutional weaknesses that are present (Dourojeanni 2002, 2006).

The main opposition to oil operations comes from FENAMAD and COHARYIMA. However, other regional guilds, such as the Departmental Agrarian Federation of Madre de Dios (FADEMAD), the Departmental Federation of Miners from Madre de Dios (FEDEMIN), the Departmental Federation of Chestnut Workers of Madre de Dios (FEDECAMD) and the Federation of Forest Concessionaries with Sustainable Management, will provide support for rejecting hydrocarbon operations in the region.[24]

Currently, Perupetro S.A. fears that the indigenous native sector will show still greater resistance to the presence of Hunt Oil and REPSOL. To overcome this, the energy/mining sector is preparing a legal proposal to be sub-

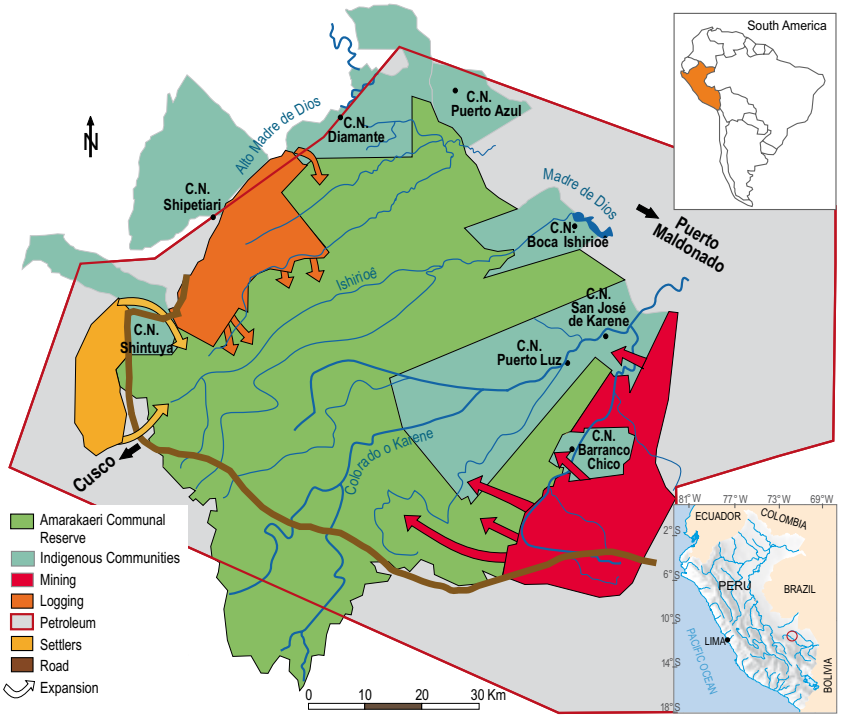

Fig. 3
Economic pressures on the ACR. (Map by Corinne Furrer, based on Ulla Gaemperli, *Mountain Research and Development*)

mitted "to obtain a ministerial decision to decide whether ecology will be conserved or if extractive activities will be carried out"[25]. With regard to this, INRENA is assuming a position to negotiate the oil lot that affects the ACR; after drafting and approving its Master Plan, it would specify sites where oil surveys will or will not be carried out.

In the case of mining activity, the pressure in the buffer zone has been increasing as new technologies have been introduced. In the beginning, gold was extracted manually with wheelbarrows, shovels, pikes and plastic buckets to gather water and sift material from the riverbanks (where gold is deposited each year during the flood season). These buckets were replaced by motor pumps (Figure 4), which in turn were replaced by other types of heavy machinery, thus allowing concessionary companies to extract large amounts of gold from the hills and streams. The indigenous people have also started adopting these same technologies, and have settled on community trails to make their presence known and stop their lands from being invaded (Gray 2002c). Thus, the competition to extract gold has increased.[26]

Fig. 4
Motor pump impacting the buffer zone of the ACR in the community of San José de Karene, September 2006. (Photo by Alex Álvarez)

3.6 Cost–benefit analysis: from an economic perspective at the national level

The establishment of the ACR was based on the need to incorporate the indigenous population into a framework based on the idea of natural resource co-management to ensure the livelihood of the indigenous families, according to traditional economic practices (fishing, hunting, gathering, etc.). This necessitated a total ban on gold and lumber exploitation, though settlers and some native indigenous peoples had exploited these in past decades. A key question is: Who actually benefits from establishing a participatory conservation project? In other words, who has a tangible interest in promoting this option and/or in fighting against it? Furthermore, how is this interest translated into the political strategies and discourses of different groups? The hypothesis behind these questions is that without motivation, and only with new limitations, the options for integrating the populations into the conservation of the ACR will always be unfruitful, due to an insufficient sense of identification which results in a lack of direct economic benefit. Thus, the conservationist discourse promoting local participation will remain an ideology.

Due to the signing of many international agreements (e.g. the Convention on Biological Diversity, the Convention Concerning the Protection of the World Cultural and Natural Heritage, and the Convention on International Trade of

Table 2

Sources of income for SINANPE, 2002–2005. (Working Group on SINANPE Funding, April 2005)

Categories	2002 Executed	2003 Executed	2004 Executed		2005 Executed	
	US $	US $	US $	%	US $	%
Ordinary resources	712,033	1,130,539	765,200	**10**	1,704,408	**9**
Resources collected directly	1,006,167	2,292,735	1,819,991	**24**	1,687,647	**9**
Donations and transfers	6,661,481	7,092,182	4,898,678	**65**	14,666,838	**81**
▪ Managed directly by IANP	1,541,570	2,412,515	156,179	3	711,959	5
▪ Other resources (Manag. PROFONANPE)	5,119,911	4,679,667	4,742,499	97	13,954,879	95
Total	8,379,681	10,515,456	7,483,868	**100**	18,058,893	**100**

Endangered Wild Flora and Fauna), the Peruvian administration was committed to promoting protected natural areas (Galvin 2002). Still, countries like Peru with a weak economy are indirectly dependent on financial assistance through international cooperation.[27] Thus the influence of international development cooperation and its interference with the international regime of conservation (Hufty 2001) help to design Peru's institutional framework. While the mainstream discourse on conservation is based on principles favourable to local participation in environmental management,[28] and also influences the drafting of national norms, some conservationists see this as a danger to biodiversity conservation (Smith and Pinedo 2002). The last 15 years of experience have shown little success (Agrawal 1997). In this sense, at the local actors' level, indigenous people see themselves affected by conservation, while the majority of national actors perceive them as being unable to manage a protected area. Further, this is taking place under a scenario where the energy/mining sector is dominant, which, in turn, leads to a situation destined to disappoint indigenous peoples, who perceive companies in this sector as having the right to intervene in their territory, whereas they themselves face limitations and restrictions. In this context, new indigenous strategies in Peru are being developed in order to enhance protection but also to obtain greater freedom to act within indigenous territories.[29]

PROFONANPE (National Fund for State Protected Natural Areas)[30], an institution which funded 85.3% of SINANPE (National System for Protected Areas) including the ACR with US$ 190,140 in 2006, is a private entity

funded mainly by resources from international cooperation (Table 2). Though public funding is available (from the public treasury and other sources), it has not been dispersed by the state. Up to 2006, PROFONANPE invested US$ 44.4 million in three areas of work: strengthening management of PNAs (an investment of 25%), structural investments (60%), and civil society and private sector involvement (15%). Curiously enough, part of the funds collected by PROFONANPE (approximately 10%) are returns on capital invested in the stock market in Lima, New York and London. In a context in which funds from international cooperation will diminish and organisations do not have enough resources of their own, a trend towards insufficient funding for PNAs can be detected.

The extraction sector's power and dominance in gaining an ever-increasing amount of space to carry out its activities in PNAS has not diminished. This is due to the fact that in recent decades the governments have not dared to invest in activities that are not within their economic tradition. The country's poverty is the main justification for the need to benefit from extracting resources (oil, gold, gas) without transformation, to promote quick growth and thus improve its situation. Since there is a direct disequilibrium between conservation and extraction of natural resources, the informality of economic practices that harm resources has spread to indigenous communities. This is violently transforming traditional livelihoods. However, other economic alternatives, such as tourism, are not attractive for indigenous peoples, since they do not provide the same benefits as, for example, exploiting gold. This situation is contradictory because, though national tourist activity constitutes the third highest contribution to the country's GNP (5.9% in 2005) and the government intends to expand this sector, not all the actors involved enjoy the same benefits.

Owing to the increased value of the country's northern oil reserves, the exponential price of gold and the exploitation of gas in the most important energy project in Peru, "Camisea", these resources are turning into the main motors of the national economy. From an accounting perspective, it is obvious that the Peruvian State will further promote this sector; currently, it is already one of the government's priorities, hence the importance of taking this into account for the national plans for conservation.

3.7 From an economic perspective at the local level

Most of the population earns income from activities not related to conservation. Mining generates an average family income of between US$ 125 and 468 per month,[31] depending on the direct (mechanical or manual) or indirect (commerce, labour) relation. Lumber extraction represents an average family income of US$ 93.75 a month. These extraction activities are always combined with horticulture, hunting, fishing and gathering for self-consumption; however, they are declining due to contamination and loss of space to earn a livelihood close to community territories. Currently, it is difficult for natives in the southern sector of the ACR to consider quitting mining activities, unless an alternative activity is found to replace the income they derive from mining. In the northern part of the ACR, economic activities are more diversified, ranging from lumber extraction to ecotourism.

Most indigenous families do not consider the constitution of the Wanamey Multi-community Enterprise, an ecotourism structure funded by UNDP/GEF, or the infrastructure built in some communities, as well as scholarships for indigenous students,[32] as economic benefits derived from the ACR. From 2006 onwards, no payments were made for tourists entering the reserve; no benefits were derived from scientists carrying out studies or from photographers. As for the Wanamey results, some 30 people used its services, and the income obtained will be reinvested in the company.[33] The consequence of this decision is that no income distribution for communities will be carried out as was initially planned. Further, the guides, boat navigators and port handlers earn US$ 10 per day when a group visits. A second tourist project was opened in the northern region of the ACR, in the frontier of Manu Park: a centre for traditional medicine with infrastructure located in Shipiteari, and a Matsinguenka community, which works in direct liaison with the Wanamey company. This centre provides Ayahuasca session services under the guidance of a shaman. The cost per session is US$ 20 per capita and the income goes directly to the family in charge of maintaining the centre (Figure 5).

Although the economic benefits are weak, some income from conservation is distributed and favours actors directly involved in the management, political or institutional process or economic derivatives. The community in the northern zone (where lumber is extracted) is the one most involved in ACR management, and most of the natives who work in its management come from this community. This is because they are the ones who give the greatest impulse to the ACR. However, the community feels very disappointed

Fig. 5
Indigenous people working with the Wanamey ecotourism company put on their traditional costumes for tourists. (Photo by Marie Thorndahl)

because of the imposed restrictions. Eight forest guards (four from Shintuya) and field coordinators (one per community) earn wages for their work. One can also notice that native indigenous community Management Boards involved in the ACR are generally in favour of the protected area. However, nowadays they are forced to make a difficult decision.

The two oil lot concessionary companies (Hunt Oil and REPSOL) affecting the ACR are demanding their right of access to the ACR subsoil. This is happening at a moment when the northern (lumbering) and the southern (gold-mining) communities are adopting a more 'developmental' notion, due to their increasing dependence on gold and lumber-related activities. Thus, for some natives, oil activities in their community lands and in the ACR constitute an option that guarantees them an economic income not ensured by the ACR. However, this is happening at a time when many natives believe that oil activities are already a fact. However, this situation worries them, especially considering that oil activities in Peru have always resulted in disadvantages for the local populations and the territories, causing serious environmental problems.[34] To reduce these worries, the hydrocarbon sector is preparing a new proposal for an "adoption of PNAs" affected by oil-related activities, which would ensure funds for their management.

The true motivations of the families and native communities to preserve the ACR will depend greatly on the ability of the native indigenous peoples and their communities to draw direct economic benefits from it, and on their being integrated into the process of management.

3.8 From a political perspective

A PA management is based on three fundamental interacting levels: local, national, and international. At these three levels, we observe permanent interactions that propel a series of political and administrative negotiations (formal/informal), which produce concrete decisions and norms. These processes are called governance of PA. According to the definition provided by Pathak et al (2004), the governance of PA corresponds to the interaction between structures, processes, traditions and knowledge systems, which determines how power and responsibility are exerted and how decisions are made, as well as the level of awareness of citizens and other actors. At a local level, different stakeholders and interested parties exert an important influence on the management of the reserve: each one of them possesses different resources and strategies that do or do not benefit the management process. At this level one finds native communities, considered as beneficiaries, and with the legal agency to carry out a traditional use in the protected area.

Native communities, organised under self-government provided by the state as part of a corporative focus (Gray 2002c), have claimed rights regarding their territories and natural resources. Many of their former lands, from which they have been displaced and stripped of the agency of management – and which they now claim – have been transformed into parks or natural reserves (Aylwin and Soto 2004). Now that they participate in these, through systems of indigenous participation within conservation plans, many reflections are generated, mainly regarding nature, but also on the objectives of conservation and the role of native peoples in the protection of the biocultural patrimony (Ledec and Goodland 1988; Colchester 1995; Borrini-Feyerabend 1997).

In Peru, the indigenous populations represented by their national and regional organisations have established a permanent struggle for the recognition of their territorial rights. The demand to create communal reserves[35] was a strategy to reconstruct some traditional ethnic territories according to the legislation in effect, which allowed conciliating the tense relationship with

the state. Thus, regarding the ACR, at a local level one can also identify indigenous organisations that represent communities from the region such as FENAMAD and COHARYIMA.

INRENA represents the Ministry of Agriculture at a local level, and also the Intendency of Protected Natural Areas (INAP), managed by SINANPE. It is governed by the normative framework established by the Law on Protected Natural Areas regulating PNA categories,[36] as well as its legal status, forms of use, and objectives. Since 2002, when the ACR was created, the implementation of management has been supported[37] through the Global Environment Facility (GEF), by a United Nations Development Programme (UNDP) project entitled "Conservation and Sustainable Use of Biological Diversity in the Amarakaeri Communal Reserve". This UNDP/GEF project will be an instance of temporary support as long as financial resources last. On the other hand, there are also social actors present, directly related to extracting natural resources (peasants, lumber workers, miners) in community territories, in the ACR and the BZ, who in some cases possess formal rights (concessions or concession requests), though most of them are informal. The natives who work in gold-mining and lumber extraction also have informal rights.

From a general perspective, the communal reserves open up the possibility of establishing joint management between the state and indigenous populations, implying the inclusion of new topics on the agendas of indigenous organisations and the state. The question is: what impacts are generated at the local level due to the implementation of the new management system of communal reserves and their normative framework? To answer this, it is necessary to state clearly that the Law on Protected Natural Areas defines communal reserves as areas destined to be conserved for the benefit of the neighbouring rural populations (Art. 22, Sub-heading g). The acknowledgement, protection and promotion of values and social, cultural, religious, spiritual and economic practices specific to peasant and native communities, are defined in the Regulations of the Law on Protected Natural Areas. Further, these regulations set the basis for establishing the concepts of co-management, joint management, shared management and management by multiple parties, describing the alliances made by common agreements achieved between INRENA and the different actors involved for the management of a protected natural area.[38] They also acknowledge ancestral uses of the resources related to the subsistence of these communities.

Thus, the Special Regime for the Administration of Communal Reserves[39] regulates the management and participatory management of these areas among the state, peasant and native communities belonging to indigenous peoples and the organised local population. Its special condition is based on the fact that those in charge of its administration are the beneficiaries themselves, on permanent or indefinite terms. In the case of the ACR, this participatory focus and co-management that respect and take into account local decision-making procedures are not realised, and the strategy of decentralising power for managing a natural protected area is reduced to theory. This is because there is no real intention to decentralise power and because, though there are norms for this, they are not applied. Thus vertical practices, 'protectionist' foci and complicated bureaucratic routines are dominant. This situation reinforces a basic fact: the persistence of processes of domination, concentration and exclusion (Ordóñez and Souza 2003), where the state and institutions that centralise decision-making regarding the territory and natural resources predominate, damaging native populations.

In a very short time, barely fifty years, the Harakmbut have had to learn how to manage their territory under a system that is different from anything they had previously known. Currently, with the implementation of the ACR management system, according to what is stated by the Special Regime for the Administration of Communal Reserves, there are different management levels that have implications at the local, regional and national levels, representing a learning process for indigenous native people. With the presence of the UNDP/GEF project, the implementation of this management system has become more complex.

The principle of collaboration between the state and the communities is expressed as a 'contract'. Thus, the representatives of the beneficiary communities of the ARC constitute the Executor of the Management Contract (EMC)[40], an institution that will be in charge of the administration of the communal reserve, and, complementarily, a Management Committee[41] cooperates in this process. As a counterpart, the communal reserve's chief represents INRENA. Thus, an organisation is established which presupposes new functions and responsibilities for the native representatives of the regional and local levels at the management level.

In this process of implementing the management system, the UNDP/GEF project had a supporting role;[42] thus it has facilitated the constitution of the ACR's EMC, organising inception work meetings. Further, it has implement-

ed other actions to support the monitoring and signalling of the ACR, and thus has hired staff that, preferably, belong to the native communities themselves.[43] This generated an impact among the community, because the people who work in the project receive a salary; however, not all natives can be hired.

These were the conditions under which EMC has been built since 2004, though it achieved formal recognition from INRENA only in 2006. In December 2006, four years after the reserve had been created, EMC and INRENA signed the Management Contract as a result of permanent negotiation to establish management guidelines. However, the fact that different management bodies are in charge of implementing the ACR management system – such as INRENA, FENAMAD and EMC, as well as the support instances such as the UNDP/GEF project – creates another serious problem, as they have failed to establish adequate communication mechanisms with the population of the beneficiary communities for discussion purposes. In practical terms, the UNDP/GEF project's operations have produced tension, differences and divergences within the ACR's beneficiary communities regarding its benefits, due to lack of information on the opportunities and challenges implied by the management system proposed for the ACR.

There is no system for preventing impacts generated by the implementation of a new administrative system. This situation demonstrates the complexity of the social relations established, positions that change according to the timing or the benefits received directly or indirectly, or according to the influence of other agents outside the native indigenous communities. However, these differences in perception and interest within native communities are also the result of an increasing individualism caused by the predominance of extractive economic activities that provide immediate economic benefits. Having access to greater amounts of resources and benefits – especially among the younger population, which has fewer social and cultural conditionings – causes impacts within the community organisation itself and in relation to the ACR. This situation exposes a contradiction caused by the perception of nature either as a space for livelihood or as an economic resource.

3.9 Influences and discourses: trust and mistrust in the ACR management

The historical relationship between the native indigenous population and the state was always marked by exclusion, lack of attention to needs and even abuse, as well as by a process of expropriation of natural resources: all this caused mistrust among the indigenous population. Under these conditions, the policy work carried out by FENAMAD is not recognised or deemed insufficient by the native indigenous population. At a regional level, FENAMAD shows coherence with regard to the defence of the ACR territory; however, the greatest difficulty is faced when defining how the communal reserve will be governed at the political, technical and social levels. The traditional and ancestral considerations are not enough to guarantee effective management of the area, considering the diversity of social actors and interests.

This results in the persistence of different points of view between local communities (with more pragmatic postures due to the economic needs in the given context) and FENAMAD (more at the level of advocacy of native indigenous rights), and between these and INRENA (more 'protectionist' and vertical). These perspectives are at the base of what seems to be mutual distrust: INRENA distrusts the natives and their organisations and seeks to avoid giving up power quotas and margins, while the natives distrust INRENA for always imposing its own criteria and claiming the final say.

Paradoxically, this mutual distrust is mirrored by a mutual dependency. Native indigenous peoples' expectations and systematic demands for help and support from the state, and the state's interest in the indigenous peoples, show compliance within the compromise reached at the political international level, e.g. Convention 169 of the International Labour Organisation (ILO) , and others. At the state level there are also a series of contradictory economic and political interests that result from the pressure of different social actors and marginalise the indigenous population, which is regarded as an ethnic minority. As a consequence, the necessary legal and economic tools are not given to indigenous peoples to guarantee their independence or allow them to implement strategies of self-government in their community territories and within the ACR.

3.10 Intellectual and financial dependence of actors and processes outside the ACR

Through the foci of indigenous rights and protection of biological diversity based on traditional practices and knowledge, indigenous people had an efficient demand base in Peru. Without generalising this 'new truth', or new ideological referent, it is highly unlikely that the ACR would otherwise exist today. The one-sided use of this neo-traditionalist[44] reading based on the romanticised vision of native indigenous peoples met with success in the political struggles of indigenous federations in Peru and Latin America. These intellectual referents come from international forums and debates dating back to the 1980s and 1990s, where actors' networks came together in epistemological communities (Haas 1992), a process that promoted 'scientific truths' in defence of specific visions.

As international thoughts on biodiversity have evolved, Peru has adapted its legislation on PNAs to include protection of biodiversity. Professionals and private conservation institutions played an important role in this process. Nowadays, the search for funds is a key dimension of conservation, for it allows the government to reduce the pressure on its public budget, giving legitimacy to a new sector: international cooperation. The competition between financial entities and promoters creates new concepts in order to justify and distinguish their labour. Influential processes and relations were established within the context of the ACR, such as the creation of the Vilcabamba – Amboró Biological Corridor, promoted by Conservation International (see CEPF 2001), allowing significant funding for the zone. Though the Vilcabamba – Amboró corridor proposal conceptually assumes the ACR as an integral part, in practical terms the communities ignore this focus and its importance and use.

The MAP forum (departments of Madre de Dios, Pando and Acre) has created neutral grounds where institutions from the triple border zone of Peru, Brazil and Bolivia can exchange experiences. This was born out of an academic interest in monitoring the socio-environmental impacts of the Initiative for the Integration of the Regional Infrastructure in South America (IIRSA) and, more specifically, the IIRSA Southern Interoceanic Road Project, based on a concern for the conservation of the triple border zone. Here, the participation of FENAMAD and COHARYIMA has been related to subjects of common interest during their encounter with indigenous organisations from Acre and Pando, when the topics related to the management of communal reserves still had no chance to be taken into account. The Harakmbut communities still do not take part in this forum.

In the specific case of the ACR, the NGO Eori Centre for Research and Regional Promotion provided technical support to the Harakmbut communities and FENAMAD until 1995. The process was then carried out by NGOs: Racimos de Ungurahui and the International Work Group for Indigenous Affairs (IWGIA)[45]. The FENAMAD Karene Plan Project (1997-2004) provided financial support to IWGIA for subjects related to territorial defence and consolidation. The general perspective of this technical support is based on social foci and on the rights of indigenous peoples. The main financial assistance for the ACR comes from multilateral sources. PROFONANPE has resources for ACR activities and management logistics.[46] In the framework of the Programme for Environmental and Social Management of the Indirect Impacts of the Southern Interoceanic Highway Corridor, funded by Corporación Andina de Fomento (CAF), resources are also designated for managing the ACR for the next three years, as long as the road is paved.[47] In both cases, INRENA and not the Executor of the Management Contract (EMC) will manage these funds.

3.11 Evolution of discourses according to interests

There are two positions regarding conservation in Peru. One side sees the development of PNAS as a hindrance to the country's economic development. This focus is reflected in the discourse of advocates for the energy and extraction sectors, two key sectors for the national economy. A strong economic sector can organise the defence of its interests and conduct campaigns to promote awareness among the population, so they will not oppose mining activities. Further, the energy sector's specialised publications show the importance of expanding energy and mining activities, and look to position them within Latin America (Martin 2006). Energy (gas, oil and bioenergy) is a key strategic point in South America, a subject carefully considered by political as well as economic executives (Martin 2006). On the other hand, there is an incomplete discourse that cannot demonstrate the economic feasibility of conservation, despite the interest shown by some in the private sector to design businesses based on biodiversity (Brack 2004).

At the level of indigenous communities, one can also identify positions and discourses on the creation and management of the ACR. One of these is represented by the 'conservationist' discourse used by a population group that has integrated the objectives of the communal reserve and recognised its cultural and environmental value. They participate directly in alternative

activities such as ecotourism and work with indigenous people who must comply with the objectives for which they were hired. An opposite position is manifested in the 'extractionist' discourse, developed by those who see their community territories and the ACR territory as a fountain of resources to obtain immediate economic income, as the following testimony shows:

> *We have requested the expansion of the territory, but have not received this, then the Amarakaeri 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?* (Shintuya Community Board member, 2006)

Expectations of extracting lumber from the ACR are not realistic with its management implementation. This caused some indigenous people to reject conservation[48] of the protected area, especially the young among the Shintuya community, due to the influence of the current priest of the Dominican mission, since he is constantly urging the young to take possession of the area to extract lumber. The third position is assumed by a part of the population that remains outside these discussions and contradictions due to a lack of interest or, simply, of information. They perform their daily and traditional activities in their community territories. These discourses and positions are adapted or changed in accordance with favourable or unfavourable circumstances, and show the difficulty and heterogeneity among different social groups around the ACR.

3.12 Conclusions

Though pressure on natural resources remains great, the ACR is successfully helping to protect biological diversity. INRENA, the Zoological Society of Frankfurt and the UNDP (2005) have confirmed through a regional monitoring study of the PNAS that the official status of the ACR has helped to stop miners from invading the ACR (at least for now). However, this ecological benefit has a direct economic cost and also a marginal cost for those who can no longer exploit the commercial value of natural resources. The funding of the indirect cost of ecological well-being has been monitored, in order to determine who will really assume it. Today, international cooperation and the

Peruvian State ensure the administrative structure's funding to create physical control and concretely regulate access to the protected territory and management of its resources. However, this territory in its new functionality – in reality a cultural and economic landscape composed of hundreds of Harakmbut people – introduces changes in family livelihood practices for families whose incomes stem mainly from lumber and gold exploitation. By restricting these activities – for the sake of conservation and recovery of an ancestral territory – the ACR introduced new hopes for life that must be fulfilled with alternative proposals. However, now after 4 years, native indigenous people feel that the communal reserve has still not achieved these expectations.

The relationship they have with the territory is not what they had expected. The title of "Communal Reserve" hides a curious reality. Indigenous populations do not exert full ownership (just owner of the usufruct) and they cannot organise their own management system according to their needs. Thus, indigenous people are not convinced that they have won. There seems to be a schism between indigenous people in state and non-state sectors related to conservation, mainly because they lack ownership, and because external sectors have continued access to the zone. Moreover, this project did not allow the transfer and/or decentralisation of the competency they had expected. The Special Regime for the Administration of Communal Reserves does not conceptually define co-management, nor does it recognise the fact that PNAS are indeed ancestral indigenous territories. Accordingly, the perceptions and interests of actors concerning the real meaning of participation by local populations in co-management, differ. That is why it is necessary to clarify this meaning. Though the norms presume that participation by the local population is necessary, implementation of the ACR management model lacks the necessary dynamic and know-how to promote participatory processes in the fields of management, policy or indigenous advocacy. There are no adequate mechanisms of communication for technical and logistical reasons; furthermore, there is insufficient information. The distrust among stakeholders feeds on these distinct perceptions and gaps.

A practical interpretation demonstrates that one of the reasons for this disappointment is also related to the scarce economic benefits currently offered by the conservation of the ACR. The relationship between the state and indigenous communities, as well as between the latter and the UNDP/GEF project is tense, partly because the local population does not receive the social and economic benefits of the implementation of a communal reserve. Due to inadequate logistics, however, the ACR still does not forbid the native indig-

enous people any unregulated exploitation of gold or lumber within or outside the ACR. There will come a time when efficient control could be established to stop these activities. It is probable that the local social alchemy will create tacit agreements between guards and indigenous people to find a form of social pact that is acceptable to everyone, based on reasonable exploitation – possibly illegal, but tolerated – of the resources. The truth is that if there are no alternatives – if the new local political aperture does not bring new economic options – conservation will not be considered as a feasible solution. Unless economically sustainable conservation is invented, only those with access to profits gained from conservation (money which comes from cooperation or the state) will share a positive discourse on the ACR.

As yet the commercial alternatives associated with participatory conservation have brought nothing but disappointment. The Wanamey Multi-community Ecotourism indigenous enterprise was unable to distribute money to the communities after 4 years of experience, as originally intended. Furthermore, the medicinal plant project did not generate the expected benefits. In general terms, the economic benefits related to conservation are twofold: one source comes from the revenues (salaries and indirect advantages) from conservation projects; the other is commercial, related to tourism or the sales of natural products. The general conclusion is that the benefits are few. However, the tensions between those who received and those who did not are great, because of the lack of transparency in the distribution of these benefits. Thus, there are greater divisions between the communities who belong to the ACR management, and those who do not (the majority).

While establishing a new model of territorial management, one can also observe a shift in power relations within the public and political spheres. The successful participatory aperture implies the introduction of new representatives and a re-balance of decision-making powers. Three particularities surrounding the ACR are observed: first, the presence of heterogeneous social actors, leading to the multiplication of parallel interests, thus complicating the path to a negotiated solution. This is even more complicated when there are no instances of encounter and negotiation, although the EMC can generate space for agreement with the different economic actors' representatives (Management Committee). Second, it has been seen that, for many reasons, participation does not allow clear practice. When actors do participate, it is not in relation to significant decision-making that impacts the ACR. The technical management of the territory demonstrates that the ACR must remain in the hands of the experts, and since indigenous people are not

experts, power is not shared. Third, it is interesting to see that indigenous political representatives at the local and national levels have earned evident recognition. During the UNDP project period (2003-2006), the Harakmbut have controlled FENAMAD (four of the six leaders still active on the 2007 Board of Directors), and it is possible to argue that there is a relation between the ACR process and the determination of its leaders to ensure the defence of the 30 communities in the region. At the level of the Madre de Dios region, FENAMAD is considered a key representative in the regional debate. However, FENAMAD has established itself as an important actor at the national level. Furthermore, FENAMAD is struggling against the establishment of three oil companies, two of them in the ACR. It is impossible to measure the precise importance of the establishment of the ACR to the indigenous people within the Madre de Dios political arena, but it is possible to do so in terms of symbolic capital (in the words of Bourdieu 1984). The Harakmbut have gained much by promoting the ACR process.

For conservationists, this is evidence that the territorial management model that must be established is a modern model that takes account of local culture, but under Peruvian rules. This type of management implies financial, cognitive and technical support that is still non-existent. In terms of management techniques, a communal reserve implies constant support. One question that must be answered is whether the communities are ready to manage a territory. Moreover, who will provide funding? The Peruvian State has transferred the problem from the political field (alleviating the historical conflict between the state and indigenous people by giving the latter more space in the conservation project) to the field of technical management (responsibility for co-management).

The management model currently applied in Peru and the ACR is based on a liberal management model within a democratic system, where social groups are ideally organised, manage knowledge, and have access to power, and where there are many open markets and a state that is economically involved. This ideal vision is far from the reality of the Peruvian Amazon region. The ministries involved doubt that indigenous people can offer what the Peruvian administration (INRENA) desires, i.e. total respect of the rules.

Another explanation for the success of this type of project is the support provided by international cooperation (or national NGOs), which funds, among other things, the training of leaders, sensitisation of the local population, market openings, organisation of feasible local economic institu-

tions, information to all the stakeholders, economic alternatives, etc. This is a neo-institutional interpretation of the economy of conservation, implying a role for the state limited to organising a proper framework (legal and institutional) to allow for the operation of the law of the market, applicable to all sectors, starting with conservation. However, this lack of state legislation is part of a policy at a time when conservation is nothing more than the new facade of development.

Faced with this model, indigenous advocates and experts wanted to establish a model based on traditional indigenous practices and local knowledge at the economic and political levels. But the general context has changed and the traditional model (currently mixed with modern practices) is not automatically sustainable. In the Amazon jungle, some models are and some are not. In the Peruvian Amazon of the Madre de Dios area, indigenous identity is not based on 'unchanging traditional practices and knowledge' but implied by cultural identity. The Harakmbut have this identity, but do not reject institutional and economic adaptation if it allows them to live better. The risk of unabashedly promoting the idea of an 'ecologically noble savage' (which leads to an ideological neo-traditionalist reading) would undermine the protected area management project by denying the Harakmbut the possibility of choosing economic and institutional change for themselves and by ignoring the realities of their current land use. Beyond the case of the ACR, it would be an unfortunate or inappropriate image or discourse for other indigenous peoples of Peru and Latin America.

Endnotes

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[5] Reserva Comunal Amarakaeri (RCA).

[6] For a useful discussion of the challenges faced by indigenous peoples in northern Canada participating in co-management arrangements that require the learning of non-indigenous knowledge, see Paul Nadasdy's (2004) book entitled *Hunters and Bureaucrats: Power, Knowledge, and Aboriginal-State Relations in the Southwest Yukon.*

[7] Samaninontime, which was relocated after being incorporated into Boca Ishirioê.

[8] The denomination "units of conservation" was substituted in 1990 for "protected natural areas".

[9] Article 60 of DL 21147 stated that communal reserves are established for the "conservation of wild flora and fauna for the benefit of the neighbouring settlements, so that these resources are a source of traditional food supply".

[10] Lot 78 covered 1.5 million hectares, affecting the ACR and a considerable part of the Tambopata Candamo Reserved Zone, ancestral territories of the Harakmbut and Ese'eja (La Torre 1999, p 120).

[11] An interesting analysis of the perception of the energy sector on this oil lot and the PNAs that are affected has been provided by Antonio Cueto (2005, p 84-87).

[12] The procedure to establish a new natural protected area foresees the previous establishment of a temporary reserved zone, to allow for definitive studies to be completed prior to its final categorisation.

[13] The surface area was readjusted due to the presence of 14 mining concessions (INACC 12.10.01), according to D.S. 031-2002-AG.

[14] It is necessary to consider that since 1974, with the Law for Native Communities, which implied the formal recognition of indigenous natives within state structures, it was implied that native indigenous communities must play a role in the national economy under the guidelines of the market economy.

[15] Information from G. Arique and M. Kameno, Shintuya, 2006.

[16] Andrew Gray (2002b) states, when referring to the Harakmbut and mining activity, that their lives have been transformed by recreating and reinventing their way of life without losing their cultural vitality, despite their adversity to gold-mining.

[17] According to London Metals Exchange, the main gold market, the prices for gold increased significantly in the 1970s. The official rates were: 1972, US$ 35; 1978, US$ 200; 1980, US$ 350 (Green 1983, p 283).

[18] According to the last census of 2005, Madre de Dios is the region with the highest population growth index in Peru. It cannot be a coincidence that, after 24 years, the price of gold reached a new high, at US$ 514.22 per ounce on the London Market (SNMPE 2005).

[19] Gold: 1970, 45.0%; 2006, 62.4%. Oil: 1970, 0.7%; 2006, 7.1% (BCRP 2007). One must take into account the possibility that the country could go from being an importer to being an exporter of oil, with the recent valuations of the oil lots in the northern jungle.

[20] Delta 1 is the prolongation of a population centre known as Pukiri, promoted by the first miners in the zone; it is currently juxtaposed partially on community lands of Puerto Luz and San José de Karene, and on the reserved zone. In January 2005, the Manu Province acknowledged this population centre. This acknowledgement is illegal according to the Law on Protected Natural Areas.

[21] The company holds the property rights to the oil resources, and transfers these through licence contracts. In exchange for a share, the contracting companies acquire property rights to the oil that is extracted (Rosenfeld et al 1999).

[22] Instituto Nacional de Recursos Naturales.

[23] It is estimated that over 25,000 people are involved in gold extraction in the entire region's gold-mining zone (La Torre 1999, p 120).

[24] Other lots (111 and 113) to carry out oil surveys have been granted to Sapet Development Peru Inc., a subsidiary of the state company China National Petroleum Corp.; this would affect areas destined for forestry and peasants along the road axis of Iñapari–Puerto Maldonado.

[25] This can be related to the intention of the Society of Mining, Oil, and Energy to modify the current Law on Protected Natural Areas, which legally opens surveying for hydrocarbons in national parks and other categories of indirect use. Currently, such surveys in direct use categories are allowed in the case of communal reserves.

[26] What a native indigenous person earns, he/she spends to provide for the education of his/her children in the city of Puerto Maldonado; the rest is used to pay debts for purchasing fuel, food and other goods bought on credit. This renders people dependent on mining. The settler becomes a victim of alcohol and prostitution. So the real winner is the third party involved, the merchant.

[27] See Galvin (2004) for an explanation of this dependence in the Peruvian case.

[28] See the 4th World Congress for National Parks and Protected Natural Areas, Caracas, 1992; Convention on Biological Diversity and Agenda 21 (Rio 1992). The local indigenous and non-indigenous communities believe that traditional practices and knowledge are important for management in forest conservation and implementation of PNA strategies, and have gone from being considered a hindrance for the protection of forests to allies in conservation. The reason for this is that the indigenous native people have now become relevant actors at the international level.

[29] Now, national and regional indigenous organisations want conservation under the category of indigenous territory, a designation with greater recognition in terms of land ownership and rights of access to natural resources. This legal figure is inexistent in the Peruvian legislation.

[30] The group of donors for PROFONANPE includes GEF, UNEP, Germany, Finland, Canada, and the United States of America.

[31] The survey on acceptability and economic income was conducted in four communities within the ACR: two mining communities (San José de Karene and Puerto Luz) and two involved in lumber, agriculture and ecotourism activities (Shintuya and Shipiteari). The information presented here is valid only for the case of these four communities.

[32] Activities carried out by the UNDP/GEF project.

[33] The multi-community company achieved an average net income of US$ 1,430 in 2006.

[34] Oil activities in Corrientes River and the towns of Achuar, Quichua and Urarina, as well as the exploitation of gas in Camisea, Urubamba River and the town of Matsiguenka are clear examples.

[35] Currently there are five other communal reserves in Peru, four at the national level and one at the regional level. Yanesha, Asháninka, and Matsiguenka were created as national park buffer zones. El Sira was proposed to ensure the rights of indigenous territories. Tamshiyacu-Tahuayo is a regional communal reserve (Newing and Wahl 2004).

[36] The following categories are considered: I. Areas of Indirect Use (National Parks, National Sanctuaries, Historical Sanctuaries). II. Direct Use Areas (National Reserves, Landscape Reserves, Wildlife Refuges, Communal Reserves, Protection Forests, Hunting Grounds). III. Areas in Study or Transition (Reserved Zones). Regional and private conservation areas not managed by SINANPE are also considered.

[37] In 2002, the World Wildlife Fund (WWF) temporarily supported the first phase of implementation of this system through the elaboration and placement of signposts, supplies of fuel for the technical team and other ACR events.

[38] Chapter III, Art. 28, Sub-headings 28.1, 28.2.

[39] This norm was drafted by a multi-sectoral committee that included representatives from indigenous organisations, including the Interethnic Association for the Development of the Peruvian Jungle (AIDESEP), of which FENAMAD is a member. However, this norm did not express the indigenous perspective clearly and was dominated by INRENA's 'protectionist' focus.

[40] EMC is composed of eight delegates from the beneficiary communities. Its basic structure is the following: a) General Assembly of Members (direct representatives of the beneficiaries) b) Council Board (elected from among the beneficiaries in a General Assembly).

[41] Originally the ACR Management Committee was the most important representative organisation. However, INRENA determined that EMC should consist solely of the native communities which applied for the ACR, and not of representatives from the peasant or mining settlers. This reduced this committee's capacity to carry out consultations, which could lead to other tensions due to the exclusion of other ACR neighbours.

[42] The UNDP/GEF project is not a formal part of the ACR management system, nor does it have management roles, though it appears to be an actor with much power because it manages financial resources (which are scarce in the area); thus one can note the importance of external support.

[43] The current work positions for natives in the UNDP/GEF project are temporary as long as its funding continues. The work positions which could be permanent are those of forest guards, which could be funded with public resources.

[44] Neo-traditionalism, that has also been referred to as strategic essentialism, is based on the fact that certain actors give too much value to a tradition, due to an idealisation of the elements transmitted by a culture, rather than a real life practice of these elements (Galvin 2004). The ideological content of neo-traditionalism allows justifying certain actions. Its objective is to justify identity, thus allowing for political posturing in different public spheres (local, national, and international). Neo-traditionalism as a practice is, however, a doubtful track. In effect, when the gap between the reality of this tradition and the discourses or images representing it is too great, it can give way to 'folklorisation' at the expense of credibility.

[45] Anthropologist Andrew Gray (1955-1999) from IWGIA also contributed to the process.

[46] According to the 2007 PROFONANPE Annual Operative Plan, ACR has been allocated an average of US$ 59,000. This sum is destined for the following areas of work: systems of control and monitoring, demarcation and delimitation of the ACR, staff training, drafting of master plans, strengthening of the management committee, support in the creation of EMC, and support for organisations, institutions and neighbouring communities through backstopping in project design and management. Only 4.9% are designated to this last category, which demonstrates the neglect suffered by the ACR buffer zone.

[47] An average of US$ 231,000 will be disbursed in 2007, destined to purchase and maintain vehicles, operative expenses, processes of territorial regulation, diverse equipment for control posts, patrolling and functioning of EMC, among others.

[48] Natives cannot extract lumber from their legal community lands without authorisation from INRENA. In the ACR, the commercial extraction of lumber is prohibited.

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4 Pizarro Protected Area: A Political Ecology Perspective on Land Use, Soybeans and Argentina's Nature Conservation Policy

Marc Hufty[1]

Abstract

Pizarro Protected Area (Province of Salta, north-west Argentina) can be considered as a marker for the consequences of global change. Over 60% of this protected area was declassified in 2004 by Salta's provincial authorities and sold as plots for cultivation of soybeans. This triggered a conflict that lasted a year and a half, involving the provincial government, NGOs, academics, indigenous people and the federal government. Pizarro became a textbook case of two conflicting worldviews: Argentina's predominant, traditional agro-industrial model, currently based on the production and export of genetically modified (GMO) soybeans – a crop that is expanding rapidly at the expense of the Chaco and Yungas forests – and the advocates of land use planning, indigenous rights and the conservation of what remains of Argentina's biological diversity. The conflict was settled by means of a complex arrangement that has still to be fully implemented. The protected area was saved and entrusted to the National Parks Administration. The present article discusses this case and what it reveals about nature protection and its social implications in Argentina.

Keywords: agricultural frontier, conservation, environmental movement, forests, governance, indigenous peoples, land use, protected areas, social justice.

4.1 Introduction

At the scale of South America, Pizarro Protected Area[2] is modest in size – originally 25,500 hectares, in a roughly rectangular shape measuring 30 km from west to east and 7.5 km from south to north. However, this protected area located in northern Argentina can be seen as an emblematic case. It has been the object of a conflict that became a textbook case in debates on conservation, sustainable development, global change and social justice.

Located on the agricultural frontier for soybeans, a rapidly expanding crop of utmost economic importance to Argentina, Pizarro was stripped of its legal status as a protected area by the provincial Government of Salta in 2004, and auctioned off to agro-industrial firms.[3] A national mobilisation led to the recovery of its protected status one year later. The uniqueness of this case arises from three different aspects that make it a test case for the future of protected areas in South America. First, expansion of the soybean agricultural frontier led to a national debate, and it was curbed for the first time. Second, a coalition involving local, national and international actors that developed around an environmental problem, in relation to a protected area, was constituted, and won its case – something quite new for this country. Third, the main argument for the defence of Pizarro was the presence of an indigenous community. Gaining such a symbolic status after centuries of ethnocide was a breakthrough for the Wichí in Argentina.

From a "governance analytical framework" perspective (Hufty 2007), Pizarro represents a "nodal point", a space where actors, stakes and worldviews converge and where their interaction produces norms and social institutions. This nodal point, its significance for nature conservation in Argentina, the actors involved, and their conflicting perspectives on the territory and its resources, will be at the centre of this article.

4.2 Geographical and ecological context

Pizarro is located in Salta (Figure 1), a northern province of Argentina, in the Department of Anta. From a geographical and ecological perspective, it is in the transition zone between two particularly interesting ecosystems: Chaco and Yungas. The Great Chaco is the second largest phytogeographic region of South America, after the Amazon.[4] It extends over more than one million km^2 between Argentina (62%), Bolivia (12%), Paraguay (25%) and Brazil (1%). It is quite diversified, arid in the south-west (average annual rainfall of

200 mm) and humid in the north-east (1,700 mm) (Red Agroforestal Chaco Argentina 1999). With forest cover of 46% and 23% covered by savannah, the Chaco is characterised by a flat landscape, but it also borders the Andes, which strongly influence its climate, hydrology and biology. An environmental evaluation made in 2004 identified 53 distinct terrestrial and 51 distinct wetland ecosystems (TNC et al 2005). The Chaco's average annual temperatures range from 12°C (south) to 26°C (north), with summer peaks of 50°C. It is perceived as a hostile environment for human habitation, and was known as "the desert" until recently, owing to its shrubby and thorny vegetation (known as "impenetrable"), and to its formerly restive indigenous communities. Four million people live in the Chaco ecoregion, mostly in the cities. Although it has been declared a region of very high ecological priority (TNC et al 2005), conservation mechanisms for the Chaco are still rare and weak.

The Yungas forests (*selva pedemontana*) are present all along the Andean Cordillera (eastern slope). Located between 400 and 3,000 m, these mountain forests (Figure 1) receive significant rainfall, 1,000-2,000 mm per year, plus an equivalent amount from settling clouds (Brown et al 2001). In Argentina, they cover four million ha (40,000 km^2). Due to their altitudinal ecological levels, they harbour very high biological diversity and rates of endemism

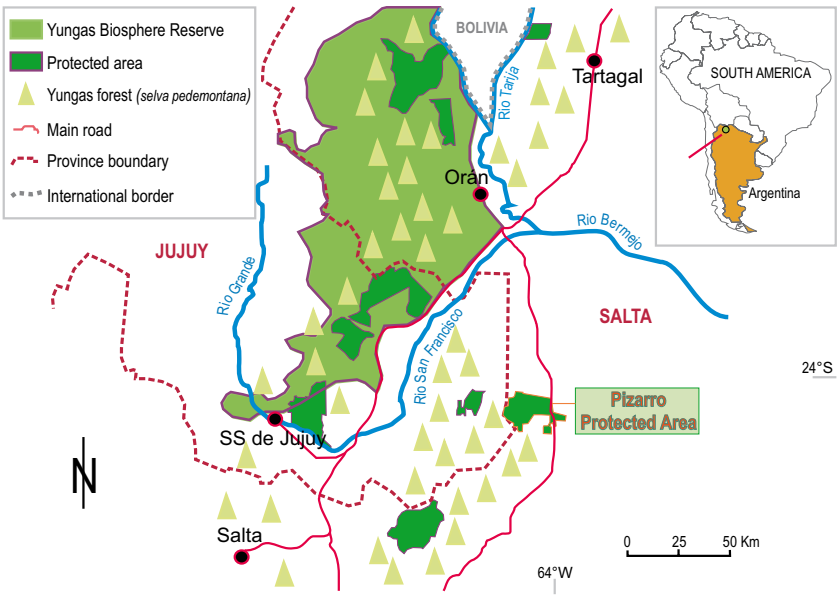

Fig. 1 Location of Pizarro Protected Area and Yungas Biosphere Reserve, as well as area covered by Yungas forest in the Jujuy and Salta provinces. (Map by Ulla Gaemperli, based on a sketch by author and Pro-Yungas, 2007)

(2% of Argentina's territory and 50% of its species). Argentina's Yungas are profoundly anthropised. The pre-Hispanic land use systems were replaced by small tenants, agrobusiness firms (especially sugarcane mills) and logging companies. The highest altitudinal zones are formally well protected: 10 reserves or parks add up to 276,000 ha and a Yungas Biosphere Reserve was created in 2002 (1,328,720 ha).[5]

The protected area harbours one of the rare remaining ecological zones of transition between Chaco and Yungas, and the only one with protection status in Argentina. To the west, it climbs towards the Sierra del Maíz Gordo (Figure 2), a huge massif (up to 2,500 m) that constitutes one of the water towers of the Salta and Jujuy provinces. Here its limits are imprecise, since Salta and Jujuy have a dispute over their frontier in the Sierra. However, the protected area reaches altitudes of 1,400 m. This part is subtropical and humid. Its eastern side is flat (370 m), dry and characterised by the Chaco's spiny vegetation.[6]

According to the 'Chalukian Report' inventory (Chalukian et al 2002), there are 33 tree species in the transition area and 32 in the Chaco part[7], of which 12 are common to the transition and Chaco zones. The vertical structure of the forest is composed of three strata in the transition zone (two in the Chaco area). The highest trees reach 15 m (8 m in the Chaco) with an intermediary tree stratum of a maximum of 5 m and a shrubby stratum with a maximum

Fig. 2
Sierra del Maíz Gordo. (Photo by Marc Hufty)

of 3 m (as in the Chaco zone). Diverse types of grass and tree shoots usually cover the soil. No biological study has ever been conducted in Pizarro's mountainous zone, which is quite difficult to access. However, the Sierra del Maíz Gordo has some of the richest biodiversity in Argentina (Brown et al 2001). 17 species of mammals[8] (excluding micro-mammals) and 65 species of birds[9] have been observed (Chalukian et al 2002). Density is obviously higher in the highlands where human pressure is weaker.

The region in general has extremely fertile soils, with the exception of some small saline zones and the steepest slopes. The rainy season is between November and March. Rainfall diminishes in proportion with distance from the Sierra. No specific data for Pizarro were found. However, sales advertisements for rural properties in the surroundings usually announce a rainfall range of between 600 and 800 mm per year.[10] Being a crucial criterion for agricultural yield and investment choices, these data may be considered trustworthy, despite their lack of precision. Summer's high temperatures and evapotranspiration make it semi-arid. Water availability, above all in winter (June-September), is commonly identified as the main problem for local agriculture (Core Problem No. 25 [CP25]; see section 4.5 below for an explanation of "core problems" or CPs). For drinking water, many people have to rely on rainwater harvesting, water pumped from the nearby river (Rio Las Tortugas, Figure 3), wells (up to 80 m deep) or water distributed by the municipality truck.

Fig. 3
Rio Las Tortugas seen from Provincial Road No. 5. (Photo by Marc Hufty)

Precipitation is greater on the Sierra (1,000 mm per year plus water from clouds), so rivers usually do not dry up. But in summertime precipitation can be quite heavy. Heavy rains on the Sierra del Maíz Gordo have provoked numerous floods in the past. National Road No. 5 has been closed to traffic on several occasions due to floods, and especially as a consequence of the recent transformation of the Rio Las Tortugas (southern limit of the Reserve) from a stream into a river, due to the reduced capacity of deforested soils to retain rainwater. A *baqueano* (local guide) commented during an interview that floods from the Sierra can arrive at the speed of a galloping horse.[11] This has been documented by the National University of Salta (UNSA) team (UNSA 2004), which reported several erosion ravines on slopes of up to 15% and on unstable alluvial fan soils. They warned that increased logging would generate more erosion and, in case of heavy rains on the Sierra, mud floods could be a risk to the village itself (CP30). This risk is increasing, as the rainfall regime has recently changed. Rains tend to be more abundant and more sudden (Brown et al 2001).

4.3 Demographic and ethnographic context

General Pizarro is a village located within the Reserve (23°13′57″ southern latitude, 66°59′19″ western longitude). Named after Salta's 1791-1796 governor, it was created in 1936 by Spanish migrants along the Joaquín V. Gonzales-Pichanal railway (Ferrocarril General Manuel Belgrano). The village itself has around 1,000 people. It is also a municipality (1,663 km^2) that includes a total of 2,654 persons according to the 2001 national census. Local people are known as *criollos* ("those who were born in the country") or *puesteros* ("owners of land and house", as opposed to contracted manpower). Most of them live from small-scale agriculture (maize, black beans, pumpkins), cattle breeding, jobs at the nearby industrial *estancias*, or public offices. The village is connected to the rest of the country by Provincial Road No. 5, which runs north-south, parallel to the (currently disused) railway.

Before the 2004-2005 conflict, 35 *criollos* families and 18 indigenous families were established within the Reserve (apart from the village). Of the *criollos* families, 14 were living *in situ* and only 21 had a ranch. Most of the *criollos* families established within the Reserve (none with a property title) were living from self-sufficient production, and only some of them had commercially saleable surpluses. One of these (Mr. Tiburcio Fernández) had fenced in 1,900 ha, deforested 70 ha and was breeding 500 head of cattle, a rather prosperous business by local standards. A cooperative dedicated to

beekeeping (*Familias Apicultoras*) was authorised by the Ministry of Production and Employment.[12]

The indigenous group is composed of 'Wichí of the forest' (*Tahi'leley*, as opposed to 'Wichí of the rivers', *Tewokleley*). They came from El Traslado (Department of San Martín, Salta) in 1996 to harvest peanuts and wood for *El Chaguaral*, a huge *hacienda* adjacent to the Reserve. But they could not go home: they had been driven off their land.[13] This group was given a place to live in the Reserve, in exchange for their vote for the *Intendente* (mayor) at that time, as is customary in northern Argentina.[14] Their right to settle within the Reserve was recognised legally by the provincial government in 2001.[15]

The Wichí remain part-time hunters (iguanas, wild boars) and gatherers (honey, fruits, plants). They mostly make a living from handicraft (largely women who work the *chaguar* fibre; Van Dam 2001), wood post extraction, and daily jobs (*changuitas*). They also practise small-scale subsistence agriculture (maize, goats, chickens) by their houses. They receive some governmental food aid and have access to basic sanitary facilities (there is a health station in Pizarro). Gathered in a hamlet made up of hovels, they form a Protestant community called Eben-Ezer under the direction of *cacique primero* (main chief) Simón López (Figure 4) and *cacique segundo* (chief-in-second)

Fig. 4
El cacique primero: Simón López. (Photo by Marc Hufty)

Fig. 5
El cacique segundo: Donato Antolín. (Photo by Marc Hufty)

Donato Antolín (Figure 5). The evangelical priest, Gabriel Ramos, who lives in Apolinario Saravia, a nearby town, used to visit them, until they quarrelled over the issue of the Reserve. Indigenous men speak a basic Spanish, whereas the women, less in contact with *criollos*, speak very little of it. Most are illiterate and sign documents with fingerprints. Their children were not given education until 2007, due to the absence of a bilingual schoolmaster (a right, however, guaranteed by Argentina's 1994 Constitution). They are obviously in a state of absolute poverty and high dependence.

4.4 History of the protected area

Pizarro Reserve (fiscal plots 32-33, No. 8.375 and No. 8.373, in the provincial land registry; Figure 6) was declared a "provincial natural protected area" by the Government of Salta in 1995. Decree 3397/95[16], Art. 2, categorises 13,000 ha of mountain forests as a "natural reserve" (IUCN category IV, version 1978[17]), and 12,500 ha of plain forests as a "multiple-use reserve" (category VIII). According to the decree, the Reserve was created by Salta's Secretariat of Environment, recognising its diversity of ecosystems and biological interest (especially as an *Amazona aestiva* nesting site). The creation of the Reserve was not followed by any concrete public measure. It was simply left as it was, with its settlers and *de facto* free access to land, as described by Hardin (1968). It could be referred to as a 'paper park'.

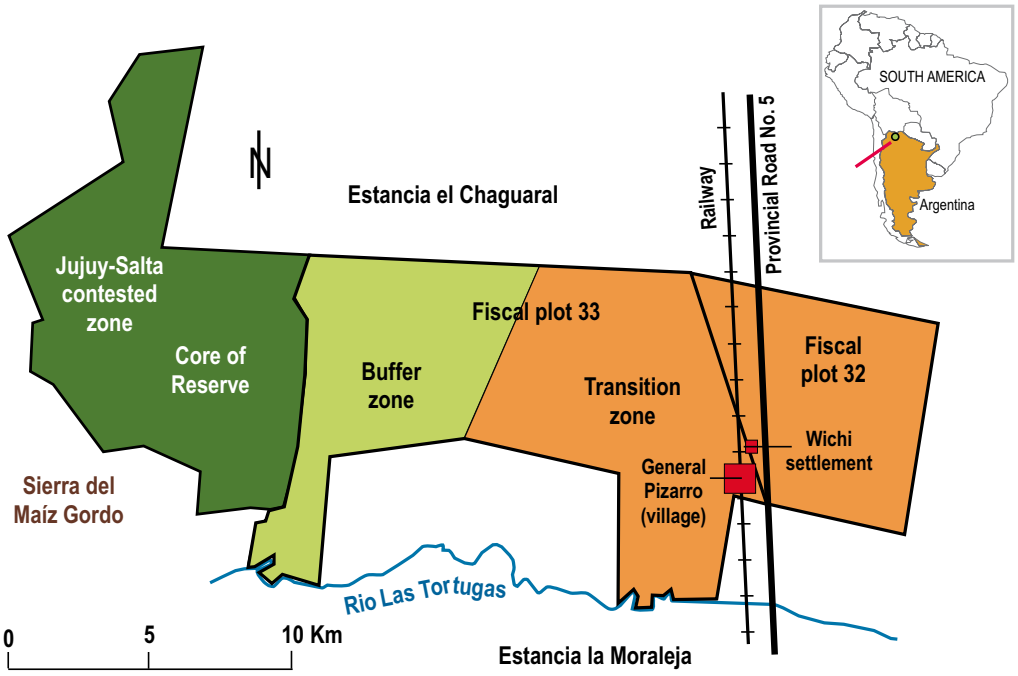

Fig. 6
Map of Pizarro Reserve in 2004. (Map by author, based on UNSA 2004)

In 2003 the Government of Salta decided to declassify the Reserve[18], the formal justification, as mentioned by Law 7274, being the state of degradation of the forest, and the need to finance the pavement of sections of local roads. The decision was based on the Chalukian Report, produced at the request of the Government of Salta and the Wildlife Conservation Society. In fact, while the report noted the Reserve's state of degradation – attributing it to the absence of adequate management on the part of the authorities – it nevertheless concluded that the biological value of the Reserve was sufficient to justify its conservation, provided that urgent measures were undertaken. It proposed two options: (A) maintaining it as a protected area divided into three zones: one of strict protection, a buffer zone, and a zone of intensive use, with measures of rehabilitation; or (B) declassification of the most degraded zones, while maintaining under protection the mountainous zone (in litigation with Jujuy). Plan B was the government choice.

On 9 October 2003 Governor Romero presented a law authorising the declassification of the Reserve.[19] It was discussed and approved by Salta's parliamentary chambers in February-March 2004.[20] The law proposed to declassify 16,275 ha and sell them – with the exception of the village, the piece of

land occupied by the Wichí and the 3,000 ha disputed by Jujuy (unsuitable for agriculture). According to the law, as a compensation measure, an equivalent area of transition ecosystem was to be identified and given protection status somewhere else in Salta. The law was passed by decree on 6 April 2004.[21] The Minister for Production and Employment at that time, V.M. Brizuela, played a major role in promoting this decision.

The rationale for this decision remains difficult to understand. There are several distinct versions. At one extreme, it was said to be a "misjudgement"[22], and at another extreme, it was described as a *macana* (trick) "invented to enrich some members of the government and their political clients"[23]. According to the provincial deputy J.A. Vilariño[24], the Chalukian Report was motivated by the interest of Aceitera General Deheza (Córdoba), a major agro-industrial firm, in buying the zone to plant soybeans; and when the firm realised the area's protection status, it stepped back. It can be speculated that this circumstance drew the government's attention to Pizarro. Romero's government was well known for favouring the expansion of agricultural production, and many people gravitating around him had vested interests in agro-industry. The Department of Anta is considered one of the regions where quantities of fertile soils remain unexploited, and it is seen as a reserve of lands. It has a very high rate of deforestation (Grau et al 2005).[25]

Eventually, 16,275 ha were divided into 7 plots (Table 1) and auctioned. 32 offers were received. The auction took place on 23 June 2004. The envelopes were opened in the presence of Minister Brizuela, various officials and potential buyers. The three best bidders for each plot participated in a second round. The firm MSU S.A. (M.S. Uribellarrea, from Santa Fe) ended up with two plots, Agroganadera Caburé (M.A. Courel, from Tucumán) with four, and M. Ragone (Salta) with one. The announced total amount was ARS 9,615,000 (US$ 3.2 million), of which the buyers had to deposit 30% on the same day.

This was not the end of the story. Under public pressure, M. Ragone soon abandoned his rights to plot No. 7 (adjacent to the lot disputed with Jujuy), which was returned to the provincial state. In January 2005, MSU sold its rights to plots 1 and 3 to Initium Aferro S.A. (S. Usandivaras, from Salta). Finally, M.A. Courel announced that he had sold his plots (2, 4, 5, 6) to Everest S.A. (A.D. Cornejo, from Salta).

Although it might appear detailed, this information is relevant if we consider that the plots ended up in the hands of two of Salta's most powerful fami-

lies, S. Usandivaras (Initium Aferro S.A.) and A.D. Cornejo (Everest S.A.), increasing suspicion about a deal already settled beforehand. To qualify this, the new owners realised they had fallen into a quagmire when they came under the pressure of non-governmental organisations (NGOs), and might have started to consider the impact on their reputation.[26] Many unanswered questions remain about the exact story of the declassification. The justification of road maintenance is deemed extravagant: the sum obtained from the auction (ARS 9.6 million) was equivalent to only 12% of the pavement cost (budgeted at ARS 75 million).[27] The operation was not transparent and is covered by a smokescreen: data and sources are incomplete, erroneous, and confusing.

Table 1

The lots in Pizarro, their successive owners, and prices paid.

	Plot 1	Plot 2	Plot 3	Plot 4	Plot 5	Plot 6	Plot 7	Total
Surface (ha)	**2,207**	**2,155**	**2,017**	**2,009**	**2,011**	**2,026**	**3,802**	**16,227**
First owner	Courel	MSU	Courel	Courel	MSU	Courel	Ragone	
Value (ARS million)	1.361	1.800	1.010	1.021	1.600	1.910	0.913	9.615
Price (ARS / ha)	616	835	501	508	795	943	240	
Second owner	Everest	Initium	Everest	Everest	Initium	Everest	Salta	
Price paid	?	?	?	?	?	?	?	
Final owner	Parks	Initium	Parks	Everest	Initium	Everest	Parks	
Price (ARS / ha)	618	–	618	–	–	–	–	–

Source: Data from newspapers, Greenpeace Argentina press releases and interviews, compiled by author.

However, the government certainly did not expect Pizarro to become an emblematic case, given the usual low sensitivity to environmental questions in Argentina. It proved to be wrong. At first, despite harsh debates in the provincial Parliament, Pizarro did not become news. But when Greenpeace Argentina was informed (by a Pizarro villager who had land within the Reserve), it soon did. Greenpeace rapidly set up an impressive campaign based on two axes. First a campaign based on the struggle against deforestation and the inalienability of indigenous lands guaranteed by the 1994 Constitution and international treaties ratified by Argentina was relayed at the local, national and international levels. Second, Greenpeace concluded a strategic alliance with other NGOs. This 'green coalition' was especially efficient. Among other actions, it launched a series of legal actions between June 2004 and April 2005, which culminated, after several rejections by Salta's Courts of Justice, in an appeal to the Federal Supreme Court in April 2005.

Table 2

Brief history of Pizarro. (Compiled by author)

Brief history of Pizarro		
1936		Creation of General Pizarro Village
1994		New national constitution recognising indigenous rights
1995		Pizarro declared "provincial natural protected area"
1996		Settlement of the Wichí
2001		The Wichí community obtains a legal right of settlement in Pizarro
2002		Chalukian Report
2003		Declassification project
2004	March	Declassification approved by parliament in Salta
	April	First public protests
	June	7 plots auctioned, advice on constitutionality from Salta's lawyers
	July-December	Protests increase, international support, legal actions undertaken
	August	First National University of Salta (UNSA) Report
	October	Second UNSA Report
2005	April	*Amparo* rejected, appeal to the Federal Supreme Court
	May	Negotiations between National Parks Administration (APN) and Government of Salta
	September	Maradona's TV show, appeal to the President, accelerated solution
	October	Creation of Pizarro Protected Area, creation of advisory committee
2006		Meeting of the committee, designation of an APN agent, Global Environment Facility (GEF) project presented
2007		Launching of GEF project and local newspaper, Wichí transferred to new location

A second pole of opposition to the declassification was the National University of Salta (UNSA). As early as June 2004, the Higher Council of UNSA passed a resolution rejecting the declassification and the sale of the Reserve.[28] A scientific committee was formed to counter-evaluate the situation in the Reserve in August 2004. Its report[29], which received wide media coverage, underlined the possible rehabilitation of the site, as well as the related risks linking periodic floods in the area and deforestation. The committee also called on the Federal Supreme Court to issue an emergency legal suspension (*amparo*)[30], based on the absence of a public consultation prior to declassification (a legal obligation), the unconstitutionality of Law 7274 given the presence of indigenous people and the inalienability of their land, the unconstitutionality of decommissioning a protected area, and the existence of litigation with Jujuy.

The opponents' ranks kept growing. In June 2004, Salta's College of Lawyers denounced the unconstitutionality of the declassification. In December 2004, A. Pérez Esquivel, the 1980 Nobel Peace Prize winner, received Wichí representatives and publicly demanded an intervention by the federal government. In February 2005, the popular folk-rock singer León Gieco joined in upon the request of Pérez Esquivel. In May 2005, in an unprecedented intervention, the People's Defender (ombudsman), E. Mondino, became the third party to join the Wichí in their appeal for a suspension (*amparo*) of Law 7274.[31] Pizarro suddenly became the cause *à la mode* when, in September 2005, Diego Maradona (the football god himself!) had invited the national cinema star, Ricardo Darín[32], as a guest on his highly popular television show ("La Noche del 10"), and launched a ringing call to President Néstor Kirchner. On 29 September, a group of show business stars demonstrated together with Greenpeace and the Wichí on the Plaza de Mayo in Buenos Aires, in front of the Presidential Palace (Casa Rosada). The President received them the very same day.

In a picture that had a surrealistic quality for anyone who knows Argentina's attitude towards its indigenous peoples, the entire country saw the *cacique* Simón López, an illiterate old man, sitting in the presidential armchair.[33] The following day, Kirchner asked the National Parks Administration (APN) to make contact with the governor of Salta to see whether the plots could be bought back in order to create a federal park. An agreement was announced on 15 October (Figure 7).[34]

This agreement proposed a new protected area (21,298 ha) made up of 6 entities: a national park, a provincial park, a small area for the Wichí associated with rights of use on sections of the park, a buffer zone around the village, a private protected area on a section of the auctioned plots, and a second private protected area on the property of El Chaguaral next to the national park. The declassification of the plots sold in June was confirmed. An Advisory Committee was created, integrating all parties.[35] A "Pizarro Protected Area Management Unit" under the responsibility of a park ranger (Eloy López) was created as well. The new protected area was to be equipped and managed by APN. A US$ 300,000 project ("Support for participatory management and sustainable development of the new protected area of Pizarro, Salta") was proposed by Fundación Vida Silvestre Argentina to the medium grants programme of the Global Environment Facility (World Bank, United Nations Development Programme, United Nations Environment Programme). The project was accepted in 2006 and formally launched in early 2007. An overview of the history of Pizarro is given in Table 2.

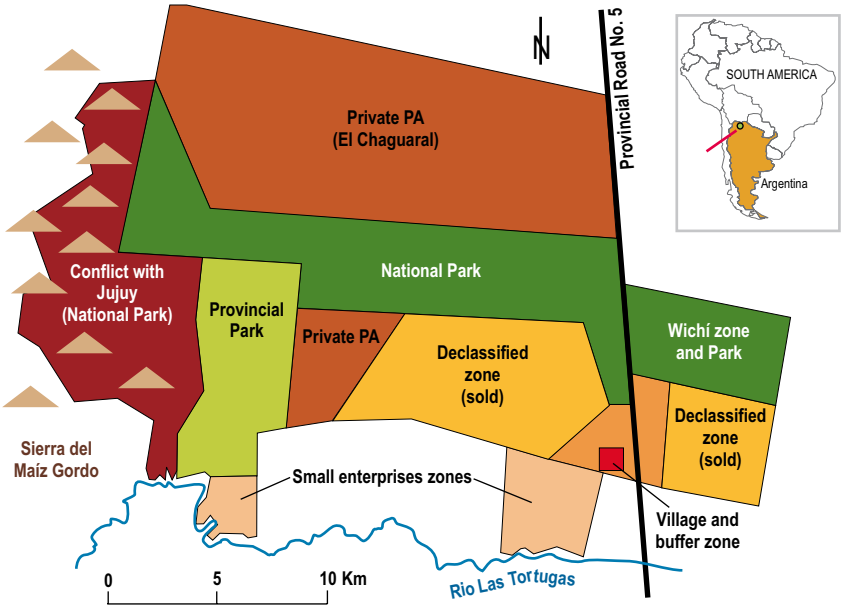

Fig.7
Pizarro Protected Area, October 2005. (Map by author, based on FSVA 2005)

4.5 Main "core problems" identified

According to the NCCR North-South definition of "core problems" (CP; Messerli and Wiesmann 2004, pp 397-398), Pizarro has at least 15 such problems. Pizarro Reserve itself is degraded as a consequence of the absence of any attention by the provincial government (CP26, CP27, CP29). According to the study carried out by Chalukian et al (2002), anyone could enter the Reserve and extract resources. Many adjacent properties encroached on the Reserve, which was itself partly colonised, fenced and deforested. The highest value timber species have been collected, especially *quebracho colorado*, an incredibly dense wood used for railway ties in the 1940s (the population of this species never recovered). Although the variety of animal species is high in the Sierra del Maíz Gordo, the animal population is small in the lower part of the Reserve, due to human pressure.

Only 30% have remained of Argentina's original forests.[36] Despite the existence of protection mechanisms, the national government has little incentive for conservation since soybean is the major source of its external income (CP13) and natural resources are the responsibility of the provinces, which have contradictory policies and weak institutions (CP3), lack legal frame-

works and enforcement (CP4), are badly governed (CP6, CP7), and are dominated by a logic of short-term profit (CP2). Access to land is a major issue in the country, and there is a dramatic process of transformation of land property, small peasants being dispossessed for the benefit of agro-business (CP23).

In general, land conversion for agriculture represents one of the main direct global factors in deforestation (CP27) in tropical environments (Barraclough and Ghimire 2000; Geist and Lambin 2005). Deforestation is itself a major cause of loss of biological diversity and climate change (CP29). Norms and rules regarding choices made for land use and resource use are dependent on social institutions[37] (trade policies, political system, property rights, etc.) and governance processes (NRC 1999; Gibson et al 2000).

Chaco and Yungas ecoregions are extremely threatened (Gasparri and Parmuchi 2003), conversion to agriculture, especially for soybean cultivation, being the main cause of deforestation. The lowest level of the Yungas (*selva pedemontana*, 400-700 m) is the most threatened. According to Maarten Dros (2004), at the current deforestation rate (10,000 ha per year), it will have disappeared in a few years. Large areas of the Chaco are undergoing a process of desertification (CP26, CP27) as a consequence of the overgrazing of herbaceous growth by livestock (CP24). It is now threatened by deforestation: 500,000 ha were deforested between 1998 and 2002 for the production of soy in the provinces of Salta, Santiago del Estero, and Chaco (Pengue 2005). The rate of deforestation in the Chaco Salteño increased from 0.60% per year in 1984-91 to 1.17% in 1997-2001 (Gasparri and Parmuchi 2003). Some analysts insist on more rational management, including protection of the most representative ecosystems (Adámoli 2005; TNC et al 2005), but they have had little impact.

Land surfaces devoted to the cultivation of soy in South America are rapidly expanding under the influence of strong international demand, in particular European (related to mad-cow disease), Indian and Chinese (increasing demand for meat and milk). Argentina is today the world's third largest producer of beef after the USA and Brazil. This bonanza is generating huge incomes for the government in the short run,[38] high annual GDP growth (between 6-9% per year since 2003), capacity for the repayment of foreign debts, and financing of social measures. Soybeans are also very profitable for farmers, who can, under good conditions, obtain a 35-50% yearly profit.

In Argentina, soy occupies over 50% of cultivated land[39] and accounts for 51% of total grain production[40] (43 of 85 million tonnes). 90% of it is export-

ed. 98% is genetically modified and resistant to a total weed-killer, glyphosat.[41] The development of no-till planting techniques (direct drilling, minimum tillage) and strong demand have raised production by 57% for the period of 2001-2006, partly by switching lands from other uses (mainly in the Pampas) but also by colonising new lands, especially at the expense of Chaco forests.

The ecological and social impacts are underestimated, however (Diamand 2001; Jewell and Buffin 2001; Benbrook 2002). On the ecological side, expansion causes deforestation on a very large scale.[42] Where it runs into protected areas or small properties, laws are circumvented. This pressure is generating major conflicts over land and land use, involving agro-industrial interests, small farmers, indigenous peoples, ecologists, and provincial or national states. There is also an increasing risk of desertification (CP26, CP30) linked with the no-till technique. Rational if associated with crop rotation, it becomes detrimental for soil regeneration capacity and erosion resistance when used in monoculture growth (Adámoli 2005). The attractiveness of high profits in soy production has driven financial interests to invest massively in land. Looking for maximum return, these investors push for single-crop farming, with very little regard for ecological consequences (CP24). When associated with a total weed-killer, soy leaves little stubble to protect the soil. Monoculture growth is associated with rapid land degradation: nutrients are exhausted, the soil is contaminated by an increasing amount of pesticides, and wind or water erosion damages the topsoil (CP28).

One of the much publicised advantages of GMO crops was that they required less spreading of pesticides in lesser quantities, but the arrival of glyphosat-tolerant weeds and pathologies such as Asiatic rust (a fungus, *Phakospora pachyriz*) since 2001 has provoked an increase in the use of weed-killers and fungicides[43] (Altieri and Pengue 2006a), causing poisoningix and damage to traditional cultures (CP24): "producers are now having to use an extremely toxic mix of 2,4.D, metsulfuron methyl, imazetapir and atrazine in addition to glyphosate, plus paraquat and atrazine" (Joensen and Semino 2004, p 8).

The soy boom is also the cause of a major social upheaval. Conversion to soy implied transition to highly mechanised agriculture, intensive in capital and not in labour: 1,000 ha of transgenic industrial soybeans give work to 5-6 people.[45] Some authors define this as an 'agriculture without farmers' (*agricultura sin agricultores*). Land has, more than ever before, become an object for speculation. Farmers are being replaced by financial investors with no cultural link to land and the natural environment. Innumerable small farmers have had to abandon their lands (CP23).[46]

Salta, like other northern provinces, is among those with the worst indices of human development in Argentina (CP11).[47] Soy did not bring an improvement, but a concentration of wealth (LART 2004, p 83). Protest movements are not unusual (Giarracca and Teubal 2005), but weak in the context of the traditional clientelist politics practised in Argentina. What makes Pizarro special is its success based on ecological and social arguments. In Latin America, Pizarro represents the forefront of the struggle against the conversion of protected forests for soybeans, making it an emblematic case.

4.6 The political ecology of land in Argentina and corresponding discourses

From a governance perspective (Hufty 2007), land use practices reveal the institutional settings, governance processes and modes of domination in a society. Willingness to control land leads to a strategic game in which actors confront their relative power, will and capacity to effectively mobilise people and resources, as land is a crucial resource in an economy based on agricultural exports. In fact, the main stake lies in the control of the legitimacy needed to influence the production of norms. Deciding who is entitled to design the rules by which the normative regime (meta-norms, constitutive norms, regulative norms[48] and social institutions) will be negotiated and decided, and the social constraints on these actors, is essential. On a second level of analysis, the actors' game represents an interaction between worldviews, cultures, discourses, and options for the future, shared by competing coalitions.

The agro-industrial productivist model, a very powerful institution in Argentina, was never called in question insofar as it generated the currencies necessary for the country's economic growth and capital accumulation for its well-off classes. It was supported by all the governments, even the Peronists, and remains especially prevalent in the north where it still represents 'progress' vis-à-vis a 'nature' perceived as hostile and unproductive. Despite the legal norms framing land use changes, colonisation in practice is carried out without any planning and in a 'wheel-and-deal' climate. Large estates are systematically privileged over small farming, which is considered underproductive and economically unsustainable in the long run.

Public lands and forests have always been prone to speculation linked with global economic cycles: cattle, tannin, *quebracho* wood, cotton, and soy (Morello et al 2005). The dominated groups (indigenous, poor whites and mestizos) were traditionally pushed back beyond the reclaimed land, and were

used as pioneers to open new lands to exploitation. As the front moved forward, pioneers had to give up their lands, realising a small profit in the best cases, or being dispossessed by legal or illegal means. Some of them would become loggers or *peones*, cheap labour for large estates; others would migrate to towns where they lived in shantytowns on public aid or any other available means. Only a small minority could obtain formal land rights.

There is a law in Argentina that entitles anyone who has occupied and exploited public land for 20 years without being legally challenged[49] to *derecho de posesión veintiañal*, a legal recognition of property ownership. This could apply to a majority of small landholders. However, they would have to be informed about this law and deal with complex and costly paperwork. In practice, very few people even consider this opportunity. And when they do so, it is often too late: someone well-connected has already bought the land and started an eviction process, using the law, bribing public civil servants and resorting to private militia or policemen. Although it seems to reflect an ancient era, this is an accurate description of northern Argentina today. This is obviously a major cause of violent conflicts (CP9).

4.7 Winners and losers

Three categories of actors can be seen as winners in the arrangement designed in October 2005: the Wichí, the environmental NGOs, and the National Parks Administration (APN).

Indigenous peoples are survivors and witnesses to a tragic history characterised by genocide and "ethnocide" (Fritz et al 2005), the intentional erasing of their identity and their "invisibilisation" (Gordillo and Hirsch 2003), the negation of their existence. They are now recovering. There are at least as many indigenous people in Argentina as in Brazil, according to the official census.[50] Being indigenous in Argentina is no longer a shame. They are becoming organised, although still not at the level of Bolivia or Brazil. From a sociological perspective, this is a process of "citizenship from below" (Hufty and Bottazzi 2006), when dominated groups use the public space (in the sense of Jürgen Habermas [1962]) for influencing the norms that will determine their place within the polity.

The first hunter-gatherers arrived in the Chaco 5,000 years ago, among them the Wichí (Arenas 2003). The Chaco was one of the last bastions of indigenous resistance to colonial conquest and, after 1816, to the national state.

Regarded as relatively peaceful, the Wichí did not adopt the horse, unlike the Araucans or Chiriguanos, who were fierce fighters. They nevertheless suffered systematic repression until the late 1930s (Martínez Sarasola 2005). As hunter-gatherers, they needed extended and open territories, while the whites or mestizos settlers constantly pushed them back and fenced the land. The Wichí often owed their safety only to their adhesion to the Catholic or Protestant churches or their incorporation in the capitalist economy (the sugar industry) under conditions close to slavery. Mobilised at harvest times, they lived under autarky for the rest of the year. The churches played a central role in their sedentarisation and proletarianisation, most often in missions close to the sugar refineries. They obtained full Argentinean citizenship only in the 1960s (Gordillo 2006).

The Wichí population now totals around 40,000 individuals,[51] distributed over several provinces (INDEC 2005). They constitute the fourth most numerous indigenous group in Argentina, and of these large groups, they are the ones who best kept their language, with over 80% of native speakers (against e.g. only 3% of the Mapuches, the most numerous group). They live in communities organised around *caciques* and with shamans as guardians of their traditions, despite their early Christianisation.[52] Land deprivation is still a very common fate today for the Wichí. For many (including Pizarro's Wichí) their dependence on the sugar cane harvest had tragic consequences when the industry was mechanised. In the 1970s and 1980s they were left with no land and no jobs, often to wander or to become *lumpenproletariat* among the marginal populations in the cities (Gordillo 1995).

Pizarro's Wichí were to some extent involved in something too big for them. They accepted being part of the 'green coalition', and the claim made in their name, with the hope of finally obtaining a right to some piece of land. During the negotiations on Pizarro, they obtained concrete advantages: 800 ha in concession (*comodato*), the rights to hunt and collect in the future protected area,[53] a well, a school and a bilingual schoolmaster (who happens to be the son of a Wichí shaman from San Martín). Symbolically, being at the forefront of a successful claim was a great advance for the indigenous cause in Argentina. Politically, it meant a significant contribution to the ending of indigenous 'invisibility'.

On the other hand, Pizarro's Wichí have now been placed under the supervision of the National Parks Administration (APN), as the NGOs and most actors consider the issue solved and have consequently withdrawn from the case. Furthermore, many villagers who viewed them with sympathy as allies

are now staying at a distance, perceiving that they have obtained so many advantages. Despite an apparently better fate, old problems have remained and new ones have appeared. They are now dependent on money for their living and for commercial food. Located far away from the village (some 3 km), they do not have access to daily jobs as easily as before. And given the rare opportunities to earn money, they have started selling trees (wood posts) to nearby Bolivian truck farmers, an obviously unsustainable practice that generated an argument with APN.

The second category of actors one could see as 'winners' are the environmental NGOs. Supported by international organisations (WWF, Greenpeace, etc.) they have adopted an increasingly aggressive stand on the question of deforestation as Argentina was losing its last native forests, at an average rate of 250,000 ha per year.[54] Greenpeace Argentina increased its recognition by a series of spectacular actions against deforestation, Pizarro being one exemplary case. The making of a 'green coalition' was remarkable. Wichí provided the moral cause, Pro-Yungas helped with technical expertise, Illay with legal expertise, Fundación Vida Silvestre (associated with WWF International) helped with social capital and bargaining power, whereas Greenpeace brought its war machine (helicopters, motorcycles, propaganda expertise, international resources and famous people).[55]

Of course, the instrumentalisation of the Wichí cannot be denied. The NGOs overdid the case.[56] But the benefits have been mutual.[57] Greenpeace visibility and membership boomed. Being considered as the local antenna of an international NGO, and for some as an outpost of Western colonialism, Greenpeace Argentina is nevertheless gaining ground as never before in Argentina. Another substantial criticism is that Greenpeace intrinsically tends to look for the next spectacular action and to forget about the case it was promoting the day before. Pizarro is already an old story.

APN was not involved in the conflict but it played a central role in the making of a solution and its implementation. Pizarro is important for APN at the national level because it increased its legitimacy, but also because it became an opportunity to test APN's new credo. Like most parks administrations in the world, the dominant paradigm used to be the 'fortress paradigm', assuming that human presence was harmful for conservation. Recently, a new generation took the lead[58] and, in line with IUCN recommendations[59], started promoting the 'participatory paradigm', admitting human presence and the exploitation of resources under negotiated conditions (Phillips 2003; Balasinorwala et al 2004).

This approach was first experimented with in Lanin National Park (Carpinetti 2006), one of the national parks where indigenous peoples are living.[60] But Pizarro is the first park based on this new model (López 2006), a real-life experiment. Moreover, from a technical point of view, the complexity of the arrangement that gave rise to Pizarro Protected Area is an enthralling challenge. APN has started to implement some participatory features: given the very low efficiency of the Pizarro Park Advisory Committee, which met only once, they decided to convene it in Pizarro, and to include all those willing to participate (Wichí *caciques*, nurses, municipal authorities, local policemen, etc.). They also created a local newspaper and decided on the title (*Noti-Pizarro / Ho'calai*, which means "friend" in Wichí) within this committee.

However, APN being a centralised administration, this process can only be categorised as a 'consultative participatory process': people are consulted and listened to, but the problems and solutions are externally defined. However positive, it depends very much on the good will of a few people. Should the ideological orientation change at APN, the process could be halted. This process is in clear need of institutionalisation at the local and national levels. The experiment is being observed closely at high levels. The cost of failure could prove to be high for the participatory paradigm in Argentina.

The main losers in the agreement are probably Pizarro's small farmers. They were using the Reserve's resources freely, feeding their animals, hunting and exploiting wood. Some families had become established in fiscal plots 32-33 for many years and half of them were entitled to the *derecho de posesión veintiañal* (Chalukian et al 2002). When the plots were sold, the government of Salta offered them some small plots (80 ha) on adjacent lands plus an ARS 7,000 loan in exchange for abandoning any claim on Pizarro and leaving the place. Under pressure most accepted, except for two, who are in a legal battle for recognition of their property rights. Those who accepted were sold the new plots at very low interest rates. But they nevertheless have to repay these loans. Not only have they lost the lands they occupied in Pizarro, but they are now also on smaller plots that are often insufficient for their previous activities, and have incurred debts. The ARS 7,000 loan (more money than most of them had ever seen in their lives) was quickly spent for a car, a TV set, and so on. The small-scale farmers living within the village lost grazing lands for their livestock and feel betrayed. In addition, the new landlords will cultivate mostly soybeans, with low demand for labour, and not citrus. The village now forms an island in the middle of soy fields. Villagers complain about the dust, the smoke of burning wood and the unprecedented heat (50°C) they have suffered as a consequence of deforestation.

4.8 Conclusion

In a country where the techno-industrial worldview is dominant, relations to nature are utilitarian. Natural spaces are preserved only when located at the margins, or when they have a specific function in the dominant mode of production. But Argentina, like other countries, is at a turning point. As a New World society, it was organised as a function of the conquest of a territory seen as infinite, and exploited according to a short-term predatory logic. As empty land is becoming rare, competition for its use is growing.

Rationalisation, i.e. land use planning that integrates the values of sustainability and trans-generational responsibility, seems essential. The conflict between a federal state more sensitive to such arguments in spite of its appetite for the incomes generated by soy, and the Province of Salta, more traditional, reflects this trade-off. The recent appearance of environmental movements with a capacity to mobilise urban residents undoubtedly reflects a change in thinking. It is also related to globalisation, which made it possible for the global ecological movements to create, in alliance with national movements and actors, a dynamics in tune with the global ecological concerns. The increasingly marginal utility of natural forests thus corresponds with the emergence of national environmental movements and an increasing resistance to the agro-industrial model.

At a concrete level, success in preserving a substantial part of Pizarro will guarantee the survival of at least one example of the transition zone between Chaco and Yungas. But it is at the symbolic level that the case is interesting – not only because it questioned the progression of soybean, maybe for the first time in the country, and generated a discussion on the impacts of the agro-industrial model and its consequences, but also because it repaired an historical injustice by 'revisibilising' the indigenous peoples and their link with nature and the forests.

There is now intense discussion in Argentina about deforestation, and a law proposing a moratorium on deforestation has just passed (Law on Forests Emergency or "Ley Bonasso").[61] The topic is now firmly anchored in the political system and the policy-making process. A new normative and institutional process has been developed, which is strongly supported by the national NGOs as well as the international community.

Endnotes

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[2] Its present formal designation is "Pizarro Protected Area". Before 2005, it was known as "General Pizarro Provincial Natural Protected Area".

[3] The decommissioning of Pizarro represents, to our knowledge, a unique case in Argentina. In fact there is no law authorising the decommissioning of a protected area, which was an argument for the University of Salta to take the case to the Federal Supreme Court to challenge its constitutionality (see below).

[4] Chaco is also a province of Argentina.

[5] http://www2.unesco.org/mab/br/brdir/directory/biores.asp?code=ARG+11&mode=all; accessed 23 January 2008.

[6] This vegetation is a consequence of livestock grazing in a very fragile environment, a point developed *infra*.

[7] Mainly the following species, according to three transects made by the Chalukian team: *Ruprechtia triflora*, *Ruprechtia apetala*, *Capparis refusa, Acacia praecox*, *Aspidosperma quebracho blanco*, *Celtis iguanae*, *Celtis tala*, *Anadenanthera colubrina*, *Porliera microphylla*, *Calycophyllum multiflorum*, *Phyllostylon rhamnoides*, *Pisonia zapallo*, *Maclura tinctoria*. Most *Schinopsis quebracho colorado*, of high value, have been logged.

[8] These include the following, listed here with their status on the *IUCN Red List of Threatened Species* (IUCN 2006) where applicable: *Tolypeutes matacus* (southern three-banded armadillo; near threatened), *Chaetophractus vellerosus* (screaming hairy armadillo), *Cerdocyon thous* (crab-eating fox), *Dusicyon griseus* (grey fox), *Oncifelis geoffroyi* (Geoffroy's cat; near threatened), *Tapirus terrestris* (Brazilian tapir; endangered), *Procion cancrivorus* (crab-eating raccoon; vulnerable), *Puma concolor* (puma; near threatened), *Cebus apella* (brown capuchin), *Tamandua tetradactila* (southern tamandua), *Dasyprocta punctata* (Central American agoutis), *Galictis cuja* (lesser grison), *Mazama americana* (red brocket deer), *Mazama gouazoubira* (brown brocket deer), *Tayassu pecari* (collared peccary). *Panthera onca* (jaguar; near threatened) are present in the Sierra del Maíz Gordo and occasionally in the highest part of the Reserve.

[9] Among them, the blue-fronted amazon, a popular talking parrot (*Amazona aestiva*).

[10] Annual rainfall (1950-2000) varied between 500 and 1,000 mm in Las Lajitas, some 50 km south of Pizarro (Grau et al 2005).

[11] Interview with Santos Zarza, 13 March 2006.

[12] Resolution 553, Files No. 08-2465/01 and 105-000650/01

[13] According to Noemi Cruz (Greenpeace representative in Salta who played a major role in the conflict), and confirmed by the *caciques*, a large Wichí group was driven out of its settlement in San Martín, which was also sold to cultivate soybeans! It divided into three sub-groups: one moved to the town of Tartagal, the second remained in the 30-metre forest fringes left between soy fields, and the third wandered around until it arrived in Pizarro. Interview conducted on 12 March 2006.

[14] Interview with Hugo "Bicho" Escobar, Pizarro Deputy Mayor, 15 September 2006.

[15] Salta's Ministry of Government and Justice authorised them to stay in the Reserve (fiscal plot 32) by giving the group legal recognition (*personería jurídica*) through Resolution 212, File No. 54-6615/01 (*Reconocimiento de la personería jurídica de la Comunidad Aborigen Wichí Eben-Ezer*). It could appear that much was given to a band (an ethnic sub-group) with no proven history in this place. Can Pizarro be considered traditional Wichí land, in the sense of the 1994 National Constitution (Art. 75, Inc. 17) and the International Labour Organisation Convention No. 169? There is no doubt that for at least 5,000 years the region was inhabited by indigenous peoples. Wichí, like other Chaco peoples, were nomadic hunter-gatherers. Their historic area of extension was Tarija, as well as the Pilcomayo and Bermejo river regions. The old Bermejo river bed was very close (60 km) to Pizarro. They were displaced, along with others, to the east in the 16th century by a wave of Guarani (Chiriguanos) expansion coming from the north (Martínez Sarasola 2005). Later, colonisation, missions and *ingenios* led to mixing of populations due to displacement and forced settlement. Defining 'traditional territories' can be quite challenging, as well as quite politicised. In this regard, and given the fact that Wichí groups are now settled all along National Road No. 5, which goes through Pizarro, the current legal understanding would favour considering Pizarro as part of Wichí 'traditional territory'. In any case, their legal recognition by the authorities of Salta amounts to a right to land from a constitutional perspective.

[16] Issued on 6 December 1995 – four days before the Governor R.A. Ulloa (1991-1995) was replaced by J.C. Romero.

[17] IUCN [International Union for Conservation of Nature and Natural Resources]. 1978. *Categories, objectives and criteria for protected areas.* Gland, Switzerland: IUCN. These categories changed in 1994. The main objective of Category IV was "to ensure the natural conditions necessary to protect nationally significant species, groups of species, biotic communities, or physical features of the environment where these may require specific human manipulation for their perpetuation". Category VIII was "to provide for the sustained production of water, timber, wildlife, pasture and tourism, with the conservation of nature primarily oriented to the support of economic activities".

[18] Law 7274 of the Province of Salta, Boletín Oficial 16.862.

[19] Expte. Nº 90-15.400/03. Proyecto de ley, autorizando al Poder Ejecutivo a vender, mediante licitación pública, los inmuebles Catastro Nº 8.373, Lote Fiscal Nº 32 y Catastro Nº 8.375 Lote Fiscal Nº 33 del departamento Anta.

[20] http://www.salta.gov.ar/senado/v_ma04-03-04.htm and www.camdipsalta.gov.ar/VERSION/vt17-03-04.htm; accessed on 7 January 2007.

[21] Ley Nº 7274 Promulgada por Decreto Nº 809 del 06/04/04 – Desafecta Lotes Fiscales 32 y 33 del Departamento Anta de la categoría de Area Natural Provincial Protegida. Reemplazo del área desafectada. B.O. Nº 16.862. Expte. Nº 90-15400/03.

[22] Interview with Francisco López Sastre, 13 September 2006.

[23] Anonymous interview, 13 March 2006. This version was widely spread among interviewees.

[24] http://www.camdipsalta.gov.ar/VERSION/vt17-03-04.htm; accessed on 7 January 2007.

[25] Anta had an annual deforestation rate of 2.09% in the period of 2002-2004 (UMSEF 2004), against an average of 0.5% for South America (FAO 2005).

[26] No landowner was willing to be interviewed. A clue is provided by the fact that the sale of Pizarro was perceived as a mistake by Argentina's main associations of grain producers, on the argument that soy production already had a tainted reputation and that this was the straw that was breaking the camel's back. Interview with A. Brown, 16 March 2006.

[27] Expte 90-15.400/03, Government of Salta.

[28] Resolución CS 274/04 del 30 de julio del 2004.

[29] *Informe Comisión Oficial Realizada a los Lotes 32 y 33.* http://bo.unsa.edu.ar/cs/R2004/R-CS-2004-0315anexo.html; accessed on 7 January 2007. This report is more impressionistic than systematic. It was followed by a second one in October 2004.

[30] Resolución CS 210/04 del 28 de junio del 2004.

[31] The appeal was rejected in September 2005 by the Chamber of Civil and Commercial Appeals (Judge Marcelo Domínguez).

[32] Darín is very close to Greenpeace Argentina.

[33] There are different interpretations of this event. A popular interpretation is that Kirchner had him put there to send a message to Romero, with reference to the well-known conflict between the two factions of Peronism they represent. Simón López' version is that he was tired and sat on the closest available chair!

[34] *Convenio entre el Estado Nacional y la Provincia de Salta, 14 de octubre del 2005.* In fact, this arrangement had already been under negotiation since May 2005, when APN proposed to buy the auctioned lots and entered into negotiations with the Government of Salta about various possible solutions. *La Nación*, 4 May 2005.

[35] *Reglamiento de la Comisión Asesora, Ciudad de Salta, 7 de Febrero de 2006.* The committee met one single time and then never again!

[36] Of the 105 million hectares of native forests in 1900, 33 remained in 2002 (UMSEF 2002).

[37] Recurrent systems of social norms that guide and sanction individual and group behaviour.

[38] Around 10% of the state budget is covered by taxes on agricultural exports (27.5% on soybeans and 24% on oil; for 2007, US$ 3 billion in taxes for US$ 16 billion in exports). Soy accounts for 66% of total tax revenues (INDEC 2005).

[39] 15 of 29 million ha in 2005; the surface planted in soybeans increases by 1 million ha per year.

[40] Secretaria de Agricultura, Ganadería, Pesca y Alimentación, http://www.sagpya.mecon.gov.ar. Soy and soy by-product exports in 2005 accounted for US$ 7.6 billion, 48% of agricultural exports and 22% of the country's total exports (http://fao.org/ES/ESS/es/compendium_2006/pdf/ESS_ARG_S.pdf; accessed on 29 May 2008).

[41] Roundup Ready soy (resistant to glyphosat) was introduced by Monsanto, but a parallel market developed that caused Monsanto to withdraw from Argentina's seed market in 2004. See *The New York Times*, 21 January 2004: "Argentine Soy Exports Are Up, but Monsanto Is Not Amused", by Tony Smith.

[42] South America has been losing 4.25 million ha of forests each year since 2000 (FAO 2005). Deforestation linked with soy was close to 520,000 ha per year for Brazil and Argentina between 2000 and 2003 (Maarten Dros 2004).

[43] Glyphosat consumption increased from 14 to 150 million litres between 1997 and 2003 (Maarten Dros 2004).

[44] Poisoning due to pesticides has been documented; see, for example, Altieri and Pengue (2006b).

[45] Mechanised soy employs 1 person for 200 ha, against 1 for 8 ha in traditional cultures (Carvalho 1999).

[46] The number of peasants decreased by 25% between 1998 and 2004 (e.g. Branford 2004; Joensen and Semino 2004).

[47] The human development index (HDI) of Salta is 0.686, whereas the overall HDI of Argentina is 0,788 (Informe de Desarrollo Humano 2005).

[48] Meta-norms refer to premises or principles which guide the social contract in its widest sense, defining criteria and structural values. Constitutive norms define the organisational or institutional mechanisms related to the sectoral operation of the object or scenario under analysis. Regulative norms define the rules of conduct appropriate in the eyes of society, in terms of behaviour, what each person must or can do, and positive (approval or reward) or negative (disapproval or punishment) state sanctions.

[49] *Ley de prescripción veinteañal*: based on Article 4015 of the Civil Code and Article 24 of Law 14159, *Catastro Nacional – Prescripción adquisitiva de inmuebles.*

[50] According to INDEC (2005), they number 400,000 individuals and 25 different peoples countrywide. However, genetic sampling revealed that 56% of Argentina's population has Indian blood – a blow to the myth of a white Argentina (Corach et al 2005). According to this study, 10% of the population, i.e. a total of 3.9 million individuals, is purely Amerindian. Most of them live in the cities or as *criollos* (small farmers) and neither claim their ascendency or speak native languages. See Corach interview at http://www.pagina12.com.ar/diario/ciencia/19-54853-2005-08-10.html; accessed on 11 January 2008.

[51] Up to 80,000 according to other sources (Rossi 2003; Martínez Sarasola 2005).

[52] Métraux (1967), among others, has given a good description of their customs.

[53] These rights are not codified but always formulated in rather vague terms. The fact that the status of Pizarro Protected Area has still not been finalised (by January 2008) may be an explanation.

[54] *La Nación*, 29 November 2006, citing the national (Peronist) deputy Miguel Bonasso.

[55] Interviews with J. Corcuera, FVSA, H. Giardini, Greenpeace, and A. Brown, Pro-Yungas, in March 2006.

[56] Formally, the Wichí were not going to lose their land, but this was used as a media argument.

[57] See also Schwartzman and Zimmerman (2005), Redford and Painter (2006).

[58] Interviews with APN representatives R. Guerra, E. López, F. Lance and J.A. Temporetti in 2006 and 2007.

[59] Since 1982 (Third World Parks Congress) IUCN has repeatedly recommended that the rights of indigenous people within protected areas be respected and that they be involved in decision-making processes, including in the design of a protected area. See Beltrán (2000).

[60] There are indigenous peoples living in or around 10 protected areas, with some participation mechanisms (Pizarro/Wichí, Lanin/Mapuches, Pozuelos/Kollas, Calilegua/Kollas, Iguazú/Guaranis, Pilcomayo/Tobas, Reserva Teuco Bermejito/Tobas, Quijadas/Huarpes, Nahuel Huapi/Mapuches, Laguna Blanca/Mapuches). See APN (2007).

[61] See http://www.diputados.gov.ar/dependencias/dcomisiones/periodo-122/122-970.pdf; accessed on 29 May 2008.

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Part II
African Case Studies: Conservation and the Minimal Benefits for Local Actors

5 Government Wildlife, Unfulfilled Promises and Business: Lessons from Participatory Conservation in the Selous Game Reserve, Tanzania

Patrick Meroka[1] and Tobias Haller[2]

Abstract

Tanzania hosts the Selous Game Reserve – Africa's largest protected area (PA), attracting many tourists. In the past, the Selous ecosystem and its common-pool resources were managed by local Warufiji common property regimes. This management system was altered in early German and British colonial times: a large protected area based on a fortress approach was created. The underlying ideology of pure nature to be reserved for white hunters led to evictions of local groups and to the demise of traditional institutions that controlled resource use. After independence, fortress conservation was taken over by the socialist *Ujamaa* system as part of nation building and to generate revenues from tourism. As the Tanzanian economy declined, less money was available for management of protected areas and consequently poaching increased in the Selous Game Reserve. A massive decline in the animal population followed, attracting the attention of the German government. Since the 1990s, various participatory approaches have been designed, adopting the community conservation paradigm. At the same time income from tourism has increased, as has the government's interest in protected areas. However, neither the World Conservation Union (IUCN) approaches (Rufiji Environment Management Project) nor the newer government initiative of Wildlife Management Areas (WMAs) has created acceptable incentives for local stakeholders. Calculations show that potential revenue does not sufficiently cover losses incurred by local people through conservation restrictions and crop damage. These participatory approaches will therefore never serve as incentives for community conservation. However the official discourse of participatory conservation remains, while for local people conservation means underdevelopment.

Keywords: Tanzania, protected areas, participatory management, institutional change, cost–benefit analysis, conservation and business strategies.

5.1 Introduction

In recent years the paradigm of 'conservation with development objectives' has attracted increasing support from national and international conservation organisations and development agencies. This approach emphasises the need for mutually beneficial co-management partnerships between rural communities, the state and other stakeholders in place of antagonistic relations and resource use conflicts caused by protectionist conservation strategies. However, there is an extensive ongoing debate about how such integrated projects are likely to achieve positive outcomes for local communities (Hulme and Murphree 2001). The present contribution focuses on participatory initiatives in the largest protected area in Africa, the Selous Game Reserve (SGR) in Tanzania, and questions the extent to which the distribution of benefits is really perceived as such and can ensure the support of local communities in participatory conservation in protected areas.

We show how people were using and managing common-pool resources in the game reserve area before it came into existence and how the reserve was created. We argue that the reserve flora is the product of human cultural activities and not entirely natural. We build on the work of Neumann (1998) and Brockington (2002) in order to illustrate how the game reserve was set up based on the notion of wilderness and pure pristine Africa, despite the fact that it had been a cultural landscape before colonial times. This notion was especially present during the British colonial period and continued after independence, when protected areas became a means of placing land in government hands and collecting revenue from tourism. Following independence, resettlement and relocation increased again in the late 1960s and the 1970s. This was the reason for many conflicts before and during *Ujamaa* times. We examine the resulting social and ecological changes to understand how they are perceived differently. We then discuss how, since independence and during *Ujamaa* villagisation programmes, a fortress approach to conservation was adopted by the Tanzanian government. This failed in the 1980s, leading to serious management problems in the wildlife sector. In order to mitigate these problems, a participatory scheme of so-called Wildlife Management Areas (WMAs) was set up by the government. This contribution deals with the question of how this scheme was implemented in the northern part of Selous. It also endeavours to illustrate current developments in the eastern part of Selous, where research on similar schemes has taken place, especially in view of the fact that important local stakeholders would prefer to deal with the private tourist sector than with government (GO) or non-

government (NGO) organisations. It was here that the World Conservation Union (IUCN) set up a participatory scheme – the Rufiji Environment Management Project (REMP) – frustrating the local people. Local actors do not trust the state nor do they believe that they will benefit from conservation. The contribution also indicates how the state and the district level are profiting substantially from such schemes through donors without devolution of power. Revenues are going to the government and not to local people. The contribution shows a detailed cost–benefit analysis and explains why people have lost trust in the government and NGOs as well as foreign development GOs, such as the German Agency for Technical Cooperation (GTZ). We also see why there is such a difference between the ideology of participatory conservation and the realities in the Selous area, where local people face high costs while government and business will be able to profit from the gains. This is illustrated in the way the area is now governed and the way specific ideologies of conservation and development are employed in the region.

The data for this contribution were gathered by Patrick Meroka within the framework of the Swiss National Centre of Competence in Research (NCCR) North-South, IP6 (Department of Geography, University of Zurich and Department of Social Anthropology, University of Zurich). The research was conducted between 2002 and 2004 as well as during short visits in 2004 and 2006 by the co-author. Research was done in two twin village settings[3] in Rufiji District (Mbunju-Mvuleni and Mtanza-Msona). Research dealing with institutional change in common-pool resource management in five African countries was done within the African Floodplain Wetlands Project (AFWEP; led by Tobias Haller of the Department of Social Anthropology, University of Zurich (Haller 2005). The methods used were mostly of an anthropological nature, and involved participant observation, village surveys, household questionnaires, structured and semi-structured interviews, focus group interviews, biographies and interviews with experts concerning archive work. Additional research was carried out in two additional villages bordering the SGR in 2006. In addition, we made intensive use of new literature on the Wildlife Management Area projects in the northern part of the Selous area and attempt to assess from this literature how successful these initiatives have been so far (see Ashley et al 2002; Baldus et al 2003).

5.2 The setting of the Selous Game Reserve

5.2.1 Location, topographic and environmental characteristics

The Selous Game Reserve (SGR) is located in a semi-arid area of the central south-eastern Tanzanian coastal region. The game reserve covers an area of about 45,000 km^2, representing 5 percent of Tanzania's land surface, and is the largest protected reserve in Africa. It encompasses a wide variety of wildlife habitats, including open grassland, Acacia, Miombo woodlands and riverine forests, and borders on five districts. It is adjacent to Mikumi National Park and Kilombero Game Controlled Area[4] to the west, the nearby Udzungwa Mountains National Park lies to the north-west and it includes different buffer zones (one in Ruha District, one in Morogoro District and one in Rufiji District) making a total of 3,500 km^2. A large area of the reserve is drained by the Rufiji River, with its tributary, the Ruaha, draining most of

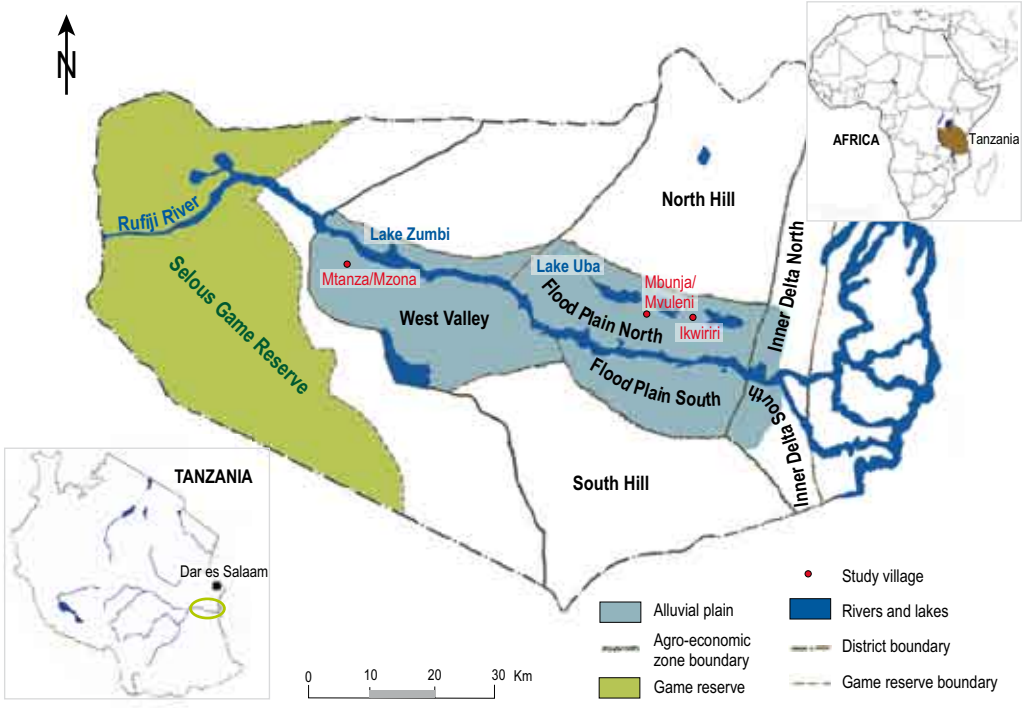

Fig. 1
Rufiji District. (Map by Corinne Furrer and Ulla Gaemperli, based on Ashley et al 2002)

south central Tanzania. Tributaries include the Luhombero, Mbarangandu and Njenji, which are the main permanent streams. Below the Rufiji-Ruaha confluence is a stretch of lakes and swamps. The centre of the SGR is a floodplain landscape with surrounding alluvial valleys and protruding hills largely underlain by the Karoo sandstone and covered by thickets and closed woodland (see Figure 1 and Figure 2).

The south of the SGR is hilly, rugged and forested, the south-western Mbarika Mountains reaching 1,300 m. The west is mountainous and forested with intervening wet lowlands. The east and north are tree-dotted grasslands on alluvial hardpan, parts of which are seasonally flooded with the Rufiji rising up to 5 metres. The soils of the Rufiji basin are friable, acidic and nutrient-poor, unsuited to agriculture and in the south, alkaline sands over hardpan. Frequent fires and heavy November rains accentuate erosion (Stephenson 1987). Due to its unique ecological importance the SGR was designated a "World Heritage Site" by the United Nations in 1982.

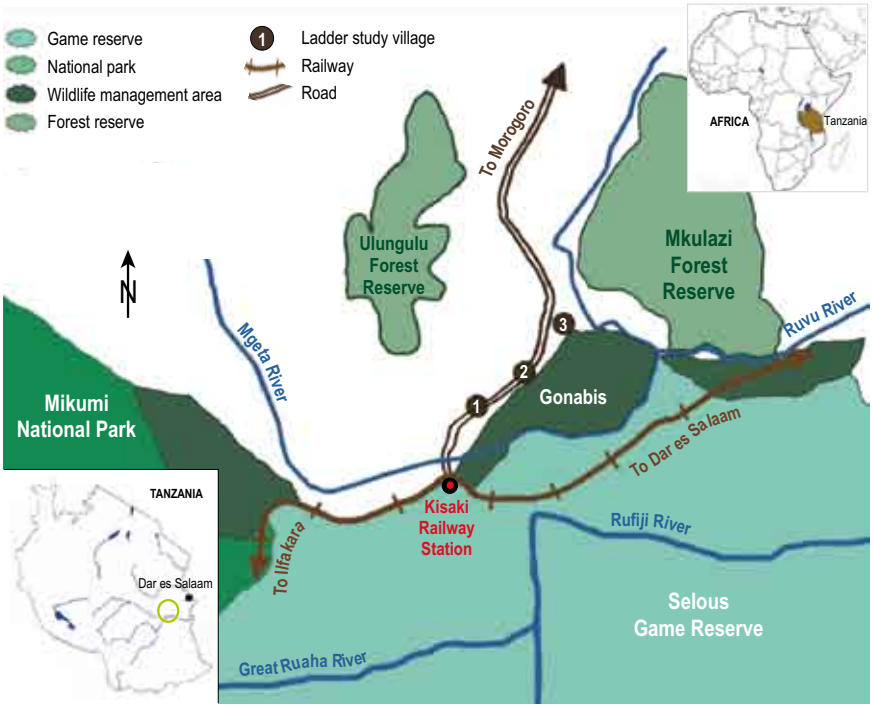

Fig. 2
Morogoro District. (Map by Corinne Furrer and Ulla Gaemperli, based on Ashley et al 2002)

The reserve has a dry sub-humid climate influenced by the prevailing south-easterly winds, which bring rainfall to the Eastern Arc Mountains along its western border. The annual rainfall ranges from 750 mm in the east to 1,300 mm in the west, falling mainly between mid-November and mid-May. The average annual maximum and minimum temperatures range between 13°C and 41°C, depending on elevation.

Animal populations in the surrounding areas are often large, especially in the dry season. Some 400 species of animals are known and in 1986 approximately 750,000 large animals of 57 species were recorded (Douglas-Hamilton 1986). The greatest concentrations are in the north and north-east, also in the inner south. In 1994, inside the reserve and surrounding buffer area, there were 52,000 elephants (Figure 3); numbers are rising again after years of decline due to ivory poaching (GTZ and SCP 1995; TWCM 1995). There are several species of large animals in the park, such as buffalo, impala, zebra, waterbuck, giraffe, blue wildebeest, warthog, lion, cheetah, hippopotamus and crocodile, the latter in abundance (GTZ and SCP 1995). There are also different species of birds inside the game reserve and the surrounding buffer zones.

Fig. 3
Elephant encounter outside the SGR close to a village. Numbers have risen since the 1990s and now elephants often feed on fields nearby. (Photo by T. Haller)

5.2.2 Ethnographic and demographic information

Rufiji District has a population of about 203,100 people. The mean settlement for the whole district is about 14 persons per km^2 (Bureau of Statistics 2002). The district is largely rural although the population is clustered around Utete (district headquarters), Ikwiriri, Kibiti and Bungu townships. Rufiji District is home to several ethnic groups collectively known as Warufiji[5]. The ethnic composition of the population is highly diverse, with eight different groups present, of which the largest group is the Ndengereko (40% of the entire population). The other ethnic groups include the Matumbi, the Nyagatwa (concentrated in the delta area), the Ngindo, the Pogoro, Ngoni, Zaramo and the Makonde. According to oral traditions, the Ndengereko are considered to be the original inhabitants of the area. The majority of the households surveyed were immigrants to the study villages, but relatively few people had moved into the area within the last five years. An important feature was that these different groups were organised as ethno-professional groups before colonial times: Some were only farmers (Ndengereko), others were primarily fishermen (Makonde) and hunters (Matumbi), and some were collecting and bee-keeping (Meroka 2006). The territorial organisation was structured following this principle of ethno-professional groups, but allowing a certain kind of reciprocity, trade and flexibility according to the flood seasons.

The majority of the people are Moslems with few Christians and followers of traditional animistic religions, in which ancestral and other spirits play an important role in the management of common-pool resources, especially in the coordination of resource use such as fish and wildlife. In addition to local languages Kiswahili is widely spoken in this area and English is not commonly used. Most people live in villages with scattered hamlets around a centre. This settlement pattern is the outcome of the 1970s' villagisation policy (*Ujamaa*), which led to the concentration of the Warufiji population in the newly established villages and contributed to immigration by people from other parts of the district. The *Ujamaa* villages incorporating more or less 200 households are largely concentrated along the roads, while areas away from the roads are sparsely settled with low pressure on available land (Meroka 2006).[6]

5.2.3 The making of Africa's largest protected area

Political and economic context

The reserve has a long history of more than 150 years and goes back to early colonial times under German control. The first occupation of what was called German East Africa was based on treaties made by Carl Peters with different chiefs in 1884/5 (James 1994, p 280). As early as 1891, first detailed wildlife laws were established by the Germans (Neumann 1998; Ashley et al 2002), legislating hunting activities and creating 18 game reserves, where hunting was prohibited up to 1914. 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 area as well as the protected forest system (Neumann 1998). The control of access to and the benefits derived from natural resources was critical in the early periods of the formation of the colonial state in order to mark European dominance and to secure a material base for the motherland. Between 1906 and the outbreak of World War I, a total of 231 forest reserves had been declared, all based on evictions. In 1921 the colonial government created a Forestry Department and, in the same year, issued a Forest and a Game Ordinance expanding the protection area system and limiting the use of forests and game for local people (ibid., pp 100). The political and ideological background was the control of nature for access to resources and early conservationist views based on the notion that resources needed to be conserved for hunting by white people in a sportsman-like manner. In the 1930s National Parks were introduced in the area based on the Yellowstone model. After independence African administrators were in no way prepared to take over reserves and parks in the country. Nonetheless, on the eve of independence, the former powers made clear to the new nation's elite that conservation of nature in parks and reserves was a sign of the civilised world to which they now belonged. This was taken up by the first president, Julius Nyerere. With the help of Western NGOs and foundations such as the African Wildlife Leadership Foundation (AWLF), a new generation of trained wildlife conservationists was established and empowered in the early 1970s to manage the park and the reserve system (ibid., pp 142f.). For the new government parks and reserves were seen as a means to gain foreign revenues from tourism. But in the beginning this revenue was limited because the bulk of gains from tourism went to Kenya, and coffee and sisal contributed more to the Tanzanian state's income. Nevertheless, the Ministry for Tourism and the Tanzania National Parks organisation (TANAPA) saw protected areas as a possibility for generating foreign income in the future and for developing the tourism industries. Relocation of villages out

of reserves and parks such as Serengeti and the Selous Game Reserve was not perceived as a problem because it also coincided with Tanzania's famous *Ujamaa* (villagisation) programmes (ibid., p 145). However, local people saw this kind of attitude as a continuation of the old colonial strategy. After the stagnation and decline of revenues, protected areas and the state-owned tourism business engendered more expenses than revenues (ibid.), and the abolition of *Ujamaa* and Tanzanian socialism led the new president to accept the International Monetary Fund's strategy of privatising the tourism sector in the mid 1980s. The parastatal Tanzania Tourist Corporation was reconstituted as the Tanzanian Tourist Board in 1993, giving private tourist operators the opportunity to take over lodges (ibid.). The Tanzanian tourism sector has been booming ever since and now occupies the leading position ahead of the coffee sector (Ashley et al 2002).

The construction of the Selous Game Reserve

Today's area of Selous was of great importance for the German and British colonists as well as for the independent government under *Ujamaa*. It is the largest reserve on the continent and has entailed several relocations of local people and expansions of its territories. It became famous in the 1980s for large-scale poaching of elephants and rhinos when horn and tusk were in high demand. As early as 1905 the Germans installed a game reserve in the area (see Table 1 for overview on history). This reserve was located in the southern part of the present game reserve. In the same year the Maji Maji uprising, one of the largest anti-colonial resistance movements by local peoples, originated from the area, and later on administrators speculated that it was related to restrictive wildlife laws imposed by the Germans (Neumann 1998, pp 164-165). But despite this analysis, the German colonial government had increased the number of game reserves in the area from one to four with a total area of 250,000 ha (UNESCO 2003). After World War I, the British administration extended the protected area and renamed it Selous after the British hunter, traveller and writer Frederick Courtney Selous, a friend of Cecil Rhodes, an employee of the British South Africa Company.[7] After the British took over the German colony, the Game Reserve was gazetted in 1922 (Brockington 2003). The boundaries were again extended between 1936 and 1947 with a view to making space for the increasing number of elephants, as well as depopulating the area in order to fight against the tsetse fly, a vector of the sleeping sickness. During these expansions a total of 40,000 people had been evicted from SGR in the 1940s (Kjekshus 1996; Yeager and Miller 1986 in Neumann 1998, p 146), in order to increase land reserves, which were then set aside for protection. In this process customary land was transferred

to public land controlled by the colonial state. The effect of these relocations are generally summarised by Neumann (1998), referring to Kjekshus' work: As a direct impact there were concentrations of settlements and degradation of land at the border to the reserve, and farming activities such as the cultivation of maize attracted wild animals (e.g. elephants). Additionally, tsetse fly control measures executed by people who used to live inside the SGR were discontinued, changing the environment for humans and animals alike and making livestock keeping impossible. Generally, boundaries were drawn without the knowledge that these areas had been cultural and not 'natural' landscapes, from which people had been expelled. The resulting increases in tsetse flies also made wildlife move increasingly into newly cultivated and inhabited areas (see Illife 1979; Neumann 1998).

Table 1

Chronology of the Selous Game Reserve. (Compiled by authors)

Times	Events and Developments
Pre-colonial	Different groups of hunters, gatherers, fishermen (Makonde group) use the area and develop common-pool resources institutions based on flexible territoriality and reciprocal access.
1821	Invasion of Ndengereko agriculturalist groups.
1884 - 1885	First occupation by Germans in what is called German East Africa, based on treaties made by Carl Peters with some chiefs (James 1994, p 280).
1885 - 1905	Wildlife laws and creation of protected area in later Selous. Maji Maji rebellion.
1916 - 1918	Selous is killed in Rufiji area by Germans, Tanzania is taken over by the British after World War I, basic protected area (PA) strategy and laws are established, ordinances remain restrictive wildlife laws.
1922	British establish Selous Game Reserve named after hunter and writer, evictions take place. Hunting is seen as a privilege of whites, game has to be protected from Africans.
1936 - 1947	Once the reserve is gazetted, the boundaries are again extended in order to make space for the increasing number of elephants. People are evicted from the expanding land reserves set aside for protection. In this process customary land is transferred to public land controlled by the colonial state.
1940	New wildlife laws establish National Parks with stronger protection legislation.
1963	Independence of Tanzania. After independence the whole protected area system is repeatedly extended to reach a coverage of 28% of the country today (Neumann 1998; Ashley et al 2002).
1973 - 1974	Launching of *Ujamaa* villagisation policies, development of African socialism, relocation of people, conservation as a means for attracting tourists.
1976	Extension of Selous to its current size of 50,000 km^2.
1977	Height of villagisation and state control as well as fortress conservation.
1982	Lack of financial means due to economic problems, bad enforcement of wildlife policies, high level of poaching of elephants and rhinos. Structural adjustment programmes. Due to its large variety of animals and landscapes Selous is declared a World Heritage Site by the United Nations.

1987	Stephenson Report for Tanzania: high levels of poaching of elephants and rhinos, low level of conservation enforcement. Development of master plan to attract donors such as Germany (GTZ) and different NGOs to participate in the Selous Conservation Programme (SCP).
2002	By-laws developed in Rufiji villages, establishment of village conservation areas for fishing and timber.
2003	End of IUCN Rufiji Environment Management Project (REMP) funding; NCCR North-South extends development of by-laws to eight other villages. End of funding for SCP and Wildlife Management Areas (WMAs).
2005 - 2006	Different local groups still waiting for the gains from WMAs and from REMP projects (land tenure security, village land titles). High level of frustration with high level of costs (crop damage, people killed) and low level of benefits. People attracted to private tourist companies.

The settlements were then located outside the SGR close to the boundaries. After Tanzania's independence the colonial wildlife policies continued to be applied against the local people's interests as the government made the final adjustment of the reserve's boundaries to protect the migratory elephants, which were apparently on the increase. Officially no changes in the reserve's boundaries have been made since 1976, when the reserve covered 50,000 km^2 (Ashley et al 2002). In 1974, the Selous Game Reserve was legally established under the Wildlife Conservation Act (URT 1974), which was amended again by the Wildlife Conservation (Amendment) Act of 1978.

As the largest reserve on the continent, Selous had a special status, and its role in preserving its elephants, black rhinoceros and wildlife diversity remains its main economic resource. Then, following the Tanzanian policy to set up national parks, five areas in the reserve were designated parks in 1980, giving it enhanced status as a special protection area (ibid.).

As the country faced a major economic crisis in the 1980s, which crippled the state management of the parks, poaching increased strongly. Now that the Selous Game Reserve has become more attractive for tourists looking for 'the big five' wildlife species, revenues from tourism are rising again.

5.2.4 Core problems identified

A list of core problems was developed by the NCCR North-South (see Messerli and Wiesmann 2004), ranking problems by acuteness on a scale from 1 to 5. Core problems of great importance in Selous are the erosion of traditional institutions and loss of access to common-pool resources for local

people. These problems have led to poverty and livelihood insecurity in the area, and are key issues of social injustice. In addition, weak state institutions are another central aspect. Regarding livelihood strategies there are conflicts and biodiversity changes. The latter are related to the problem of degradation or decline of resources such as wildlife, fishing grounds and forest products. Poaching was a serious problem in the past, but that has now been reduced by state action to protect the tourist industry. However, some problems can be linked to general economic development, to structural adjustment programmes during the *Ujamaa*-period in the 1980s and privatisation programmes in the 1990s. The lack of development in the area still remains a major issue; it does not seem to profit from the tourism and trophy hunting revenues. On the contrary, local people view their poverty as a direct result of conservation (see Table 2).

Despite participatory approaches, local people do not feel that they are empowered to govern their resources in collaboration with the government but that participation is only felt at a very abstract level that does not translate into tangible gains. In spite of measures to decentralise the management of protected areas, the interest in tourism is leading to types of Community Conservation Programmes that mask the basic intention to protect wildlife through a fortress approach.

Table 2

Core problems and their importance in Selous.

Thematic realm	Core problem (CP) of non-sustainable development	Importance of problem				
		5	4	3	2	1
Political and institutional	1) Weak international geopolitical position and negotiation power.			x		
	2) Dominating and conflicting world views and ethical values.			x		
	3) Contradictory policies and weak formal institutions at different levels.		x			
	4) Inadequate legal framework and regulations; lack of enforcement and means.		x			
	5) Erosion of traditional and/or indigenous institutions.	x				
	6) Governance failures, insufficient empowerment and insufficient decentralisation.	x				
	7) Unequal distribution of power and resources; inequity of income.	x				

Socio-cultural and economic	8) Social, cultural and ethnic tensions and insecurity.				x	
	9) Prevalence of crime, violence and violent conflicts.			x		
	10) Unused or restricted innovative capacities and knowledge.		x			
	11) Great socio-economic and gender disparities.		x			
	12) Incompatible and fragile economic systems with limited market and employment opportunities.		x			
	13) Dominance of the global economy over national development.				x	
Population and livelihood	14) Restrictions on human rights and individual development potential.		x			
	15) Poverty and livelihood insecurity.	x				
	16) Health risks and vulnerability to ill health.		x			
	17) Population pressure and multi-dimensional migration.		x			
	18) Unfavourable dynamics and imbalances in socio-economic structures.	x				
Infrastructure, services and land use	19) Poor water supply and environmental sanitation.	x				
	20) Lack of adequate infrastructure and management such as transport, energy and irrigation.	x				
	21) Limited and inadequate socio-economic services such as education, health and markets.	x				
	22) Discrimination in information and communication flows and technologies.	x				
	23) Inequality of ownership and access to land, natural and common-property resources.		x			
	24) Inadequate and conflicting land use systems and technologies.		x			
Bio-physical and ecological	25) Inadequate availability of freshwater.	x				
	26) Degradation of land, soil and vegetation cover.				x	
	27) Degradation of forests and other natural habitats.				x	
	28) Pollution and overuse of renewable and non-renewable natural resources.				x	
	29) Loss of biological and agro-biological diversity.				x	
	30) Risks of natural and human-induced hazards and climate change.		x			

Source: Compiled by Patrick Meroka and Tobias Haller, based on Messerli and Wiesmann 2004.

5.3 Resources, livelihoods and institutional change

5.3.1 Economic, political and institutional aspects

The communities surrounding the SGR farmed land and reared small animals for decades. The main crops grown include rice, maize, beans, bananas and cassava. It is reported by the local people in the Rufiji floodplain that in the pre-colonial era small-scale peasants, particularly from the Ndengereko ethnic group, occupied a large part of the Rufiji floodplain where they practised farming on the alluvial fertile soils (Figure 4). In pre-colonial times there were eight different ethno-professional groups using the area as cultivators moving from floodplain to higher grounds, hunters, fishermen, gatherers of honey and other natural products.

Their identities were linked to their basic economic activities and all of these groups had their specific areas and mobility patterns. Membership and flexible territoriality regulated major access to common-pool resources such as wildlife, fish, non-timber forest products and access to land for cultivation within a territory. In the community and in relation to outside groups, animistic religion played an important role. This includes the beliefs that ancestral and other spirits live in the environment. Warufiji people, espe-

Fig. 4
A traditional shelter house (*dungu*) located inside a farm field in the Rufiji floodplain. The *dungus* were traditional houses before the *ujamaa* period. (Photo by T. Haller)

cially the Ndengereko, believe in a supreme being (*Sulemani bin Daudi*) who controls two subordinate spirits: the spirit of the water (*Subiani*) and the spirit of the land (*Mchela*). These spirits are focal points of regulations that gear the timing of and access to common-pool resources such as fish and wildlife through ritual activities. Fear of ancestral spirits and attacks by wild animals (crocodiles and hippos) helped some of the leaders and ritual masters (*Mpindo*) to coordinate, monitor and sanction the use of fishing grounds in lakes that are now inside the SGR. In pre-independence times, the fishermen had to seek permission from the ritual master before stepping into the lake for fishing. Apart from these religious activities there were conservation techniques such as enclosures (*misakasaka*) put into the open water, made out of branches of non-toxic tree species in order to create safe artificial breeding grounds (Meroka 2006). Hunting activities were also regulated in traditional institutions of local hunting groups: Hunting seasons and the timing for hunting activities were organised by important ritual masters. Some species of animals usually considered sacred or of totemic significance were not to be hunted. Most communities believed that some bad omen would befall hunters if the norms were not properly followed. Furthermore, most community members maintained hunting practices and rules that ensured their continued co-existence with wild animals. The traditionally recognised ritual master was to perform a hunting ritual before the hunters set off. During the ritual, hunters were required to hand over their weapons for blessings and swear to kill only the allowed animals. Whoever dared to go against the oath would be punished by the ancestral spirits. Generally, accidents with wild animals were connected with misconduct of hunters during the hunt, annoying the spirits of dead animals, which then took revenge on the hunters on the advice of major spiritual beings. To avoid misfortunes in the forest, the hunters were to follow the instructions of the ritual master, and animal spirits were contacted before approaching the forest. Use of floodplain areas for cultivation also followed institutional patterns: The major agricultural groups such as the Ndengereko did move between the flooded areas and the higher grounds before and after flooding. Access to alluvial fields was regulated by local groups of elders during the planting season (Meroka 2006).

During colonial times, the government increasingly regulated the use of common-pool resources, first the Germans and then the British. People living inside the areas that later became the SGR were evicted and were no longer formally allowed to use these resources. This posed problems not only for agriculture but also for fishery, as some of the most important lakes that were linked with the floodplain were now inside the reserve. In addi-

tion, hunting could not be done in the same way, as the government issued both fishery laws and hunting laws requiring licences and control (see Game Ordinances during early German and British occupation). By these regulations interconnected common-pool resources were to be managed in different sections. One of the basic problems has been the eviction of different ethnic groups to marginal areas that led to crowding, and which detached people from wildlife and forest resources. Political changes included the appointment of local ritual leaders as chiefs, who became the indirect rulers of the area. These rulers were supported by the colonial government, which was based at the district headquarters in Utete. Through this channel fishery and wildlife laws had to be implemented and this changed the role of the former ritual masters.

After independence and in the beginning of Nyerere's *Ujamaa* villagisation policy in 1967, there was a basic change relating to tenure systems and the colonial management of common-pool resources: Many of the official boundaries were changed, thereby altering the resource use boundaries. By this people were forced to adopt a village structure that dictated the use of natural resources for agriculture. The new management did not recognise traditional resource management systems. In addition, the use of floodplain areas was further hindered by massive relocation of *Ujamaa* villages that were to be built on higher grounds in order not to be affected by floods. This relocation reduced agricultural production in the floodplain area. Another major institutional change in the *Ujamaa* period following independence was that ethnic boundaries were abolished, declaring everybody to be a Tanzanian with equal rights to the use of resources. The traditional rules for the management of and access to the fishing grounds and hunting areas were replaced with government laws that opened the resources to new users. The government laws protected the new resource users, and commercialisation of the resources attracted distant fishers to the floodplain, as licences were issued and the use of new technologies such as nets was allowed. The fishing sector is currently dominated and controlled by young commercial fishermen (foreign and local), while hunting has been in the hands of well-organised poachers and now of the state opening access to tourists. Therefore, according to local informants, the long periods of drought in the floodplain not only affected the agricultural sector but, together with increased fishing, also contributed to a decline of catches in the floodplain lakes by two thirds (lakes Uba and Mtanza). Meanwhile people have reduced access to fishing grounds and no access at all to wildlife (Meroka 2006). Local livelihoods are therefore in danger. Both agricultural production and income from fish and

wildlife are declining, with serious effects on local cash income. Research in one of the villages in Rufiji District close to the SGR (Mtanza-Msona, 135 households) has shown that most people earn their income from agriculture, while cash comes from sales of rice (⅔) and forest products (⅓ during dry season, including timber, fish and wildlife) (Meroka 2006). Since *Ujamaa*, people have been living in the main settlements. However, they have to travel longer distances to reach their floodplain gardens, and these have to be protected from wild animals. Tourism so far has not generated any revenues for this village but there are hopes in this regard for the future.

5.3.2 Main actors and interests in the Selous Game Reserve

The traditional *peasant communities* with their subsistence and increasingly cash crop and commercial activities would like to continue their long historical use of the area for agriculture and for fishing, but face problems stemming from wildlife attacks and degradation of crops by wildlife. Therefore, their basic collective interest is to be able to continue using common-pool resources directly or for agricultural production and to be protected from the dangers of wildlife. However, it is important to stress that local communities are not homogenous. Firstly, there are differences between villages regarding the location, vicinity and exposure to wild animals. Secondly, inclusion in or exclusion from development and participatory projects as well as legal involvements (village land titling) makes for heterogeneous interests of villages. Thirdly, within villages there are various actors: richer and poorer households, more or less cash-oriented people (young men). Finally, there are differences regarding involvement in political parties that create tensions in the villages as well as differences between people holding official positions, for example village headmen or chairmen, and ordinary people.

A second group of actors are *organisations* – non-governmental (NGOs) or foreign government organisations (GOs). These are interested purely in conservation of nature and the protection of wild animals for business reasons, often with a link to sustainable development interests or vice versa. International and foreign organisations such as the World Union for Conservation of Nature (IUCN) or the German Agency for Technical Cooperation (GTZ) introduced a participatory model in the villages bordering the SGR to mitigate human–animal conflicts in the area. For example, in the east of the SGR people from the village of Mtanza-Msona were encouraged to start income-generating projects, which were partly financed by IUCN. IUCN took an active role in forest zonation and the drafting of by-laws which were to pro-

tect the interests of the villagers in natural resources from illegal encroachment by outsiders.

The *SGR authority* staffed by the *Ministry of Natural Resources and Tourism, Division of Wildlife*, uses formally trained game scouts to patrol the reserve, preventing illegal activities such as poaching and fishing and forest products collection. In the 1980s, before the tourist boom, when funds were lacking, scouts communicated more with local people and professional poachers entering the area, as they were dependent upon them. While locals were not harassed, payment was taken from commercial hunters to turn a blind eye or conduct widely publicised patrols. However, since donor funds for participatory wildlife management and conservation became available, these authorities have been trying to satisfy donor demands, while surrendering a minimum amount of power. In fact, more control can be gained by such processes, as participation means controlling the rules of cooperation with the government.

Tourist operators and campsite owners are the main beneficiaries of the current wildlife policy. There are 6 luxury campsites within the game reserve owned by Europeans and Americans. These camps are well equipped with small air strips, cars, luxury safari tents and food, bar and swimming pool facilities and a team of tourist guides. Camps such as the Rufiji River Camp are usually fully booked in the travel season. These camps employ local people but not many have the educational skills to work as a guide or at a higher level in the restaurants or bars. There are also camps outside the reserve run by Indians. These businessmen pay something to the villagers, in order to maintain good relationships. Campsite owners are linked to main tourist operators in Tanzania and are booked though European or North American agencies. Game viewing is not the only activity, there are also a considerable number of hunting areas available where wealthy tourists can go on trophy hunts with guides (Ashley et al 2002; Baldus et al 2003) (Figure 5).

5.3.3 External change factors and natural resource management

Economic change at the national and local levels

Like the colonial powers, the independent socialist government was highly interested in the control of PAs for it believed that conservation would bring revenues from tourism. Tanzania has no minerals to be exploited and has always had to rely on the export of cash crops, such as sisal and coffee, for its foreign exchange.

Fig. 5
The Selous Game Reserve has become a very attractive destination for tourists from the West, but revenues hardly reach the local people, who bear high costs due to wild animals. (Photo by T. Haller)

Since the fall of coffee prices, the balance of payments deficit has become acute. Attempts were made to weaken the socialist system: trade and political-economic relations were intensified with China and other socialist countries but as long as demand for sisal, coffee and other goods came from Europe and the USA, Tanzania's economic dependency in these areas remained.

The economic problems since the mid 1970s with a high oil price and loans taken from banks and oil producing countries contributed to a high debt that was leading to a trade decline and cuts in state development activities. In the 1980s Tanzania was one of the poorest countries in the world and had to submit to serious structural adjustment programmes. These specified cutting the state budget, downsizing state activities and salaries, instructions for decentralising and privatisation of other sectors such as coffee. The falling low-grade coffee prices (see Table 3) in the 1990s forced Tanzania to reduce its dependency on coffee,

Table 3

Coffee price and production development: shares of coffee and tourism in GDP.

Year	Price per pound (average)	Export of Tanzanian coffee	Share of coffee in GDP	Share of tourism in GDP
1984 - 1988	US$ 1.34	49,600 tons	> 20%	< 16%
1990 - 2003	US$ 0.63	45,600 tons	< 16%	16%

Source: Ashley et al 2002, Ponte 2002, Daviron and Ponte 2005.

and local farmers began developing alternative cash-generating strategies (see Ponte 2002; Daviron and Ponte 2005).

Thus the coffee sector contributed less revenue and tourism started to gain importance. In the 1990s tourism was the fastest-growing sector in Tanzania. It profited from political unrest in Kenya, which had been a major destination for game viewing and trophy hunting. In Tanzania, the tourist sector grew by 6% annually in the 1990s and by 7.5% in 2000. It is estimated that 16% of future GDP will come from tourism and this sector has now moved ahead of coffee as the leading source of GDP (see Ashley et al 2002; Ponte 2002).

Environmental, technological-infrastructural and demographic change

The Rufiji area was famous in the past for its irregular flooding patterns where high floods causing lots of damage were followed by droughts. This is one of several causes of the large movements of wildlife and fish in the area. Attempts have been made to change the ecological system of Rufiji under the notion of development and modernisation by the state. The government of Tanzania and donor communities have made several surveys in the region to assess the potentials for irrigated agriculture combined with absolute flood control and hydropower production. While the latter has not been realised, irrigation schemes for rice have been implemented (Segeni Rice Scheme) and the area has recently been opened for non-subsistence agricultural development by a new bridge linking the capital, Dar es Salaam, with the more remote rural areas on the southern part of Rufiji District. The opening of the bridge in 2003 has increased the marketing possibilities for crops and fishery products from the whole floodplain.

At the same time new technologies have been introduced to that area, including automatic weapons and fishing techniques. As prices for trophies and game have been rising, well-organised poaching groups have been roaming the area for elephant tusks and rhino horns using new guns and sophisticated hunting equipment. By contrast, wildlife protection efforts have been hampered by severe staff cuts and lack of equipment. In a similar process, high prices for fish and the opening of the sea areas along the main road and close to the bridge, especially near commercial centres such as Ikwiriri, attracted fishermen from Tanzania as well as from Malawi who by the end of the 1970s were already importing new kinds of nets. The use of boats and nets in fishing is a modern method that was introduced to the Rufiji floodplain in the early 1970s by Malawi nationals (Wanyanza). The introduction of net fishing was first met with resistance by the local elders but later became the leading method in the fishery sector (Meroka 2006).

Current formal laws and regulations

Colonial laws and regulations cutting off traditional users from certain common-pool resources have been illustrated above. From post-colonial times up to the present, these laws have remained basically the same, but there have been attempts based on the participatory approach to include protected area management with the help of local people. After independence in 1963 came the rise of the new ideology of African socialism based on the ideal of self-reliance. Introduced by Julius Nyerere in 1967, the concept created new village structures supposedly free of ethnic divisions and on a standard economic and infrastructural basis (see Arusha Declaration). The Villages Act of 1974 recognised the newly established villages (*Ujamaa* villages) as the basic unit of the central government. The village government has full legal control of all natural resources under its jurisdiction but only those that do not fall into the category of conservation. The village government is responsible for the distribution of land to inhabitants and has the power to revoke usufruct rights if a user moves out of the village for other reasons. This means that the land remains the property of the village government and user rights are transferred through residence. Since 1999, there is a new Village Land Act that enables zonation and demarcation of village lands to be under village management (see Alden Wily 2000). This is also the foundation on which the management of natural resources by the IUCN Rufiji Environment Management Project (REMP) was based, including zoning and issuing environmental management plans at village level. The programme received an international environmental prize for its participatory methods and achievements; however, due to financial problems it had to be closed down, and the only activity of IUCN in the area remained a small project aimed at crafting by-laws for the management of natural resources. This was developed and sponsored by the NCCR North-South in 2003 (Mottier 2005). However, the case study villages show that implementation is difficult due to control exerted by the district government (Meroka 2006, see below).

When considering wildlife management and forestry there are several categories that define use or non-use and management. The basic Wildlife Act of 1974 defines wildlife as the property of the state and regulates which areas are to be consigned to which regimes. It regulates issuing of licences and designates protected areas. National Parks constitute 4% of all protected areas and consumptive use is totally prohibited. The parks are preserved by the nation state and under the control of TANAPA (Tanzanian National Parks Authority). The Game Reserve category is larger (15% of the PA system), focusing on wildlife that is to be conserved, while a small amount of consumptive tourism and professional hunting is possible, although still state-controlled.

Next are the Game Controlled Areas on village lands where controlled wildlife use – hunting by tourists as well as residents – can occur. These areas are under the control of the Ministry of Natural Resources and Tourism. In theory, villages are able to define management plans for their areas but these are still controlled by the Wildlife Division (8%). Then there is the last category of Forest Reserves where tourist hunting is allowed (15%). This law also has a section (50) that includes the possibility for local people to defend themselves against wildlife attacks (URT 1975). In the late 1980s there were attempts by TANAPA to install so-called park outreach projects, by which people in the vicinity of parks were intended to profit from the revenues. Although a separate entity, this harmonises with the new Wildlife Policy of Tanzania from 1998/1999 (URT 1998). It is an attempt to redefine the Tanzanian Wildlife Policy under a regime that on paper devolves more power in wildlife issues to the local level by including communities in a so-called active participation in Wildlife Management Areas (WMAs) under the Ministry of Natural Resources and Tourism, but in a separate section (Ashley et al 2002) called the Wildlife Division (Goldmann 2003). According to Baldus et al (2003), the new policy had been influenced to a great extent by the experiences that were made with the Selous Community Programme sponsored by GTZ (see also section 5.4).

Impact of international conservation discourses

International organisations such as the African Wildlife Foundation (AWF), the World Union for Conservation of Nature (IUCN), the Global Environmental Facility (GEF) and the World Wildlife Fund (WWF) have been active in facilitating biodiversity conservation in Africa over the last two decades. These organisations are also working in other parts of the world to assist national governments in expanding protected areas for two main reasons: the prevention of species extinction and to maintain genetic diversity within individual species. In the case of Tanzania, protected areas were meant to accommodate the increasing wildlife populations, which these conservationist organisations claimed were endangered unless human activities were controlled. The concepts of these NGOs were easily sold in Tanzania as the government was in transition and in need of financial support to maintain its organisations. The general paradigm shift toward community conservation since the late 1980s (see Hulme and Murphree 2001) had a clear impact on Tanzania's forestry and wildlife policy. Reacting to increased poaching of elephant and rhino and the lack of finances for fortress conservation, the Tanzanian government approached German NGOs (Frankfurt Zoological Society) to compile a report. In this report, foreign donors linked the halting of the poaching situation to substantial support from outside the country.

The Tanzanian Government applied for this assistance and was helped by the Federal Republic of Germany. In 1987, they set up a bilateral agreement called the Selous Conservation Programme (SCP). More donors stepped in and provided funds or assistance, each collaborating with the Wildlife Division of the Ministry: the German Government Treasury financed the entire initial budget of the SGR (approx. US$ 150,000), GTZ supplied advisors, the German Bank for Reconstruction and Development financed roads (1,700 km to 15,000 km) and 47 cars and lorries, the African Wildlife Foundation (AWF) gave mechanics and equipment, WWF contributed scientific staff and aerial counts, the European Union supported the local NGO Selous Rhino Trust. The aim was to the safeguard ecological integrity of the Selous and its tourism capacity while reflecting a paradigm shift requested by donors towards participatory conservation involving local people. The Ministry clearly responded to these demands for participation from abroad. First, a series of community conservation and development programmes – so-called park outreach projects – were developed. Second, the Ministry of Natural Resources and Tourism accepted the NGOs' and GOs' concepts of conservation, which included devolution of power and sharing of benefits. However, as several authors indicate, these approaches often mask the fact that the major control and benefits are located not at the local but at the district, national government, NGO and GO levels (Goldmann 2003; Igoe 2005). The SCP clearly reflects these approaches. GTZ organised funding by the German government and several other donors in order to enhance conservation; a resulting anti-poaching programme called Uhai ("live") was enforced with military and police support and created much unrest among local people. Outreach projects were set up to counter the negative reputation of the SGR management amongst the locals (Baldus et al 2003). In the north of the Selous area pilot projects were funded by GTZ, indicating that the paradigm shift had been happening based on pressure from the outside donor community. Similarly, WWF and the most influential U.S.-based NGO, AWF, which played a leading role in training local scouts and African conservation administrators in the fortress conservation approach, now emphasise that cooperation with the people living outside protected areas must be achieved by giving them legal rights, technical knowledge and direct economic incentives (hunting quota) (see Ashley et al 2002; Baldus et al 2003; Goldmann 2003). This development is part of the basic discourse of community conservation and based on the objective that local people should experience a benefit from conservation.

5.3.4 Incentive structure and cost–benefit analysis

If there are tangible benefits, however, the main question is: Who can benefit and how much? In the pilot villages of the northern part of the Selous area, the main tangible benefits are a game meat quota, along with gains from tourism and trophy hunting. Generally it must be emphasised that revenues from game viewing and photographic tourism have increased by a factor of 15, while revenues from hunting have been tripled. Nevertheless the latter contributed 80% of the total income from the game reserve, which was nearly US$ 4 million in 2001 (Baldus et al 2003).[8] This kind of tourism involves around 20 private companies operating in 44 so-called 'blocks' (of time) that are allocated by the state (ibid.). In addition there are 6 lodges that are now usually fully booked from March to November according to the manager of Rufiji River Lodge (November 2006). What does this mean for locals trying to profit from their game meat quota, tourism and trophy hunting? The results are frustrating: the meat quota are considered to be too low and are a source of discontentment because they can often be exploited only to 30-80% due to lack of equipment. In addition, local people often lack the money to buy the meat (see Ashley at al 2002; Baldus et al 2003). Therefore, meat quota do not seem to be so attractive. According to Ashley et al (2002) the quota account for 10 wildebeest and 2 buffalos per village (average of 800 kg per year). The hunt is conducted by the Wildlife Division's Community Wildlife Officers with the help of game scouts employed by the so-called Jukumu Society, an inter-village organisation set up by the SCP (see section 5.6). Villages in these areas count between 300 and 500 households, each of which is therefore entitled only to 1.8 to 3 kg meat per year.[9] Interestingly, another problem aside from lacking ammunition is the fact that trophy hunters have priority. Locals are not allowed to hunt during time blocks reserved by tourists. Of the small amounts gained on the village level from selling meat – an average of US$ 200 – most is spent on allowances, and only 7% (US$ 15) goes into community projects (Ashley et al 2002). Moreover, the sharing of benefits from the SGR does often not reach the local level. About 5,000 tourists and 500 hunters visit the SGR and generate a revenue of US$ 300,000; by contrast, trophy hunting fees account for US$ 5,000,000. The bulk of this amount goes to the Tanzanian government, with approximately US$ 1,800,000 going to the reserve. This makes an income of US$ 2,100,000 in total (Ashley et al 2002; Baldus et al 2003). In theory, a share of 25% ought to be passed down to the village level; however, calculations offered by Ashley et al and Baldus et al are very confusing. The district level is said to earn 25%, as well. However, it seems that the district (in this context Morogoro District) actually receives less. What actually does trickle down to the village level comes in the form of common goods, such as

clinics, schools etc.[10] In addition, this so-called benefit-sharing is in fact a very low-cost extension of the conservation strategy to villages situated near the SGR, given that it involves local scouts and parts of their village area while they have very little say about it. However, the appearance of participation and benefit-sharing is maintained (Goldmann 2003; see also Ashley et al 2002). In this whole calculation the basic aspect of local costs is difficult to assess.

In order to understand basic costs and benefits, an analysis was carried out in the village of Mtanza-Msona near the border of the Selous Game Reserve in the north-western part of Selous, Rufiji District. Research conducted by the NCCR North-South (Patrick Meroka 2002-2004, 2006) indicates that local villagers were targeted first by IUCN Tanzania through the REMP. However, as positive as the results have been, there are still many challenges, such as the failure to involve all local stakeholders, which later led to conflicts (see Meroka 2006). For the village of Mtanza-Msona, one of three case study villages, it meant that land zonation was carried out, covering parts of the territory that the villagers had been occupying since the establishment of *Ujamaa* villages in Rufiji District. This process gave hope to the 455 households (1,774 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 fishing grounds. Mloka and Mwazeni, the other two case study villages, were not involved in this programme. Research, and in particular a series of focus group interviews, revealed the following situation: in 2006, of the three villages, only Mloka, the one closest to the game reserve, received some small park outreach benefits that involved money from luxury campsites and park entry fees. Table 4 summarises the cost–benefit analysis for Mloka village.

Table 4

Annual benefit for village from PA	Annual and monthly benefit per HH from PA	Average annual and monthly monetary income of HH[11]	Percentage of annual cash gain from PA	Cost per HH (crop damages in 2006)	Loss as a percentage of hypothetical HH revenue from game reserve
TSH 6,000,000 (US$ 4,800)	TSH 44,400 (US$ 35) per year TSH 3,700 (US$ 2.9) per month	THS 1,250,000 (US$ 1008) per year TSH 104,000 (84 US$) per month	3.4%	THS 159,960 (US$ 129)	73 %

Cost–benefit analysis for Mloka village, 2006. HH = household; n = 135; 1 US$ = 1240 TSH.

Source: Focus group interview carried out by P. Meroka in 2006; taken from Meroka 2006.

The total of the sum of money received by the district from game reserve authorities and from the camps is not clear. However, Mloka village with 135 households received TSH 6 million (US$ 4,800), which authorities claim stem from the revenues of the game reserve. In theory, this would mean only US$ 35 per year, or US$ 2.9 per household monthly. Estimations based on research indicate that this is 3.4% of people's annual average local earnings. However, US$ 2.9 (TSH 3,700) is just enough to buy, for example, 1.5 kg of beef or 7.4 kg of maize flower. This is not very substantial, given that an average household counts 6 to 7 people and uses that amount of food in 2 days. However, this calculation is hypothetical because the money is not distributed among the households and does not come on a regular basis. The money is mostly used for maintaining district offices, as well as repairing schools, roads and health centres. These are services that the district is in any case obliged to provide to all areas. Therefore, although the contribution at the household level is small, people are unable to directly access these benefits. On the other hand, the costs they bear are numerous: situated close to the game reserve and the buffer zone, the villagers' rice and maize fields are occasionally destroyed by wild animals. During focus group interviews, village representatives reported that they were constantly at risk of losing, for example, an entire harvest due to elephant herds. They estimated that in 2006 wild animals damaged an average of at least half of the fields of all households. Taking a household with an average of 2 acres, the possible yield of rice would amount to 16 bags of 90 kg of rice: This could be sold at about US$ 258 in total during a harvesting season. This means that in terms of monetary gains the hypothetical income of US$ 35 from wildlife only covers about a quarter of potential losses in revenues from crop sales (which is about US$ 129).

What we have not indicated here are losses arising from the lack of hunting and fishing possibilities. Fishing is of major importance for local people's livelihoods and nutrition. However, another problem is even more serious: village people face the danger of immediate encounters with elephants, hippos, buffalos and lions outside the park. Members from the village council of Mloka showed the researchers elephant droppings in the main centre of the village, where herds regularly visit in the night (Figure 6). Several women and children have lost their lives in encounters with wild animals, such as elephants, when going to the fields or when crossing rivers. Another extreme case was a series of lion attacks in the region between 2002 and 2004 that resulted in 40 people killed and 7 injured (Figure 7). None of the families have ever been compensated for these losses, if one can speak of compensation in these terms.

5.3.5 View of institutional design and notion of ownership

Despite Tanzania being one of the first African countries trying to give back a sense of territorial ownership in the context of wildlife management, it is evident even in the new strategy of the Ministry of Natural Resources and Tourism that local people are not seen as capable actors for managing conservation areas. Local people, in turn, are aware of this view and have lost confidence in the attempts made by NGOs to give them back a sense of ownership. On the one hand, representatives of the village government and other interest groups of Mtanza-Msona, which was one of the two REMP pilot villages, repeatedly stated how frustrated they were because promises for a village land title were never fulfilled even though demarcations had been made. For local stakeholders it is evident that the process is moving too slowly at the district level. On the other hand, wild animals are viewed as belonging to the state and generating revenues for the park, tourist operators and lodges. It is therefore 'the animals of the state' that leave the reserve and cause problems. In addition, the new scheme by which power is devolved and revenues are distributed, hides the fact that the bulk of the revenues from the reserve earmarked for participatory conservation at the local level go to the district. Therefore, people at the local level feel that they are not receiving their due share of benefits. Furthermore, although hunting is possible during specific time blocks, it is expensive and the chances for local people to obtain a licence are very limited. All in all, in the eyes of local groups the benefit from the reserve is minimal. They perceive themselves as paying all the costs of the increasing wildlife population and yet they are forbidden to defend themselves. On paper, the WMAs are set up as a new land category in order to devolve power and share benefits. However, as shown by Goldmann (2003) and also Ashley et al (2002), and as indicated by former staff (Songorwa, pers. comm. 2006), the approaches involve a strict control of local communities by the higher-level administration: the Wildlife Division has to agree to management plans on village land, and despite the lip service paid to local knowledge, local game scouts are required to go through a military-style training.

In addition, there is a differentiation at the village level regarding ownership and profit from the WMA initiative: Members of the village governments and the inter-village organisation Jukuma are seen to profit more from revenues through allowances and fees for members. They are co-responsible for the killing of animals under the control of the ministerial Wildlife Division. This has created tensions, because only a very small part of the income

Fig. 6
People from the village of Mloka near the Selous Game Reserve show elephant dung inside a village. Elephants frequently enter the village at night. (Photo by T. Haller)

from meat sales goes to the local level (see Ashley et al 2002). In the villages that are not integrated in the WMA, members of the local elite, who are considered as the holders of economic and political power in the study villages, obtained a larger share of benefits (Meroka 2006).

The issue of ownership presents an even more negative picture when it comes to women: in the villages bordering the game reserve, involvement in public life and political activity is viewed primarily as a male sphere and is considered inappropriate for women. Their heavy domestic and agricultural workloads automatically excludes them from active participation in management and conservation matters. Although women are involved in some management issues such as the local campsite in Mtanza-Msona, where they provide catering services for scientists sleeping in the camp, there is not much involvement. As a result, women tend to be less engaged in, and informed

Fig. 7
This lion (man-eater) monument indicates that a lion killed more than 40 people and injured seven. Many villagers left their farms in the floodplain unattended because they feared attacks. (Painter anonymous; Photo by T. Haller)

about, the public issues of wildlife management than men, and their attitudes towards conservation are determined largely by their direct experience with wildlife-related costs and benefits in the spheres of domestic life and farm work. Such experiences include exposure to wildlife when they move to distant fields, fetch water or wood, or gather wild fruits and plants.

5.3.6 Conflicts and their resolution mechanisms

Since the relocation and eviction of local groups from the area, the relationship between local people and the colonial as well as post-colonial administration has been virulent. In pre-independence times, evictions were also seen as being responsible for uprisings (i.e. the Maji Maji rebellion in 1905) and local colonial administrators tried to mitigate conflicts by taking a kind of *laisser-faire* stance (Neumann 1998). However, control was strictly enforced in the first phase of independence, since wild animals were seen as national asset. Local people were very much harassed for their activities within protected areas as long as the state was able to have enough scouts for monitoring and sanctioning. In the study villages these times are known as periods when hatred between the villagers and game wardens was strong. As the economy of the country declined and fewer sources were available, local scouts had to cooperate much more with local people, for they were living in these villages. However, this did not solve the problems of the villagers being excluded from resources such as fish within the game reserve

and from access to wild animals, which now belonged to the state. More tension built up because local people were realising that outsiders were getting much more game as they were better armed and had the resources to bribe scouts. After the alarming situation of widespread poaching was understood by the Tanzanian government following the Johnson Report in 1987, the paramilitary Uhai operation in 1988 created much unrest in local communities and did not help in the relationship between the different groups bordering SGR and its management. Still, one of the major conflicts between the park management and local groups is due to wild animals roaming into the villages and fields. Before controls were set up, this happened because animals were either trying to escape poaching or were looking for food and water in the villages. After the launching of the new initiative for rehabilitating the reserve and following the investments made by GTZ, various NGOs and the government, numbers of elephants as well as lions were again rising, causing these animals to move between the reserve and the villages in even greater numbers. As the animals were perceived as belonging to the government and people were killed in attacks by lions and other wild animals, Rufiji villagers complained heavily about these damages. The state was perceived as unfair in its actions. Although the Wildlife Act states that killing animals in self-defence is legal, representatives of the two villages reported another story. A typical statement was 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 November 2006)

This statement is to be understood in the context of the view that no compensation ever comes (or ever will come) from the reserve management and that people have to take their own initiative to solve problems. However, if they do so they are liable to be punished.

Last but not least, participatory processes also create conflicts in the villages and between villages. In the REMP, zonation and resource management plans often gave rise to discussions between villages over the management of natural resources, such as lakes and bordering forest and wildlife areas. Setting up WMAs is based on zonation, as well, and this is not an easy task in a floodplain area that knows differential access to common-pool resources depending on flooding patterns and reciprocal access. While

traditional institutions knew boundaries but included reciprocal use, new development and conservation initiatives often lack such flexible regimes. Therefore, Mtanza-Msona faced conflicts after it created a management plan for 'its' area without consulting neighbouring villages, which then felt excluded from fishery in Lake Zumbi and in other resource areas (Meroka 2006). In the villages located in the northern part of Selous, the structure of the WMA causes similar problems: the top–down Jukumu society and its hunting organisation are closely linked to the Wildlife Division of the Ministry of Tourism and Natural Resources. As the distribution of game meat is notoriously low and meat quota cannot be fulfilled due to lack of ammunition, accusations of corruption arise between village members and give rise to conflicts (see Ashley et al 2002).

Conflict resolutions in this context are difficult because the conflicts reflect long history of mistrust. The main problem is that local people perceive the revenues being created by the reserve as too little, while they feel that they are shouldering all the costs. When REMP closed down, a new smaller project financed by the NCCR North-South called PAMS[12] was introduced by IUCN and the authors of this paper. The project focused on how the management of natural resources in the area might be improved by by-laws developed in local participatory processes. These by-laws aimed at structuring the use of common-pool resources within and between villages in order to craft robust institutions (Ostrom 1990; for a report on PAMS see Mottier et al 2005). The initiative incorporated local district staff and various stakeholders. Despite its success in debating how common-pool resources should be used, people's confidence in the project was shaken by the closure of REMP.

5.4 Governance of the protected area

Governance in the Selous Game Reserve has to be analysed at several levels. Consequently, the present analysis focuses on three aspects. First, there are the new institutional changes that have been produced by the WMA, as well as decentralisation structures and the contradiction between control and participation that is favoured by the more powerful actors. Second, there is the issue of legal pluralism. In a situation of legal pluralism, different actors focus on different norms that are operating simultaneously; the decision on which norm is finally applied depends on the bargaining power of the different actors. The third aspect is the lack of trust between the different actors.

5.4.1 Institutional changes due to the PA context

There are two major developments within the governance of the SGR: First of all, poaching was a significant problem in the late 1970s and in the 1980s and followed structural adjustment programmes. This was due to the lack of funding and economic problems the state had to face owing to budget cuts. However, officials managed to get international aid from the German government and its development agency (GTZ) as well as various NGOs as mentioned above in order to fight poaching. In 1988, the joint Tanzanian-German Selous Conservation Programme was launched, and a comprehensive set of management recommendations made by Stephenson in 1990 for the Wildlife Division became the basis for a management plan drawn up in 1995 by the SCP. Much of the SRG infrastructure had already been improved under its direction but the need for basic institutional changes was still felt. The debate on local community involvement has been the major impetus for the development of the New Wildlife Policy including WMAs in the SGR. A management plan for Selous, aimed to define better boundaries and control poaching, logging, the setting of fires, and ensure sustainable use of wild resources. Communal wildlife management schemes were established in wildlife management areas adjacent to 41 villages as part of a conservation programme that proved most useful in the fight to reduce the levels of poaching within the reserve, and to create a buffer zone between it and the villages. In addition, the WMAs are a means for devolution of rights and a possibility for local people to use and manage wildlife. To this end local communities must organise themselves in an authorised association with land titles and a management plan (Ashley et al 2002). In these management plans villagers agree to allow wildlife onto parts of their lands in return for a sustainable hunting quota. Such plans also include self-help and rural development schemes to improve village services. Local communities then see this kind of conservation as an enterprise possibility. As part of this programme, the reserve authorities retain 50% of the money earned from tourist hunting to finance management (Baldus 1989; Baldus et al 1994; GTZ and SCP 1995; Leader-Williams et al 1996; WD and GTZ 1997). In game reserves use of natural resources by local people is allowed if a licence has been obtained from the district administration. The main use of the areas is by consumptive tourism (trophy hunting).

As already indicated the major stakeholders are the inhabitants of villages situated close to the reserves. Cooperation runs mainly through the village government and is still structured as in *Ujamaa* times. The context is thus a complex patchwork of actors including different local stakeholders and

villages with their village governments, private tourist and lodge operators, TANAPA, and the Wildlife Division officials, who control the SGR territory. The district government acts as an intermediary between the villages and national-level agencies. Last but not least, a series of NGOs and government institutions help finance participatory conservation strategies, in which some villages are included and others are not. This setting produces a set of plural norms that can be labelled as legal pluralism.

5.4.2 Legal pluralism and the problem of empowerment

Interestingly, the major issue at the legal normative level of state policy is that local people are intended to be empowered by giving them wildlife areas, direct financial benefits and meat quota. However, the villages that were part of the pilot project within the WMAs were not involved in decisions on areas, quota and levels of participation. These decisions were taken by the Wildlife Division within the Ministry of Natural Resources and Tourism (see Ashley et al 2002; Goldmann 2003). Game meat was not to be obtained directly by hunting but delivered at long intervals in large quantities. In the villages analysed in the present study the situation is different, but the idea of WMAs has fuelled hope after the disillusionment regarding NGO initiatives for gaining land titles (Meroka 2006). Therefore, while villagers are officially intended to control some areas for conservation, in practice there are obstacles and hidden agendas that determine the scope of action of villagers and their governments. In the villages where fieldwork has been done by the NCCR North-South it can be shown that at the district level, the demands for village land titles supported by IUCN are not advanced (ibid.). Therefore, debates over participation may increase hope for local people, but as long as they are not granted access to common-pool resources within the park, this hope does not translate into reality. In the buffer zones and outside the reserve there is a situation of legal pluralism: local people are faced with different concurrent norms and values. Formally, the state laws implemented by the Ministry of Natural Resources and Tourism and the district government apply. However, NGOs dictate a different management approach and a different attitude towards local-level communities. In addition, inside the communities there are several groups of actors who are linked to different donor agencies, tourist companies, and the district-level government. The result is a prevailing uncertainty of who has the power to define the course of action at the local level. And then, who can actually be defined as local? How can the benefits for those demanding local participation be channelled? Who is responsible for the implementation of rules and regulations at what level? The situation of legal pluralism is a result of the government and its agencies setting up norms in order to enlarge the

protected area system, while acquiescing in demands for community conservation and participation from Western NGOs and GOs. This context displays both formal and informal rules. Formally, agreements and norms are based on profit-sharing and devolution of power; informal norms, however, show that the rules of the game are about reducing local resistance without devolving power and profiting from low-cost monitoring and sanctioning. The formal laws that should enhance local groups' chances to define their territories and obtain legally binding land titles (Land Act of 1999) are challenged by the fact that SGR formal norms refer to buffer zones to be added to the protected area that can be co-managed. Therefore no PA land is actually given back, while under the WMA scheme village land will be transformed into protected areas, over which the state hold final power and control. This again conflicts with the reading by local people, who perceive the Land Act as a possibility to regain control over land by receiving land titles. This creates great confusion not only in WMAs but also in the Rufiji area, for example in the village of Mtanza-Msona. There local people feel that subscribing to the norms of a conservation NGO such as IUCN in order to obtain land titles has in fact ruled out that very possibility. Self-interests and various constellations of actors with different ideologies regarding ownership of the area have led to this legal pluralism. There are the pre-colonial ideologies and notions of local people, arguing that this is their area, including actors from outside claiming to have kinship ties with locals. There is socialism used by actors from outside arguing that villages and their resources are national resources. There are state ideologies arguing that resources are owned and controlled by state laws and agencies (e.g. fishery). Finally, there are the district-level ideologies referring to decentralisation and the donor agencies and new government regulations that speak of participation. The focus group interviews conducted in the three study villages in the Rufiji area in November 2006 revealed that there is a notion of the legal possibilities but also some confusion as to which level would be the most appropriate for local collective action in order to obtain land titles for the village. At the local level, despite its heterogeneity people are looking for control of land but are increasingly convinced that conservation within this legal pluralism setting will not help them in the future (information from village interviews in Rufiji area, conducted in November 2006 by Haller, Galvin and Meroka).

5.4.3 Trust local people have in the state

In this context, the deeply expressed mistrust of and resentment against the state wildlife management authorities reflect what different actors in the vil-

lages saw as a situation of asymmetric power relations. Control of the wildlife resource remains in the hands of the Wildlife Division; however, the community wildlife management projects are located on village land. While the area communities were defined in terms of their development needs, those of the state were still widely perceived as focusing on the preservation of wildlife. While discontent is growing in the WMA areas, in other areas studied by Meroka some see hope in WMAs, but the majority do not trust the state to share power when community wildlife management projects are introduced. The widespread negative perception of crop damage as the principal cost associated with living in close proximity to the SGR and its wildlife is a paramount issue that arises when discussing the lack of trust. From a local perspective, loss of yields, access to common-pool resources and, finally, human lives is not taken into consideration by the state: research reflects the basic contradiction local people experience when they see the constant stream of tourist cars and small aircraft moving in and out to view the very same animals that during the night have destroyed the local fields. People know that tourists bring money, but they feel excluded from gains while paying for the costs. Since colonial times local people have repeatedly experienced expropriation and evictions. These are rooted in the historic experience of relocations during early colonial times (1905, 1920s, 1934 and 1970s) and the regrouping of people in *Ujamaa* villages in 1974. Local people do not remember being asked or being compensated for their loss of access to resources in any of these cases. In addition, they experience that if lives are lost, nothing is done, but if animals are killed in self-defence local people are exposed to harassment by local and external scouts. This only further erodes trust between the government and local groups involved. Last but not least, local people are not informed how much money they are entitled to receive, as they do not know how much the state and the districts actually receive from tourism. Therefore, distrust in the state and the district as well as the PA management team is linked with past experiences and broken hopes. As the new approach of community-based conservation came up, the notion of participation was not unwillingly taken up in the beginning, as can be shown based on the experiences of the REMP and of GTZ, and based on hopes in the new multi-party system. The latter gave rise to expectations that the gains would not go to the ruling political party alone. However, during the implementation of the PAMS project following REMP, evidence arose which led to distrust between different local stakeholders, state representatives at the local level, and governmental officials.

5.5 Discourses and narratives: Perceptions, wishes and motivations

In order to analyse local dynamics more deeply, it is necessary to analyse main discourses and narratives used during interaction between stakeholders, and how information and knowledge is used in confrontations between actors.

5.5.1 Main economic and political discourse, and narrative used by stakeholders

We have illustrated with reference to the work of Neumann (1998) and others how local people's resource use has been perceived by colonial powers, administrators and wildlife interest groups in Europe. From that perspective there is a two-sided discourse. To begin with, there is the feudalistic notion of control over colonial territory, embedded in conservation issues: the elite of white people, creating civilisation, institute control of forests and wildlife by excluding local people from what belongs to the colonial and later the nation state. Conservation is then for the use of white colonial masters as it was for the nobles in medieval England. Conservation therefore represents the rights of the powerful to exclude others from a resource and to use it in any way it wishes (cf. the notion of sport hunting). In a similar way, development and modernity are labels nicely embedded in conservation for a regulated use. This ideology is expressed when the modern state underlines its statehood by setting aside areas for conservation. This is done in a manner that presumes that no local-level regulative institutions existed before European control. It assumes that we are dealing with a natural ecosystem without any pre-colonial human involvement (Fairhead and Leach 1996; Brockington 2002). However, it depends on the possibilities and actual strength of the colonial powers to set up control. During independence and especially during *Ujamaa*, control was established by the state and the ruling party. As tourism became an important economic asset for the state, coercion seemed to be a legitimate method to ensure income from tourism. It also matched well with the ideology of the new socialist African modernity that Nyerere promised. At the local level, people had to deal with each other as a forcibly united village with a village government and village scouts. The discourse fostered by this situation is one of state control and development. The narrative on which the colonial and the post-colonial state is based reads that without the implementation of state policies, wildlife and forests would be depleted due to local livelihood needs. Therefore, a fortress type of pro-

tection is needed to halt degradation caused by local people. However, for the different local stakeholders, the main discourse is one of suppression and loss of ownership: They see themselves as being under the control of a master who expropriates them and evicts them from their lands as well as forcibly regrouping them in new villages. The counter-narrative proposed by local people is that losing ownership of land, wildlife and fishing grounds created resource problems. Increasing poaching rates from the late 1970s to the end of the 1980s have to be linked to the institutional weakness of the state; state narratives argue that poaching is a problem of demography, poverty and lack of knowledge of local people. However, local people know that conservation is a business, from which they are excluded at different levels and from which the state, the district and the different tourist operators and lodge owners profit. As they have lower bargaining power, their "weapons of the weak" (Scott 1985) are to argue that the state takes the bulk of tourist income, while passing the remaining part down to the district, where corrupt administrators keep what is designated for the village. After hopes of obtaining a certain degree of ownership with the assistance of NGOs have been shattered, exponents of village representatives, for example in Mtanza-Msona, have begun to take up the initiatives of private sector tourism. Based on the experience that financial payments are indeed made by some lodge operators, local village representatives view the private international business sector as their strategic ally. As a case in point, a U.S. company (SWAN) has taken up negotiations with local villages, promising help with land rights in exchange for the company's access to areas bordering Selous (Meroka, pers. obs., 2007).

5.5.2 Information and knowledge use in discursive confrontation

The formal state sector is fed with information from scientific reports produced by NGOs and GOs. Often, external views and expertise fail to question the status quo. Instead they uphold it: in Tanzania, the fortress conservation approach remains and is covered by participatory approaches that seem to embody the paradigm shift from fortress to community conservation (Goldmann 2003; Meroka 2006). Local organisations are crafted and participatory meetings held – often like a kind of ritual – in order to demonstrate participation, but not exactly knowing how stakeholders feel or what they really think: this was revealed during participatory observations in the village settings (Meroka, pers. comm., 2006). However, this drama of participation enables the state and all its involved actors as well as the donor actors to

conclude that the participatory mission has been accomplished. This is a feature that attracts conservation agencies, which are thus able to attract donor agencies looking to finance projects that fulfil the demands of the paradigm shift. The whole process incorporates procedures of knowledge transfer from north to south: administrators and local people are instructed how to properly implement conservation, how to organise and how to monitor, and, last but not least, how to hunt (Ashley et al 2002; Goldmann 2003). If local exponents, who are very few compared to national and international hunters and poachers, continue to hunt for their own use in protected areas, they are viewed as not responding gratefully to a helpful initiative. The danger of this situation lies in the fact that the absence of power-sharing is no longer recognised or taken seriously. Therefore, the pendulum that was swinging towards the demand for more local participation is now fully swinging back in the direction of demanding more strictly controlled areas. Local people, who have been called partners, will now become enemies again, co-management agreements will be set aside, and a one-sided move towards fences and fines coupled with a so-called key species approach might emerge again. The failure of the participatory approach stems from the fact that in local stakeholders' view they are not empowered to make decisions or to really profit from anything, but are merely used to make protection cheaper.

In summary, therefore, we can distinguish three main discourses and narratives:

a) The discourse of conservation by force: Conservationists agree with Hardin's theory that local communities are unable to manage natural resources because of the Tragedy of the Commons. Their narrative regarding the participatory approach is that it is not working and that the best strategy to stop the degradation of biodiversity will be a top–down and fortress approach.

b) Conservation is important for development that depends on tourism: Especially state representatives and district administrators argue that tourism is one of the very important business sectors in Tanzania as it generates income for the state, the district and the local level.

c) Conservation brings us poverty: This is the discourse of local villagers, who realise that they now have restricted access to resources that were once controlled and transformed by them. They used to be in contact with the spiritual world in 'nature' and believe this formed part of the management system. Now things are out of balance, animals are no longer

respected, as older people argue in local counter-narratives that explain elephant herds moving to the villages, lions killing people and crocodiles attacking fishermen. Another narrative used especially by younger people recounts how these animals are now the animals of the state or the reserve, bringing revenues that are not or only marginally for locals. Local people see themselves as victims of an unjust system. They call for environmental justice and try to obtain land rights that they will be able to defend. Participation is a byword for such communities as Mtanza-Msona, Mloka and others who suffer day by day from wildlife raiding their fields and putting their lives in danger while not being able to defend their interests nor to be defended by the park scouts.

5.6 Conclusions and recommendations

Key issues here are that the assumptions of the modern conservation movement have not addressed how different local stakeholders view their livelihoods and relate them to the history of the protected area. In addition it is ignored how the costs and benefits are viewed locally. At the same time, the paradigm shift has become a trend used to obtain support from international donors. It shapes the strategies of all actors at different levels. This is of major importance, as the macro-economic changes make income from tourism rise in comparison to other revenues. Powerful stakeholders will now try to use this setting and change it in order to profit from the change in relative prices. This means that land legislation might be changed in a way that looks like participation to donor organisations, which will then provide support. But in fact the new policy means the expansion of protected areas and the lowering of management costs of territories that once were common-pool resource areas for local people. This in turn leads to a situation of legal pluralism where it becomes unclear which rules are now adequate. Legal pluralism gives opportunities for powerful actors to shape the institutional design as it suits them best. But different local stakeholders realize that revenues from the government's wildlife and associated tourism are not reaching them due to the fact that decentralisation stops at the district level. Therefore, in their view the continuation of a top-down and instrumentalist paradigm is hidden behind the rhetoric of participatory management. This does not only affect men but especially women, who are the ones that face the highest costs, because they are most heavily exposed for example to wildlife, which affects their work in the fields. In addition, new rules are often not based on traditional rules, practices and institutions.

There is a danger that the term "participation" might become a buzzword with negative connotations for local stakeholders because they lack decision-making power and the cost–benefits relation is not balanced. A new problem could thus emerge from the fact that participation and the gains promised by the state, NGOs and donors are seen as unfulfilled promises. The private sector, interested in investing in a booming business, is examining all possible investment opportunities. Private businesspeople can use the WMA initiative to increase their bargaining power: their promises to speed up the legal process of obtaining land titles is attracting many villagers, who are now turning to these tourist companies for help. This situation bears the risk of a new kind of colonialism by the private sector that tries to control land in more and more remote areas that are of interest to tourism.

There was some potential in IUCN's REMP and subsequently in the PAMS initiative sponsored by the NCCR North-South, which both took the notion of participation seriously, for it let local stakeholders define their own interests. But despite this positive achievement, two major problems created a feeling of mistrust: First REMP did not tackle the problem of complex resource use and usufruct rights in a floodplain ecosystem and was focusing on villages in isolation and not in a wider local and ecological context. Second, the project failed to keep up with the village land title registration and with the registration of the locally defined by-laws. It is a long process, but if it is not speeded up, local people and interest groups will turn to other solutions, such as privatisation and deals with private tourist companies that seem profitable now but might turn out to cause problems in future.

Endnotes

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[3] These villages (for example Mtanza and Msona) were brought together to make up 250 households in order to receive government services during *Ujamaa* times, such as schools, health centres, etc. This is why they are called twin villages by the government.

[4] A Game Reserve has a structured management but is under the National Wildlife Policy. It can be transformed into a National Park, whereas a Game Controlled Area is the lowest level of protection and focuses exclusively on sustainable hunting.

[5] Warufiji is a Kiswahili name meaning "inhabitant of Rufiji District". The prefix "wa" refers to the people from a given area, and Rufiji is the District Name.

[6] According to the *Ujamaa* settlement policy of 1970, a settlement with 250 households was officially recognised as a village and administered by a village government chairman.

[7] Selous joined the British troops in 1915 and was killed in 1917 by German soldiers in the area of today's Selous Game Reserve (UNESCO 2003).

[8] However, trophy hunting includes a hunting retention fee of US$ 1,811,000, which reduces the actual income from the SGR to US$ 2,100,000).

[9] Calculation made by Meroka and Haller based on data from Ashley et al (2002) and Baldus et al (2003).

[10] Figures given are unclear and confusing and do not show a substantial amount of money reaching the local level (see Ashley et al 2002).

[11] No figures available for Mloka village; figures come from household survey in the neighbouring village of Mtanza-Msona (Meroka 2006).

[12] PAMS stands for Partnership Actions for Mitigating Syndromes of Global Change; PAMS are an integral part of the NCCR North-South programme, designed to put research results into practice. Tobias Haller, Patrick Meroka and Olivier Hamerlynck, former REMP programme director, developed the PAMS in Rufiji entitled "Strengthening Local Natural Resource Governance Capacity in the Rufiji Floodplain, Tanzania". A final report and recommendations were published by Mottier et al in 2005 as an IUCN report.

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6 Conservation for Whose Benefit? Challenges and Opportunities for Management of Mkomazi Game Reserve, Tanzania

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Abstract

The Mkomazi Game Reserve (MGR)[3] in north-eastern Tanzania is a protected area where different social groups are involved in contest for natural resources. The main groups include pastoralists, who have used Mkomazi as their grazing area for over 100 years, and agro-pastoralists and agriculturalists living in villages bordering the reserve, whose farmlands were taken following the government's order to expand MGR. Using MGR as a case study, we examine and discuss how the fortress approach to conservation has led to management problems. We present an overview of conflicts between the MGR authorities and communities, analyse strategies used to deal with the situation and discuss the different ideologies involved (protection of pristine Africa, Maasai claims to pastureland, Pare farmers' claims to land for cultivation, various arguments: that the reserve destroys livelihood assets instead of strengthening them, that conflicts between pastoralists and farmers occur because of the reserve, and that the game reserve is a cultural, not a natural landscape). We examine the environment within which resource use conflicts have occurred and persisted over the years, discuss the ecological, climatic and socio-economic constraints that the communities and MGR authorities are facing, and look at opportunities available for sustainable resource utilisation. On one hand this is a successful story of fortress conservation. There is proof of increasing bird numbers and improvement in vegetation cover. However, this at in the expense of livelihood security of the local population. We recommend alternative conservation pathways that adopt new participatory conservation approaches instead of the fortress approach currently implemented in MGR.

Keywords: Fortress conservation, conservation benefits, conservation authorities and local communities, management challenges, Mkomazi Game Reserve, Tanzania.

6.1 Introduction

Historical accounts of human–natural resources interactions indicate that, for millennia, local communities were highly dependent on natural resources around them. Over the years the communities developed knowledge and experience in exploitation of the resources (Nshala 1999; Goldman 2003). This means they accrued benefits from resources such as forests and wildlife, notwithstanding the costs. However, this socio-ecological relationship was interfered with by the establishment of protected areas (PAs). In Tanzania, development of PAs started under German colonial rule and thereafter by the British when big areas were demarcated and protected through legal instruments such as Ordinances and Acts (Baldus 2001). Until Independence 10 PAs where no permanent human settlements were allowed (National Parks and Game Reserves) had been gazetted – nine of them between 1951 and 1960.

After Independence in 1961 the government of Tanzania continued with the strategies to increase the number of wildlife PAs and promoted expansion of the existing PAs. Until 2007 a total of 36 National Parks and Game Reserves had been gazetted (and some of them expanded). Currently the PA network covers over 28% of Tanzania's land area, of which about 4% is under National Parks (NP), 1% Ngorongoro Conservation Area (NCA), 15% Game Reserves (GRs) and 8% Game Controlled Areas (GCAs) (URT 1998). Moreover, Tanzania has 19% of its surface area devoted to wildlife in PAs, where no human settlements are allowed, i.e. NPs and GRs, while in 9% wildlife co-exists with humans.

This trend is a triumph for conservationists, but poses a great practical management problem for a country like Tanzania where more than 80% of inhabitants live in rural areas, depending on next door natural resources for their livelihoods, and with agriculture and livestock keeping/production remaining their main economic activities (URT 2005). Discussions on the management of renewable natural resources such as wildlife, grazing lands and forests have been conducted differently by different scholars depending on their disciplines (Ostrom 1990; Brockington and Homewood 1999; Ostrom et al 2002). However, biological and economic factors and assumptions dominated the 19th and 20th century scholarly discourses and narratives (Becker and Ostrom 1995; Hanna et al 1996; Ostrom et al 2002). The narratives dominated policy and administrative directives for conservation of wildlife viewing resource users as rational people with self-centred motivation aiming at maximising personal gains and thereby destroying the natural

environment (Brockington 2002). The basic discourse here is based on the paradigm of the tragedy of the commons (Hardin 1968). This has been the basis for excluding contiguous communities from the equation of management of PAs by the state.

However, the recent paradigm shift in natural resource management provides an opportunity to address the resource–communities nexus, including poverty, where communities are considered to be central to natural resource conservation and development, based on the failure of the fortress approach in Tanzania (Goldman 2003). This is also considered by many (URT 1998; Berkes et al 2003) to be an appropriate strategy for resolving conflicts and distributing costs and benefits fairly. The current Tanzanian wildlife policy aims, among other things, to: (i) promote sustainable utilisation of wildlife resources; (ii) involve all stakeholders in wildlife conservation and sustainable utilisation as well as fair and equitable sharing of benefits; and (iii) contribute to poverty reduction and improve the quality of life of Tanzanians (based on the Millennium Development Goals) (URT 1998).

Political rhetoric supported by good policies is only a step in the right direction, but Tanzania has a long way to go in translating rhetoric, policies and legal instruments into actions on the ground. This calls for a structural and institutional change if this mission is to be achieved in line with the Tanzania development vision (Vision 2025) and the Millennium Development Goals. This contribution presents the case of the Mkomazi Game Reserve, which portrays a situation where conservation goals are forced in a situation where contest over utilisation and management of wildlife and other resources in MGR entails resource use conflicts. Different discourses and narratives are used to justify positions taken by the government and local communities. However, the bottom line is to get an answer as to who benefits from the positions taken.

The methods used for data collection included questionnaire surveys, focused group discussion, key informant interviews, oral histories, and review of published articles, books and unpublished reports. The research was conducted between 2005 and 2006.

6.2 The setting of the Mkomazi Game Reserve

6.2.1 Location and topography

The Mkomazi Game Reserve covers an area of about 3,200 km^2 and is located within the Mkomazi valley system between latitudes 3°45′ and 4°45′ south and between longitudes 37°45′ and 38°45′ east. The reserve is located in Same and Korogwe districts, bordering Tsavo National Park in Kenya to the north-eastern side and the Pare and Usambara Mountains to the west and south respectively (Figure 1).

6.2.2 Ecosystem and ecology

The Mkomazi valley lies within the Somali–Maasai region and is a centre of endemism (White 1983) where the dominant vegetation is *Acacia comiphora* bushed woodland and wooded grassland. There are also scrub forests and both lowland and mountain forests on the hills that rise within the valley to 1,400 m a.s.l. The area is recognised for its outstanding plant diversity (Davis et al 1994), endemic bird species and as a centre of endemism for

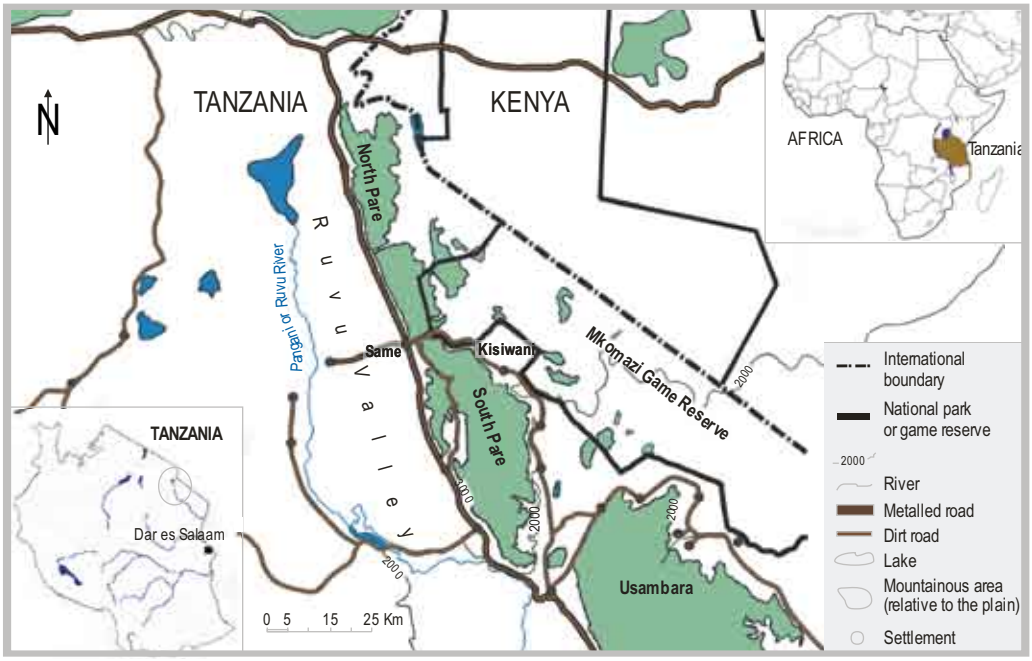

Fig. 1
Location of the Mkomazi Game Reserve. (Map by Corinne Furrer, based on Brockington 2001)

many other taxa (Rogers and Homewood 1982). The area can be categorised into lowland semi-arid areas (forming the largest part) and lowland wetland floodplain. The two ecosystems are connected with the South Pare Mountains (SPM), which drain their water into the lowland through a series of rivers and streams. Government documents indicate that Mkomazi is a centre of endemism and one of the richest in Africa (Coe and Stone 1995, in Homewood and Brockington 1999). This has been the conclusion of the government and the basis of its conservation actions for MGR. However, Homewood and Brockington (1999) indicate doubts regarding the claimed biodiversity values, mainly because of methodological pitfalls and missing information on environmental change and trends in biodiversity. They, therefore, conclude that the assumptions were not reliable as a basis for management decisions.

Lowland semi-arid areas

These form the largest part of the basin between 500 and 900 m a.s.l. Dominant vegetation is savannah grassland and *Acacia comiphora* bushed woodland. Daily temperatures vary between 24°C and 34°C. Rains are bimodal: the long rains start in February and last until May (with a peak in March) whereas the short rains start in October and continue until January (with a peak in November). Annual rainfall ranges between 500 and 800 mm. In July, the vegetation dries up quickly as winds increase and humidity drops. A period of intense desiccation follows between August and September when ambient temperature rises. This is followed by uncontrolled bush fires, which sweep through the grazing areas. It is apparent, therefore, that the quality and amount of pastures in the floodplain vary with the seasons. The driest season (between July and September) is associated with scarcity of pastures while the wet season (between November and May) is associated with abundant pastures.

Lowland wetlands and floodplain

These are areas fed by rivers from the South Pare and Usambara Mountains. They are important for pastures and watering (for both wildlife and livestock), and for irrigation activities. These are the resource-rich pockets in an otherwise semi-arid environment. Water is a critical resource here for different groups, especially during the dry seasons. The wetlands are important dry season pastures and places where year-round cultivation of various crops is carried out using irrigation.

6.2.3 Ethnography and demography

Brockington (2002, pp 4-27) reports that "In the nineteenth century the lowlands of Mkomazi were labelled the 'Kwafi' wilderness", and also that "There is evidence of extensive use of the area by a number of Maa-speaking groups collectively called the 'Kwavi'". But he reports, however, that "'Kwavi' was, and still is, a pejorative term used to describe stock-poor and defeated Maa speakers' neighbours" and that "'Kwavi' people, however, would refer to themselves as Maasai". Today they are mostly referred to as Maasai, and this is the name used throughout this chapter.

In the pre-colonial period the Mkomazi valley was, therefore, predominantly inhabited by Maasai pastoralists, who were rivals of the Pare. However, in the colonial and post-colonial eras conflicts between them and cattle raiding behaviour were minimised by the governments. This encouraged the Pare and Shambaa agro-pastoralists (who immigrated from the Usambara Mountains) to also utilise resources in the valley such as grazing land, wetland areas suitable for cultivation and game. So, for many decades the Pare hunters and gatherers have been utilising resources in MGR. Over the years the people living in and around MGR and their livestock increased while the resources either dwindled or remained at the same level. This created a two-fold conflict: between wildlife and humans, and between local communities and the wildlife authority. Same district has a population density of 45 people per square kilometre (URT 2002; Mbeyale 2008) while the density for the study villages is about 320, i.e. seven times higher. Since the colonial era there has been a general agreement within government circles that pastoralists' form of land use, which is usually accompanied by overstocking and overgrazing, is environmentally destructive.

Initially wildlife was abundant in the area and a nuisance to farmers and livestock keepers. But, the tendency of pastoralists to accumulate cattle led to degradation of the environment, displacement of wildlife and loss of (potential) tourist income (Brockington 2002). This, combined with the "national park movement", which promoted preservation of wildlife-rich areas without human presence and the pressure to set aside areas for sport hunting, led to the creation of MGR in 1951 and subsequent unsuccessful attempts to evict the pastoralists and other residents from the reserve. Finally, in 1988, all people residing in the reserve along with their livestock were successfully evicted, although illegal grazing and other forms of resource utilisation are still common. The evictees settled in villages bordering MGR and elsewhere

(Brockington 2002). Currently the dominant ethnic group in the strip of land between MGR and the Pare Mountains is Pare.

Important ethnic groups that largely influence the management and utilisation of common pool resources in the area, include Pare and Maasai. They both follow a patrilineal system of inheritance and access to resources. Therefore, decision making is dominated by a husband or male head of the household or clan. The Pare are concentrated on and at the base of the South Pare Mountains and consider themselves as indigenous. It is generally believed that some of them migrated to the area from the Taita hills in Kenya and others from West Usambara as a result of overpopulation and land shortage. It is not clear when this took place, however. Their decision to settle first on the South Pare Mountains instead of the lowland (*nyika*) semi-arid areas is attributed to the presence of better rainfall patterns, abundant water, better conditions for crop production and, above all, healthier living conditions as compared to *nyika* where one could easily contract malaria (Kimambo 1996). The mountains were also a better shield against their rivals, the Maasai, who were cattle raiders (Dannholz 1989).

The Maasai are well-known pastoralists in East Africa, especially in Tanzania and Kenya (Spears and Waller 1993; Anderson and Broch-Due 1999; Brockington 2002). They have managed to sustain their traditional lifestyle for many decades in spite of the influence and pressure to change from the surrounding societies, religious groups and the governments (Dannholz 1989; Spears and Waller 1993). Traditionally they did not hunt for meat or cultivate land but exclusively practised animal husbandry. Cattle have a revered status in Maasai culture and the community lives primarily on what their cows provide: leather, meat, milk, iron-rich blood, dung with which they make the walls of their huts, horns for containers and urine for medicine. Efforts by colonial and post-colonial governments urging them to live a sedentary life almost failed (Spears and Waller 1993; Brockington 2002). However, of late there has been increasing rural–urban labour migration among females and young males due to poverty intensification following loss of livestock and grazing areas (May and McCabe 2004). It was evident in the course of field work that some Maasai are becoming sedentary agro-pastoralists and increasingly involved in politics from the village to the district levels. Current trends also indicate that Maasai men are now selling themselves as good watchmen mostly in urban centres. Women are engaged in the traditional medicine trade (see also Brockington 2002).

The Maasai practise polygamy. The wives play a key role in the household economy while the husband is head of the family. Their social politics is embedded in their age-grade system in which young men (*moran* age group) are regarded as warriors who, in most cases, engage in cattle raiding to increase their herds (Spears and Waller 1993). Cattle raiding is centred on their religious belief that *Engare* (their God) gave all cattle on earth to the ancient Maasai as rightful owners. Old men are important decision makers and look after the security of the community.

The Maasai demand grazing rights in most PAs in both Kenya and Tanzania and always ignore, or do not recognise, international and other boundaries when moving around in search of pasture and water for their animals. They are not indigenous to the study area but immigrated from Maasai steppe in the west and north-west in search of pastures and water. Before and after Independence, they used MGR as their grazing area. But it is reported that the Pare lobbied government officials to control and limit their presence. In 1988, the government successfully expelled them from the reserve. Some moved to other parts of the floodplain but others proceeded south to the Coast and Morogoro regions. This increased pressure on the floodplain resources outside MGR due to the increased numbers of both livestock and people.

Other ethnic groups that immigrated to the area include the Shambaa, who moved there as a result of demographic pressure on the West Usambara Mountains, and the Hehe and Kinga from the southern highlands of Tanzania. Lumbering was the last two's main occupation. Others like the Chagga and Nyamwezi came to the area to work in sisal and sugarcane plantations and later settled in the area. In general, the floodplain was sparsely occupied by herders, who had large herds of cattle and were mostly Maasai and some Pare (who were agro-pastoralists).

6.2.4 History of MGR: Construction of MGR in the national political and economic context

Biographies of different people in the study area indicate that in the pre-colonial era the current MGR area was important for pastoralists, hunters and collectors of wild foods and other 'forest' products (Brockington 2002). However, in 1936, during British rule an area twice the size of the current MGR was surveyed. In 1951, MGR was gazetted under the provisions of the Fauna Conservation Ordinance of 1951. Access to the area by residents was curtailed especially for hunting. However, Maasai pastoralists, who regarded the area as their home, were left to utilise the grazing land because

they were not, at that time, perceived as a threat to wildlife. Brockington and Homewood (2001) indicate a longstanding conflict between farmers and pastoralists, each group defending its own interests during and after the colonial period. Coupled with such conflicts is the conservationists' debate, which started in the late 1960s condemning pastoralists as the sole source of MGR vegetation and resource degradation (URT 1998; Brockington 2002). This culminated in 1988 with the eviction of the Maasai pastoralists and Pare agro-pastoralists. Hunting, harvesting of wild plant foods and collection of fuelwood were also banned. MGR currently focuses on biodiversity conservation, education and very little tourism (Gwera, pers. comm.). Table 1 gives a chronology of events portraying the history of MGR.

6.2.5 Core problems

The vision of MGR could, perhaps, be stated as environment and neighbours; secure Mkomazi from pastoralists, who are non-indigenous to the area (Brockington 2002). This could be interpreted as envisioning to resolve two core problems: the environmental destruction of MGR by pastoralists and their livestock and other users of the reserve's resources and meeting the needs of neighbouring communities – "providing educational equipment, and medical supplies, and by investing in schools, clinics and development projects" (Brockington 2002, p 3). This leads to the question of trade-offs between conservation and development. Eviction of pastoralists from MGR was done by the government in the name of conservation, but at a developmental and livelihoods cost to the people affected. There is uncertainty about the consequences of the act and responses from the affected community. Hasn't the act impoverished the people both socially and economically? How have their livelihoods been affected: negatively or positively? Have these attempts to meet the twin goals of conservation and development been successful? Is this a case of pure trade-off between biodiversity conservation (long-term objective) and human livelihoods (short-term objective)? What are the spatial and temporal scales over which the conservation and development benefits will be realised? Do conservation benefits occur locally like the costs? Are these benefits deferred to the future or do they materialise today like the costs? Is the MGR case a lose–lose, lose–win, win–lose or win–win scenario (where natural resources are conserved and human well-being is improved over time)? Is the case dominated by compromises, contest and conflicts? There are many questions that need answers. Some authors have argued that, although properly designed conservation might be accomplished with no or minimal impact on human well-being, or improvements in development at a negligible cost to biodiversity, the challenge for conser-

Table 1

Chronology of major events in MGR.

Date	Major events	Remarks
19th century	Influence of slave trade, hunting for trophies by Arab traders.	
1926	Demarcation of MGR under British colonial government.	
1936	Demarcation of the buffer zone where grazing and other activities were allowed.	
1951	MGR officially and legally gazetted under British colonial government.	Maasai, Pare and Shambaa pastoralists and agro-pastoralists continue negotiating access to grazing areas and water inside MGR.
1953	Famine and lack of rainfall affecting production especially for rain-dependent communities on the mountains.	Order by Chief Mapombe to migrate to the floodplain to exploit the wetland potentials led to increased population in the lowland areas.
1960s	Water shortage in MGR as a result of climatic and institutional changes after Independence due to breakdown of traditional and colonial resource management systems. This resulted in building of water dams to improve water availability in the reserve.	Poor management of the ecosystem. The mountain ecosystem and the lowlands were disjointed – having small units such as village governments and MGR acting independently. This increased transaction costs of managing resource flow and resource base/systems.
1970s	Increase of human and livestock populations. Pastoralists negotiated access to not only grazing sites but also watering points.	Demand for more land for grazing and cultivation.
1980	Increasing arguments between eco-centrists (arguing for conservation) and anthropocentrists (arguing for utilisation of resources in the reserve). Concern for degradation of MGR resulting from pastoral activities and mounting pressure from wildlife authorities to remove all livestock keepers from the reserve.	Proposals to either allow pastoralists and cultivators to use the land or to expel all users and dedicate the area to conservation of wildlife.
1988	Eviction of pastoralists from MGR.	Triumph of conservationists. The government promised to allocate other areas to the pastoralists. This promise has not been fulfilled.
1990	The rise of Ilaramatak, a Maasai NGO initiated to defend the rights of Maasai pastoralists who feel marginalised by the mainstream government decision-making bodies. This also was the beginning of a court case filed against the government's coercive eviction of pastoralists.	This was a response to the eviction of pastoralists, mainly Maasai, who were poorly represented at all levels of government.
2002 to date	Mounting demands from Maasai to be allocated land for their pastoral activities.	53 out of 157 (33.8%) pastoralist families were compensated with about US$ 300 each by the government following court judgement in 2001.

Source: Own survey data 2006/07; URT 1998; Brockington and Homewood 2001.

vationists is to explicitly acknowledge the need to share risks and costs and to find a balance between improving livelihoods and biodiversity conservation. Important issues include how to negotiate these trade-offs, what level of biodiversity loss is acceptable, how human costs might be mitigated and who takes part in the decision-making process (McShane 2006).

As Brockington (2002, p 7) reports, "Conservation in Tanzania is distinguished by its energetic pursuit of more lands to gazette as protected areas". The created national parks and game reserves are 'no go' areas for local people. But, they then are surrounded by people who do not approve of their presence and who constantly break the laws that establish them. Only in the late 1980s did the government adopt, on a trial basis, the community-based conservation approach, which seeks to devolve powers and responsibilities for natural resource management to local communities.

Since MGR was created, surrounding villages have grown in size, both in area coverage and in population. Together with this expansion, people's needs have also increased. But, the people are resource-dependent and those resources (firewood, charcoal, timber, honey, bush meat, etc.) must largely come from the plains (Brockington 2002). Most of these plains are now within MGR and their resources legally inaccessible. Some wealthy businessmen have settled in the area, but the majority of the people are farmers and livestock keepers who need land, water, pasture and protection from vermin. The reserve boundary is very close to the villages and to the mountains. The villagers are facing a shortage of land. This has led to ethnic and other inter- and intra-community conflicts. But adjacent to their villages is a vast expanse of land through which they cannot even travel without permits; land which is a source of problems such as crop damage and livestock depredation by wild animals, including birds. Their perception is that MGR is land that the government has denied them the right to use while their needs for land and other resources increase day and night. Brockington (2002) reports that the main complaint by residents is that there is insufficient land for them. They need the land currently under MGR for cultivation, grazing, placing beehives, collecting firewood, wild foods and medicine, for ritual use, mining, etc. Brockington (2002, p 16) concludes that "The proximity of the Reserve to these villages, and its obstruction to resource use, is a central aspect of life here". The villagers feel that they subsidise it more than they benefit from it and wish the borders could be moved.

Whereas MGR is perceived by surrounding communities to be an obstacle to their development, the reserve's biggest problem is the big and increasing

number of people who live close to it (Brockington 2002) and who exert a lot of pressure on its boundaries and resources. There are two major legal economic activities in the area: livestock keeping especially by pastoralists and farming, both of which are demanding land from MGR. The pastoralists were evicted from the reserve for one big reason: negative attitudes to them on the part of the government and conservationists. The government has always seen pastoralists as irresponsible and unproductive citizens. This is the reason for its several attempts to turn them into commercial beef producers (Brockington 2002). Conservationists now also relate pastoralists and their cattle with environmental degradation. Initially pastoralism was not perceived to have negative impacts on wildlife. Although Brockington (2002, p 31) reports that "The creation and early status of the Reserve hinged upon colonial views about what people and particularly cattle keepers, would do to its environment", when MGR was first gazetted the Maasai were allowed to remain on the perception that they were not a threat to the environment. But, later it became clear that pastoralists are not interested in just keeping cattle but in accumulating them. Increased numbers of cattle are likely to lead to overgrazing, soil erosion and, more importantly, displacement of wildlife. This fact strengthened calls to evict the pastoralists from MGR.

Natural resources in MGR are still highly contested between different uses and user groups. Some of these problems relate to the conservation of MGR and have become the topic of international debate while others are rather concerns of contiguous communities. The main issue is concern for degradation of MGR – a negative impact of overgrazing by livestock – which has resulted from increase of livestock grazing. Another problem is the highland–lowland resource and people interactions. The Mkomazi valley is located in a semi-arid area with erratic rainfall. The valley is fed by waters from the South Pare and Usambara Mountains. Therefore, water regimes upstream affect resources and their users (people and animals) downstream. This makes the Mkomazi valley a peculiar area which receives refugees of drought especially in dry seasons between July and October when the number of livestock doubles or even triples. The ecosystem setup also makes proper management of the mountain ecosystem and resources to be of critical importance. When the flow of water is low, especially in the dry season, water does not reach the far end of MGR; it becomes available only close to villages. This forces wild animals in the reserve to move up to the villages for watering and grazing, thereby destroying crops and water sources that the communities depend on for various uses. This increases livelihood inse-

curity and poverty among the local communities. The MGR authority has dealt with this problem by encroaching the village land, i.e. extending the reserve boundaries to include the area where wild animals drink water and feed in dry seasons. This has compounded the problem as more and more village land is taken and less and less left for grazing and cultivation, which means more farmer–herder conflicts, and eventually more wildlife–farmer and wildlife–herder conflicts and, unfortunately, more conflicts between the MGR authority and the communities. To date, pastoralists regard MGR as their home and an important dry season grazing area.

When conservationists and the government celebrated the reclamation of MGR through eviction of the Maasai, they anticipated that the main users of the reserve were going to be foreign tourists, whose entry fees were going to assist development projects in surrounding areas. It was also envisaged that more Tanzanians would enjoy the reserve's recreational amenities and natural beauty (Brockington and Homewood 2001). But there is a lack of benefit and cost sharing between the government and local communities. At present there is no hunting at all in MGR. However, trophy hunting earns the Tanzanian Wildlife Division about US$ 10 million per annum (DPG 2006) and could generate income for MGR. The area is less developed for photographic tourism and attracts less than 200 tourists per annum. Only in 2006 did one company build a small tourist camp inside the reserve, which is rarely visited. The revenues that MGR collects are not enough even for its operations. Although wildlife causes loss of property in the local villages, there is no mechanism for compensation, and direct contribution of wildlife to household income is currently nil. This makes the MGR authority to be seen as an enemy of the people since more losses than gains are realised at the household level. This contradicts the current national wildlife policy (URT 1998), which gives more emphasis on participatory resource management and empowering of local communities in the management of wildlife. However, more has been said than done and communities remain powerless. As there is no sense of ownership by local communities, they do not see why they should engage in the management of wildlife. They only see it as a mere constraint, which, in turn, makes management very difficult.

6.3 Resources, livelihoods and institutional change

6.3.1 Economic activities, livelihood strategies and local institutions before and after the establishment of MGR

Crop production and livestock keeping are the major economic activities for communities around MGR. Crops grown include rice, maize (corn), beans, bananas and cassava. It is reported that in the pre-colonial era pastoralists, particularly the Maasai, occupied the lowland floodplains where they found abundant pastures for their animals. At least at that time the Maasai successfully co-existed with wild animals. The Pare lived and kept their animals in the forest (now Chome Forest Reserve on the South Pare Mountains) where they found abundant resources for their animals and were safe from the cattle-raiding Maasai. However, the Pare and Shambaa also utilised the area that is now MGR for hunting and gathering wild foods, including *msele* (wild vegetables).

It was during colonial rule when formal government institutions were introduced and the Maasai were left out of the political and government systems because it was difficult for them to adjust and adapt. A Pare *Mfumwa* (chief) became the indirect ruler of the area supported by the colonial government. In 1953, famine threatened the whole of the then Pare district, forcing the colonial government, through *Mfumwa* Mapombe Mbaga, to advise people to move from the mountains and semi-arid areas to the floodplain and wetlands – to utilise the potentials available there. People, either individuals or households, some with their animals, migrated to the floodplain and wetlands and were allocated plots for cultivation. This increased the numbers of both people and animals in the Mkomazi valley. Despite all these changes institutions were in place, including management of common property resources, particularly grazing lands where people were not allowed to chop down fodder trees. The Maasai with their age-grade system assured control and monitoring of resource utilisation. The *Mfumwa* was the overall incharge in terms of resource allocation, on top of family and clan heads. Some areas were reserved as important for *mlimbiko* (dry season pastures), some of which were located inside MGR.

Although establishment of MGR denied local people their right to hunt, it little affected the other uses such as grazing and farming. Environmental and demographic flux together with resource degradation caused some arguments to emerge among local resource users, MGR managers and the Wildlife Department (Brockington and Homewood 2001). However, there was

much institutional restructuring in the post-colonial era (*Ujamaa* and post-*Ujamaa* eras) when many of the geographical boundaries were changed, thereby altering the resource boundaries and, therefore, the ecosystem management. Traditional resource management systems were regarded as weak and outdated, and replaced with socialist approaches to development. This caused a loss of sense of ownership and the accumulated local (and traditional) knowledge in resource management.

6.3.2 Main actors, (evolution of) their interests, and competition or alliance to defend their interests

During the study several actors were found to be interacting in various ways in their utilisation of natural resources in MGR. Main actors included farmers, local pastoralists and agro-pastoralists, seasonal pastoralists, donors, the MGR authority, projects within MGR, game scouts, local hunters (poachers), poachers from outside, the government and a legal aid committee (Faculty of Law, University of Dar es Salaam).

Resources in the Mkomazi valley are highly contested by their users and managers. Being located in a semi-arid area, the floodplain and wetlands of the Mkomazi valley offer important livelihood and ecological services especially during dry seasons. For instance, farmers need the floodplain and its water for rice cultivation. The water is brought by the main rivers, namely Nakombo, Hingilili, Yongoma and Saseni, which drain from the South Pare Mountains. Wildlife authorities on the other hand are aiming at once again extending the area under MGR. Over the years they have increased the size of the reserve. Their aim is to drive people away especially from the reserve, with a view to promoting it to a National Park (see note 3). Villagers claim that the MGR authority has continually been increasing the size of the reserve by extending its boundaries, thereby reducing the fertile land available for crop production. Pastoralists in turn claim that the government has coercively taken away part of their important dry season grazing area by expelling them from MGR without even allocating them alternative grazing land as promised before (Lekei, pers. comm.).

The contiguous farming communities have always used legal channels in resolving their conflicts with pastoralists. Following the latter's eviction from MGR and the failure by the government to take care of their interests as promised, the Maasai – with the help of human rights movements/groups and politicians – have learned that they have to organise themselves in a non-governmental organisation (NGO) and fight for their rights. They call

the NGO Ilaramatak (Maasai word for livestock keeping in semi-arid environments). They did so because, first, although they, like other groups, have been negatively affected by the creation of MGR, their needs are different. Second, they have a different culture and lifestyle. Third, they have little representation at the various levels of government. Some of their claims have been supported by the University of Dar es Salaam-based Legal Aid Committee (LAC). LAC has made legal follow-up on the pastoralists' eviction to the present. In 2002, the evicted pastoralists were given some disturbance allowance of about US$ 300 per person. LAC is still following up their other claims such as concerning allocation of alternative grazing land as promised by the government. Ilaramatak has several other claims on behalf of the Maasai, including education for their children and legal ownership of land for livestock keeping, crop production and decent settlement conditions.[4]

Some of the Maasai's claims indicate a shift from transhumant pastoralism to sedentary livestock keeping. But, to date the government has not allocated them an alternative grazing area as promised in 1988. This forced the pastoralists and farmers to continue utilising MGR, albeit illegally. Often conflicts between groups emerge when the MGR authority becomes strict because then livestock is grazed in between and even within crop fields. The situation becomes tense in the dry season, when seasonal pastoralists (from other areas) migrate into the area. For instance, the number of cattle at the time of this research (dry season) was about 150,000 while in other seasons it is usually less than 50,000. At Kisiwani village alone the number of cattle rises to nearly 15,000 from 3,000 (Juma Halfani, member of the village council, pers. comm.).

The MGR authority uses game scouts to patrol the reserve and its boundaries for the purpose of preventing illegal entrance and activities such as poaching and livestock grazing. However, most of the scouts live in the same villages and thus have developed informal relationships with villagers, including the pastoralists. Also, many have families but are paid little compared to the actual costs of living, and their working environment is poor. All these tempt them to accept bribes and collude with law breakers in order to gain extra income. For instance, they alert the culprits if there is a patrol group going in their direction. Therefore, game scouts themselves are contributors to the illegal practices in MGR. This is made possible also by the nature of their work, for which close supervision is difficult. As individuals they have nothing to lose, they operate at what Kajembe and Malimbwi (1996) call a social interface (whereby they balance their employment and social duties in the communities in which they live). Thus, the pastoralists, poachers and

other culprits avoid being arrested and the pastoralists prevent confiscation of their animals. This way the pastoralists are assured of continued use of MGR on the one hand and avoiding conflicts with farmers on the other hand. An alternative but also illegal strategy used is for the pastoralists to collect a transit permit, which allows them to pass through the game reserve. They do not travel through, however; instead they stay in the reserve for the whole dry season and then they move back to their usual places for wet season pastures.

Alongside farmer–livestock keeper conflicts there are also human–wildlife conflicts, in which crop damage and loss of livestock to wildlife, threats to lives and even injuries by wildlife occur. Section 50 of the Wildlife Conservation Act No. 12 of 1974 allows people to use any means to defend their lives and property against wild animals (URT 1974), but the local communities are ill-equipped for that. The Tony Fitzjohn/George Adamson African Wildlife Preservation Trust (TF/GAAWPT) with its base inside MGR is trying – through its outreach programme – to forge some relationship with village governments by supporting community development projects such as domestic water supply and school building. However, this has not improved household income. TF/GAAWPT is also involved in an endangered species reintroduction programme, focusing on wild dogs and rhino (Figure 2).

As MGR is managed under the fortress approach, the local communities feel distanced from the management in terms of benefits from wildlife and decision making. This results in villagers poaching and/or collaborating with poachers from within and outside their villages.

Fig. 2 TF/GAAWPT's wild dog breeding project and the gate to the rhino project within MGR. (Photos by A.N. Songorwa 2007)

6.3.3 External factors influencing (mis)management of natural resources in MGR

Economic reforms particularly at the macro level from the 1980s to the 1990s significantly influenced management of resources in MGR (Malyamkono and Bagachwa 1996). For instance, the civil service reforms aimed at resizing the volume of government and reducing government spending, included retrenchment of government workers. The reforms were spearheaded by the World Bank and the International Monetary Fund (IMF) (Bagachwa et al 1995). This in essence resulted in a reduction of staff and thus of the capacity to protect MGR and the resources therein. Given the small number of wildlife staff and the fact that, in Tanzania, PA management does not include fencing of the areas, collaborative management with local communities could be a better option, something that is echoed by the current wildlife policy (URT 1998). Reluctance by the MGR authority and the Wildlife Division in general to involve local communities in management of game reserves means jeopardising sustainable management of the resources. This statement could be seen as a contradiction to the wildlife policy. But, there is no cooperation and the MGR authority and the Wildlife Division in general do not want to have local communities formally involved. Informally, however, there is some kind of cooperation.

Infrastructure development, especially roads connecting the study area to market centres, and construction of a modern irrigation scheme at Ndungu village have had impacts on the utilisation of resources in MGR. The ten-

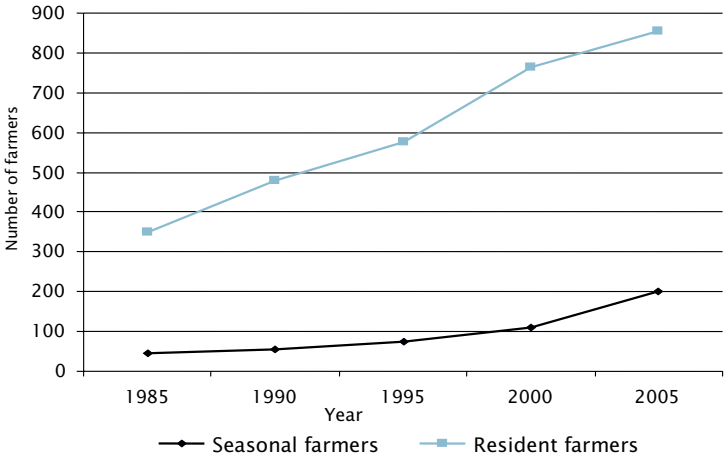

Fig. 3
Trends of resident and seasonal farmers in the study area over 20 years. (Source: Maore Ward office and survey data 2004/05)

dency has been for people to engage more and more in rice production. More people (relatively richer and from within Same district and outside) have been migrating into the area, sometimes buying out the locals. Production of rice, which is the main cash crop in the area, has increased over the years with increasing numbers of permanent and seasonal farmers. Figure 3 shows the trend in the population of farmers, both resident and seasonal.

The number of resident rice farmers more than doubled in 20 years, from less than 400 in 1985 to more than 800 in 2005. This increase has a multiplier effect in the sense that there is now more demand for natural resources, including bush meat, which is indicated by increase in price over the years from US$ 0.39 in 1990 to US$ 0.88 in 2005 (Table 2). The price increase is again an incentive to continue hunting albeit the risk of being caught and penalised. Table 2 shows also price changes for other natural resources and domestic products. Generally, there was continued increase in prices of wild products as compared to domestic products, which made the former more attractive for commercial use. The increase in timber prices, for instance, was, and still is, a big incentive for local people – and timber dealers in particular – to continue harvesting trees despite the risk of being arrested.

6.3.4 Formal laws and regulations

The Villages and Ujamaa Villages Act of 1975 makes the village the basic unit of government. The village council has legal control over the natural resources under its jurisdiction, notably land, the forests that are not reserved and water. Also, it has a duty to make equal allocation of land among vil-

Table 2

Increases in prices of various products in MGR surroundings, in US$.

Product	Timber price/m³			
Year	1990	1995	2000	2005
On site	27.83	88.37	100.3	85.91
At the market	39.78	121.30	130.61	124.07
Coffee price/kg*	1	1.3	3	1.7
Bush meat price/kg	0.39	0.56	0.68	0.88
Fish price/kg equivalent	0.49	0.77	0.90	0.97
Beef price/kg	1.08	0.97	1.48	1.45
Rice price/bag of 90 kg	12.15	12.60	13.59	11.46
Maize price/bag of 90 kg	3.14	5.48	6.18	7.49
Beans price/tin of 20 kg	2.35	3.71	3.71	3.08

Source: Survey data and KNCU office in Moshi, 2004/2005.

* First-class coffee

lage members. The village has since been the focal point for the Tanzanian government's vision of development in agriculture, forestry and livestock (Hyden 1980; Kauzeni et al 1993). The village council is, therefore, the right institution for the Wildlife Division to make binding agreements with for conservation and utilisation of MGR and resources therein. However, the current wildlife policy's vision (URT 1998) is not supported by any law. The process to review the 1974 Wildlife Conservation Act, which started a few years ago, seems to have stalled. There is an urgent need to speed up the process so that the law reflects the shift in resource management thinking.

The 1999 Land Act (URT 1999a) and 1999 Village Land Act (URT 1999b) are among the new laws that directly impact on the well-being of Tanzanians. The Land Act provides the legal framework for two of three categories of land, namely General Land and Reserved Land. Reserved Land denotes all land set aside for special purposes, including but not limited to forest reserves, national parks and game reserves like MGR. It does little more than draw attention to the fact that Reserved Land has been set aside for special purposes under a different legislation. For instance, game reserves will continue to be administered according to the legal provisions of the 1974 Wildlife Conservation Act. The Village Land Act vests all village land in the village and is limited to administration of just one category of land, i.e. the Village Land. It has nothing to do with the other two categories of land. This means that these new land laws have little, if anything, to do with management and administration of game reserves. The villages and their residents are still kept away from management of game reserves.

Similarly, Wildlife Management Areas (WMAs) are meant to be established outside existing game reserves and national parks – on Village Land, General Land and one category of protected areas (Reserved Land), the Game Controlled Areas, most of which have been settled and cultivated. Therefore, WMAs and WMA Guidelines also have nothing to do with management and administration of game reserves. As a way of implementing community-based conservation, WMAs are being established and managed by rural communities, which must form Authorised Associations. Once the system of Wildlife Management Areas and Authorised Associations is well established, outfitters wishing to take tourists hunting within a WMA will negotiate with the appropriate Authorised Association through a direct tender for that concession (Baldus and Cauldwell 2004). But, in the study area, there is no unsettled area suitable and big enough for establishing a WMA.

Currently trophy hunting is the primary form of consumptive utilisation of wildlife in Tanzania, taking place in Game Reserves, Game Controlled Areas and Open Areas. The last two are largely settled. Beginning in 1992 the Wildlife Division sent back to the respective district councils (as an opportunity cost of the hunting blocks in their areas) 25% of the revenues collected from trophy hunting outside Game Reserves. Also, certain outfitters have voluntarily introduced village development schemes in the areas in which they operate. But still the communities on whose lands trophy hunting takes place or which border hunting blocks receive few benefits from the hunting (Baldus and Cauldwell 2004). Villages in the study area cannot benefit from trophy hunting, however, because there is no hunting block in the area. MGR is also not hunted because of the small game populations, and hunting in the reserve could not directly benefit the communities anyway, as all hunting revenues from game reserves go to the central government.

6.3.5 Impact of international conservation debate at national and local levels

Generally it is the position of most international NGOs like the World Conservation Union (IUCN), African Wildlife Foundation (AWF), World Wide Fund for Nature (WWF) and the Global Environmental Facility (GEF) to facilitate biodiversity conservation and help national governments to expand the areas under protection. Unfortunately, governments in developing countries, including Tanzania, which are often short of funds for conservation activities, are easily influenced by these international NGOs, some renowned conservationists and researchers (Mwamfupe 1999; Songorwa 1999). Brockington et al (2006) point out that staff of conservation NGOs are unlikely to support proposals of social impact assessment of conservation initiatives because of the fear that the results might be used against their conservation efforts. The eviction of Maasai pastoralists from MGR, which is the case in point, was mainly an implementation of recommendations by conservationists (Brockington and Homewood 2001). But, there was no proper assessment of the social impacts of the decision on the pastoralists and other groups of resource users (Nshala 1999). Although the wildlife policy of Tanzania (URT 1998) supports devolution of powers to local communities for management of wildlife and fair distribution of benefits and costs, this is yet to be realised (Goldman 2003). Still, MGR management is using the fortress approach.

6.3.6 Incentive structures (cost–benefit analysis) at household and community levels

In this case two villages, Kisiwani-Barazania and Mkonga, located close to MGR were examined to look at the cost–benefit analysis of conservation. There were no direct legal gains from MGR at the household and community levels. The only indirect gain (but at the community level) were the US$ 35,000 donated for building a laboratory at Kisiwani secondary school and construction of a water tank. But there was direct loss of income through crop raids by wildlife amounting to US$ 200,000 a year. Together with this direct loss, opportunity (indirect) costs were very high. The estimated balance was a deficit of US$ 200 to 550 per household (Table 3). Table 3 indicates that gains are not shown at the individual household level and that this is problematic for it is then not seen as a major incentive (Gibson 1999).

Some funds are allocated by the central government as 25% retention of revenues from trophy hunting, but hunting activities in MGR had been stopped by 1995/1996. Therefore, no funds flowed directly to the natural resource office as a retention fund from the central government, but some money was received by the district council from hunting licences in game-controlled areas neighbouring MGR such as Ruvu. Table 4 shows the amounts received by Same district from 1995/1996 to 2005/2006 totalling US$ 9038.50 but, since there is no hunting block adjoining the study area, no money went to these villages.

Table 3

Cost–benefit analysis.

Source: Kisiwani Village Council office 2006. All calculations are based on Kisiwani village data.

Potential direct gains from MGR at household (HH) level	Loss of revenues (average)	Opportunity costs (average)	Estimated balance	HH average annual income	Percentage of gains compared to HH income
US$ 35,000 for the village (this is, however, not directly provided for household needs but set aside for development projects in the village), which translates to US$ 46 per HH	US$ 50–263 (depending on the frequency of incidences of wildlife and livestock crop damage)	Estimated at US$ 150 (calculated from the amount of land formally used for crop production but now annexed to MGR, and wild resources that cannot be accessed)	US$ -200 to -550 (depending on the occurrence of damage of crops by animals)	US$ 547	8.4%

MGR currently focuses on preservation with minimal tourism. But, with supporting legislation and capital, tourism has the potential to generate revenues that can be shared by the PA and surrounding local communities. Currently there are insignificant incentives for households to participate in conservation, but their day-to-day activities impact negatively on MGR. Through MGR the Wildlife Division has, in the past, supported a few development projects in the villages such as building classrooms. TF/GAAWPT also supports development activities, including drinking water and educational (classrooms and school laboratory). But, destruction of crops by wild animals is regarded by the government as a natural disaster and, therefore, there is no compensation to the affected households. Since the development assistance is small and sporadic, and households are not compensated for the losses, community members still look at MGR as a hindrance to their development, especially at the household level (see also Songorwa 1999).

6.3.7 Stakeholders' views of institutional design

IIt is in the spirit of the current wildlife policy not only to devolve powers to local communities surrounding PAs but also to have equitable distribution of the costs and benefits of conservation. However, land use planning has, for many decades, rarely considered the views of community members. The land use planning that is currently advocated by the Land Policy and Village Land Act (URT 1997, 1999b), which requires community members to have some form of training, needs to be reviewed. This is because the land use

Table 4

Trophy hunting retention funds received by Same council.

Year	Amount received (US$)
1995/96	2502.0
1996/97	0
1997/98	0
1998/99	0
1999/2000	0
2000/01	0
2001/02	2200.0
2002/03	1340.50
2003/04	1116.0
2004/05	1300
2005/06	580.0
Total	9038.50

Source: Same District Natural Resource office 2006

zones and buffer zones appealing to planners and conservation officials do not make much sense to pastoralists, whose resource management strategies involve seasonal (transhumant) migration in response to climatic variability.

6.3.8 Conflicts and their resolution mechanisms

Different conflict resolution arenas exist, depending on who is involved in the conflicts. Conflicts between farmers and pastoralists are resolved either by the village council, ward or in the formal court of law. But, elders also help in resolving them. An example is the dry season of September 2005, which caused intense conflicts between pastoralists and farmers resulting in the death of one person in Kisiwani village. In this case elders from both the pastoralist groups (mainly Maasai) and farmers (mainly Pare) sat together and offered a sacrifice for reconciliation. Conflicts between pastoralists and the MGR authority end up with fines of about US$ 50 per person regardless of the number of animals if involved, or a court case if the pastoralist does not agree with the fine. The most difficult conflict to resolve is between wildlife and farmers. When wild animals invade a village destroying crops and other property and/or endangering lives, the MGR authority and the Wildlife Division regard it as a natural disaster and, therefore, no compensation can be claimed. The government may give relief food or other kind of support but it is not obliged to do so.

6.3.9 Bottom-up experiences ('social learning') to improve participation and control by local actors over their 'territories'

Institutional structures either imposed by the government, advocated by NGOs or local communities tend to shape the way social learning takes place. Social learning takes place heuristically and by repetitive iterations of practical actions that take place in a locality among different social actors as they interact among themselves or between them and the resources around them. This social learning can be hindered by existing power relations especially if the approaches to governance of resources are not equitable and participatory. MGR is a case in point where the fortress approach to conservation gives all decision-making powers to the MGR authority and the Wildlife Division without involving or at least consulting communities around the PA. In this case there is a need to improve social relations between key stakeholders and make use of local and indigenous knowledge with the aim of improving management of natural resources.

6.4 Discourses and narratives: perceptions, wishes and motivations

Evidence has called into question many policy narratives. Nevertheless, they continue to persist widely because they simplify complex situations. Such is the case with the "tragedy of the commons" (Hardin 1968), a narrative taken up by the whole world, from scholars to policy makers, which underlines the apparent inability of local actors to develop institutions to solve problems of the commons dilemma.

The MGR conservation and utilisation discourses revolve around conservation, mainly against resource degradation and loss of biodiversity. Dissatisfaction of the local people can be echoed by farmers and herders, as pointed out in the following qualitative statements:

> *We have co-existed with wild animals for decades in the area. We actually developed a symbiotic relationship with them whereby they get protected through our presence with exception of lions, and on the other side we benefit from abundant pastures in the area.* (Ole Sabbai, a 71-year-old Maasai elder at Kisiwani village)

> *The government is not acting justly because we were not involved in the expansion of MGR in 1988 and 1992. We are left sandwiched between the mountains and the reserve, where conflicts between farmers and herders have intensified over time especially when there is drought or during dry seasons. There is no logic for the government to defend the animals more than human beings. We now feel that animals receive better treatment than us. There is no compensation when animals destroy our crops or when a village member is killed by a wild animal.* (Fred Mbaga, a 68-year-old elder at Kisiwani village)

Basing its decisions on the assumption that Mkomazi is a centre of endemism, which Homewood and Brockington refute, more efforts have been directed towards eradicating any threat to the MGR environment (Brockington and Homewood 1999, p 310).

The crux of the problem is how to find a balance between these important key elements. In general there is a consistent disagreement in practice, though on paper it appears that now there is a policy shift towards striking a balance between these key issues. In this ideological discourse there are mainly three

camps. These include conservationists, local resource users and opponents of Hardin's thesis. The first are the conservationists led by international conservation NGOs such as the IUCN, WWF and AWF and scientists. These seek to 'educate' local communities and policy makers and make them replace traditional mechanisms and local knowledge in resource management with scientific or western toolkits, and teach them to acknowledge inefficiency of local traditional knowledge (Goldman 2003). This ideological belief is echoed by the current wildlife policy's "technical advice … and training to effectively manage and especially to conserve natural resources" (URT 1998, p 15). There is no room for incorporating local traditional or indigenous knowledge. The conservationists' camp agrees well with Hardin that local communities cannot and should not be trusted to develop institutions for the sustainable management and protection of resources. They prefer strict measures to ensure resource sustainability. The basic ideology of conservationists in this case is based on the discourse that conservation can only be done if an area is protected and regulations are enforced by a third party and by educating local people. Leaving the resources in the hands of local people would cause resource degradation and loss of biological diversity. Another, more critical approach based on the assumption that we are dealing with cultural landscapes would lead to the discourse that too little is know about the actual linkages between seasonal changes, cattle and the pastures so degradation cannot be proved. Last but not least we have a third ideology, the indigenous discourse of land use, which is a kind of moral economy and a weapon of the weak (Scott 1998). This is the case in MGR, where three important narratives can be identified as follows:

i) Habitat destruction is caused by overstocking of and overgrazing by cattle. The ecological principle behind this is that stocking rates affect plant dynamics, i.e. interaction between grazers and vegetation can modify vegetation cover and composition (Brockington and Homewood 2001).

ii) The effect of livestock use is seen as complex but does not correspond to the common concept of environmental degradation. The disturbance caused by burning and grazing is believed not necessarily to cause degradation but to foster biodiversity. The ecological explanation for this challenge is that vegetation dynamics in dry lands is not driven primarily by grazing pressure, but depends on precipitation and the physical environment (Homewood and Brockington 1999).

iii) The Maasai look at the situation differently. They do not perceive themselves as the cause of degradation. They have co-existed with wild animals in the area for several decades without causing problems. What is seen by others as degradation is to them only a seasonal variation or pattern that will pass. They claim that they even protect wild animals because if they are near the animals, poachers will not dare to come. Therefore, evicting the Maasai did actually deprive the area of the control done by them. As cattle and wild animals do not always use the same type or height of grass, a co-habitation is possible, except for the lion.

It is apparent that the Tanzanian government has always taken the side of conservationists. As pointed out by Goldman (2003, p 310), conservationists and donors overemphasise the biodiversity values of MGR. Together with 'crisis talk' about degradation resulting from human practices this has influenced the current MGR management practices of exclusion and enforcement.

6.5 Conclusion and recommendations

In the previous sections we have presented an analysis of wildlife conservation and livelihoods in and around MGR, and challenges and opportunities available for equitable distribution of conservation benefits and costs. We do not aim to refute the efforts made so far in conserving wildlife and biodiversity in general in the area. Nevertheless, we conclude that, at present, the efforts to deal with the existing problems and to implement the current wildlife policy prescriptions are not sufficient. This has resulted mainly from the variations between conservation views of MGR authority, local communities and the government at the district and national levels. Mistrust has developed over time because the government coercively evicted the pastoralists from MGR without providing them with alternative grazing lands as promised, while farmers lose their crops regularly to wildlife and livestock without compensation. Moreover, decisions that affect local people's livelihoods, such as extending MGR boundaries without proper communication with local communities, i.e. in a participatory process, further aggravate the problem of mistrust and conflicts between the communities and MGR authority. Farmers and herders have found themselves squeezed between the MGR on one side and the South Pare and Usambara Mountains on the other. This situation has left no room for manoeuvre, thus resulting in increased herder–farmer conflicts, and damage of crops by both wild animals and livestock.

Though there are informal local-level conflict resolution mechanisms especially between herders and farmers, the root cause of most of the problems lies at a higher level, at the Ministry or Department (macro or meso level). Therefore, conflicts will persist unless the government changes the conservation and management equation to take into consideration the needs and aspirations of the surrounding population. Involvement of NGOs reshapes bargaining powers between MGR and local people. Farmers are now initiating an agenda through legal processes for compensation against wildlife and livestock damage, while the pastoralist Maasai engage in collective action regarding human rights and protective self-labelling as an ethnic group. In general communities surrounding MGR will, for the time being, continue to be losers (as per the cost–benefit analysis) at the expense of conservation. Political and scientific will is needed to change the current management system to allow for equitable conservation strategies. This does not tell us, however, whether in the long-term, it will be a win–win, win–lose, lose–win or lose–lose situation between conservation and livelihood improvement in the study area.

Endnotes

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[3] In November 2007, the Tanzanian National Assembly passed a bill to upgrade the Mkomazi Game Reserve to a national park. In this article the authors have purposely chosen to use the original name because all of what is discussed here occurred before the area became a national park.

[4] Information on these issues was obtained by the Transversal Package Mandate (TPM) team during a visit to the area in November 2006. The team conducted a number of focus group discussions with Maasai leaders and representatives of the village government brought together, and thereafter separately at Kisiwani village.

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7 ‘Integrated Fortress Conservation’ in the Buffer Zone of Ankarafantsika National Park: Malagasy Narratives of Conservation, Participation and Livelihoods

Frank Muttenzer[1]

Abstract

Ankarafantsika National Park was established in 1927 as an Integral Reserve. It is located in north-western Madagascar and represents the largest remaining dry forest in the lower Betsiboka region. Located next to a floodplain of national importance where irrigated rice is cultivated, its ecosystems have been severely degraded by human activities. Because of labour opportunities migrants from other parts of the island have been settling in the region since the 19th century. The migratory process gained momentum in the 1930s. The 1980s and 1990s witnessed widespread occupation of formerly forested lands in the park’s immediate surroundings. To preserve the remaining forest from the influx of peasant cultivators, a management plan was elaborated in 1996 with Conservation International project funding. In 2005 the reserve was transformed into a national park and responsibilities were transferred to the National Association for Management of Protected Areas (ANGAP). Evidence of relocation of populations from the protected area created during the same period indicates that the paradigm shift from fortress conservation to integrated conservation did not replace the earlier top-down management approach with one of participation and involvement of local communities. The environmental policy discourse rather justifies an earlier paradigm (exclusion of humans from protected areas) in terms of a more recent one (community management of buffer zones and biological corridors).

Keywords: Ankarafantsika, buffer zones, charcoal production, land claims, migration, Madagascar, protected areas.

7.1 Introduction

In the buffer zone of Ankarafantsika National Park, livelihoods consist of subsistence cultivation of dry crops, mainly beans and cassava, on new or ancient forest burns and flooded riziculture in the lower lying areas, combined with charcoal making for nearby urban markets.[2] Charcoal is produced within the framework of loosely connected village associations. Such associations were first set up by local people themselves consisting of first or second-generation immigrants from elsewhere in Madagascar, to regulate issues of common interest such as charcoal production and securing cultivation rights on formerly forested lands.[3] Local communities are multiethnic and each immigrant group has its own specific migration patterns and models. The Betsirebaka, for instance, a local term denoting different peoples from the south-east (such as Antaimoro, Antaifasy, Antanosy), describe themselves as strangers "who search for a livelihood" but who want to "return to the ancestral village" if only to be buried there. In reality most inhabitants are locally born descendants of migrants and consider themselves as having full property rights on their agricultural lands.

Besides the large-scale migration from south-east to west, which has been going on for several generations, there are other forms of mobility within the host region that follow typical paths of social ascension, or regular seasonal shifts in land-use patterns. Some lands cannot be inhabited during the rainy season, while other cannot be cultivated during the dry season. In some cases diversification of family labour is such that certain individuals are part of the territorial group (and the village association) only for a few months in order to work in charcoal before leaving for their fields, which are situated elsewhere in the region. In other words, charcoal producers' associations fulfil, alternatively or at the same time, several social functions: they provide the administrative framework for economic activity based on state-owned resources; they informally distribute individual parcels of land to each member of the association once the forest has been cleared; and they facilitate the integration of new immigrants into local society.

In what follows, I shall be concerned with "mobile" as much as "local" communities when describing the complex and multiform relations between village associations and customary territorial groups. Community-based resource management initiatives carried out in the buffer zone by both the park administration and a regional fuelwood management project entail a repositioning of local actors' strategies through participation in village asso-

ciations encouraged by a globalised environmental policy. Yet the changing interpretations of local custom are not random because the process of selecting and combining legal rules of different origins is based on comparatively stable social representations of labour, ancestral domain and trans-ethnic identity that are shared by most rural Malagasy.

7.2 The setting

7.2.1 Location and topographic characteristics

The protected area of Ankarafantsika was established in 1927 as an Integral Reserve. It is located in north-western Madagascar and traversed by National Road No. 4 at 450 km from Antananarivo, the national capital, and 115 km from the port city of Mahajanga. Ankarafantsika National Park was created in 2002 out of two distinct protected areas. It covers a total area of 120,000 hectares and represents the largest remaining dry forest in the lower Betsiboka region (Figure 1). Besides habitat for endangered species and recreation for tourists, its ecosystems also provide invaluable services (in the form of regular water supply) to a floodplain of national importance situated some way downstream where irrigated rice is cultivated (ANGAP 2000). Migrants from other parts of Madagascar have been settling there since the 19th century because of labour opportunities. But the migratory process steadily increased from the 1930s to the early postcolonial period. The 1980s and 1990s witnessed widespread occupation of formerly forested lands in the park's immediate surroundings by migrant cultivators from the south and south-east of the island. In the early 1990s, management of the reserve was delegated to Conservation International (CI), who designed a management plan in 1996 to protect the remaining forest from the continued influx of migrants. In 2005 the reserve was transformed into a national park and responsibilities were transferred from CI to the National Association for Management of Protected Areas (ANGAP). According to ANGAP, 27,300 persons live in the buffer zones of the park and are distributed over 108 villages and hamlets. These people are largely immigrants from the southern part of the island belonging to different ethnic groups. Before 2002 when the Integral Reserve was transformed into a national park, 2,150 inhabitants used to live on lands inside the protected area and had therefore to be regrouped in 12 controlled occupation zones.

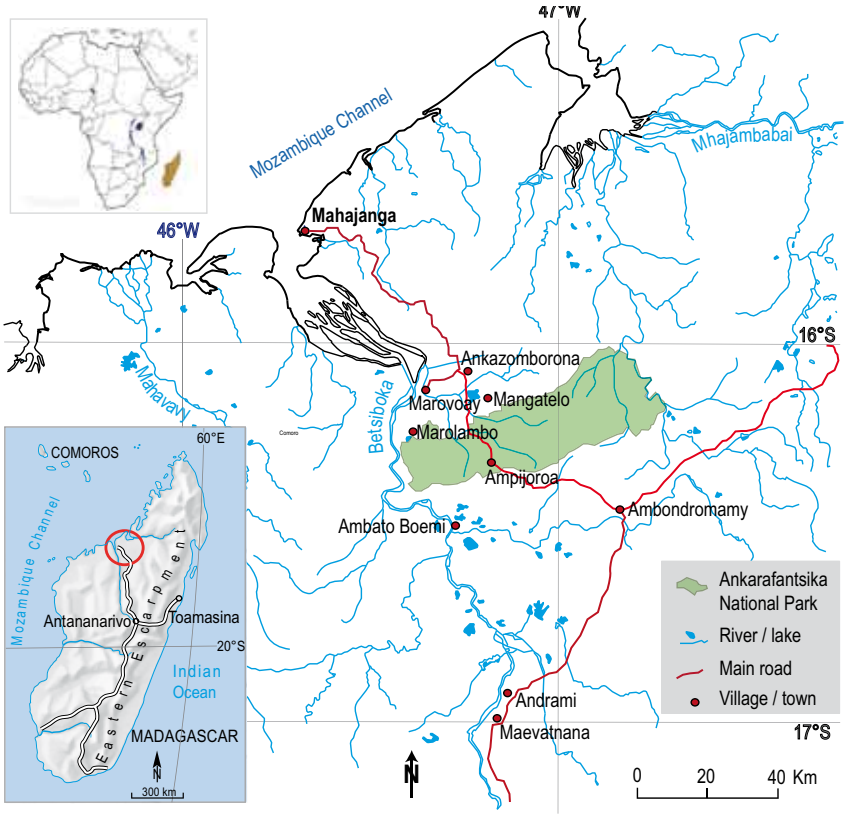

Fig. 1
Location of Ankarafantsika National Park. (Map by Andreas Brodbeck and Ulla Gaemperli, based on a WWF map)

7.2.2 Ecosystems

Forest loss in the dry deciduous forest ecoregion has been high, which makes it one of the most threatened ecoregions on Madagascar. Unlike in the eastern humid forests, forest clearance and fragmentation has led to completely isolated forest blocks, only few of which exceed 100,000 hectares (Nicoll 2003). Ankarafantsika is one of them, but the degraded state of its ecosystems led ANGAP to reclassify the Integral Reserve as a national park (Randrianandianina et al 2003). In terms of ecosystems, migrant settlers arriving in this region have several options. They can either seek access to land by clearing natural forest, which although degraded is still standing. This was the case for the members of one village association we studied (Marolambo) where charcoal production is only a by-product of land use conversion. Alternatively, they can seek to establish themselves on territory where the forest has already been cleared and where open space is available for agri-

Fig. 2
The forest-grassland frontier at Marolambo, buffer zone of Ankarafantsika. (Photo by Franz Muttenzer)

culture, alternating with secondary growth forest used to produce charcoal. This was the case for the other study sites and can be considered the option most frequently chosen in the buffer zone. To capture this difference, recent work on the political ecology of deforestation makes a distinction between the forest or "first" frontier and the grassland or "second" frontier (Pollini 2007).

Both kinds of frontier can be observed in the buffer zone surrounding Ankarafantsika National Park. However, such analytical distinctions cannot always be neatly applied at the empirical level (Figure 2). The forest and grassland frontiers may coexist in one time and place, as when forest clearing is practised by a local community only on part of its territory, or one frontier may be replaced by the other, as when no more standing forest is available outside the limits of the protected area but migrants still continue to arrive. In the buffer zone to the north of the national park, where both our study areas are located, wood for charcoal production is becoming increasingly scarce, although there are significant differences in this respect between the two forest users' associations, as well as some disagreement among main actors as to what sustainable resource use in the buffer zone means and how it can be institutionalised. As we shall see, this has led to misunderstanding and latent conflict between the National Association for Management of Protected Areas (ANGAP) and the Programme Energie Domestique de

Mahajanga (PEDM), whose community forest management interventions authorised local associations to produce large quantities of charcoal despite what was perceived by ANGAP as advanced degradation of forest resources located in the buffer zone and hence a potentially serious threat to the protected area itself.

7.2.3 Demographic and ethnographic information

A problem of integration of outsiders in the lower Betsiboka region may arise from the fact that immigrants claim to be the customary owners of land that falls within the ancestral territory of the Sakalava (Jacquier-Dubourdieu 2002, p 289). But the causal connections between contemporary land tenure and territorial claims of precedence based on Sakalava ancestry should not be overestimated.[4] In the Marovoay basin where our two study sites, Mangatelo-Manaribe and Marolambo, are located, the traditional Sakalava economy based on cattle has been competing with a system of permanent agriculture imposed by outside forces for more than two centuries. As a result, the Sakalava have long ago embraced settled agriculture, cattle rearing remaining as a minor component of the local economy.

The first migrant settlers followed the pathways of King Radama's military expedition in 1824.[5] Merina colonisation of the fertile lands of the Betsiboka floodplain was pursued up to the end of the 19th century. The French colonial administration also took an interest in the Marovoay plain and converted it into one of Madagascar's rice granaries. During the 1920s, the land improvement schemes set up by the French attracted huge numbers of migrants from the centre, the south-east and the south of the island. A specialisation of economic activities then took effect among the immigrants. Merina and Betsileo were encouraged by the French administration and settlers to take root as sharecroppers on the land developed for wet rice cultivation. Migrants from the south and south-east, collectively referred to as "Betsirebaka" or "Korao", were employed in the industrial plantation zones deserted by the Sakalava, who rejected salaried labour.[6] The first wave of migrations from the south in the 1930s was followed in the 1950s and 1960s by that of the Tsimihety arriving from the north because of demographic pressure. Unlike the migrants from the south-east, who usually intend to return to their lands of origin, the Tsimihety are known to pursue a model of territorial expansion. But we shall see that ethnically differentiated migration patterns only reflect general tendencies which greatly depend on social structure and environmental conditions in receiving areas, and therefore do not lead to stable separations along ethnic lines.

Sakalava identity in the lower Betsiboka region today is reproduced independently of land tenure relations. Given the long history of migration from the south to the north-west, customary forms of tenure are no longer thought of in terms of an indigenous mode of production in competition with that of the foreigners. Differences in access to land and natural resources therefore have to be explained with reference to the past and present internal dynamics of agricultural colonisation rather than with reference to the previously existing Sakalava polity. As a consequence of ethnically diversified patterns of migration, the descendants of immigrants constituted around one half of the regional population at the end of the colonial period. This means that since 1960, the new arrivals have had to adapt themselves to a society already transformed by more than a century of nation-building and not to an "indigenous" Sakalava ethnic group. Although it is inadequate to close the ethnic debate by simply postulating the existence of an identity shared by all Malagasy, the issue of ethnicity needs to be approached with caution, and giving attention to alternative and encompassing ways of identification is one way of avoiding the pitfalls of an ethnocentric relativism (Muttenzer 2007). Rather than imposing an analytical definition of the "tribalisms" that presumably stand in the way of a shared identity, the author shall let the actors speak for themselves as far as possible. The idea is to take popular ethnic stereotypes, frequently used by different kinds of Malagasy to express their respective identities, as a point of departure for a sociological analysis of rural mobility.

7.3 Protected areas policy context

7.3.1 National conservation policy

Madagascar is an island that is recognised worldwide as one of the richest biodiversity centres. The preservation of its unique natural heritage is considered an international priority, especially given that natural habitats are experiencing increasing anthropogenic pressure (Randrianandianina et al 2003). Since the late 1980s, Madagascar has received substantial amounts of foreign aid to protect its remaining biodiversity. Prior to establishing a National Environmental Action Plan (NEAP) based on a World Bank model followed elsewhere in Africa, Madagascar only had a forest service but there was neither a Ministry of Environment nor specialised agencies for the implementation of environmental policies. During the first years of NEAP (1990-1996), foreign aid was directed mainly towards establishing a network of protected areas consisting of 50 national parks and natural reserves, about

half of which had been created under colonial rule but were badly managed, while the other half was to be set up from scratch. In the view of international donors, protected areas were to be taken out of the hands of the understaffed and corrupt forest service and administrated by a parastatal organisation less influenced by a governmental clientele. As long as projects were confined to protected areas, ideas on new public management and public–private partnerships did not entail changes in land tenure policy and natural resource governance. The objective was to strengthen sectoral management of public land by central government or by donor-controlled agencies, rather than to decentralise power over land and resources by devolving it to local government.

In the second phase of NEAP (1997-2002), substantial efforts went into contractual management of state forests by users' associations at the village level. Community forestry in Madagascar is a case of aid project coordination through transnational policy discourses, a process involving international donors, the government, non-governmental organisations (NGOs) and village associations. Much expert knowledge in the field of community forest management clusters around the idea of integrated landscape conservation, which was experimented with first in the 1990s in the context of buffer zone management and has gained momentum ever since. As in other African states, the objective of conservation policies in Madagascar is to involve local communities in nature protection while at the same time taking into consideration local livelihood needs (Neumann 1997). Natural scientists consider community forest management as a tool to go beyond the fortress conservation approach by extending protection to forests outside protected areas (Nicoll 2003). Extension appears necessary because the protected areas of the colonial period were established with a view to protecting certain spectacular landscape features and strictly separating human activity from the domain of 'nature', meaning that the designated surfaces of existing reserves and parks are too small to allow for effective biodiversity conservation (Kremen et al 1999). For environmental economists, more equitable benefit sharing will alleviate rural poverty and thus enable the potential trade-offs between productive uses and environmental services of forests to actually materialise. They look at community forest management as a means to allocate resources more efficiently. For other social scientists, community forest management is not confined to benefit sharing but entails power sharing between the administration and local communities (Wily 1999). In this view, local forest users' associations are seen as a first step to 'decolonise' tenure relations and to sort out conflicting land claims, both of which enhance overall tenure security and act as incentives to integrate, at the landscape level, (sustainable) resource extraction with environmental conservation.

Given the global political consensus on the importance of community-based resource management as the foundation of integrated landscape conservation, environmental programmes and pilot projects in Madagascar tend to ignore the equally important fact that the strategies of both settler and settled communities present in users' associations are often linked to securing land rights over forests that are being cleared for cultivation. A partial exception to pro-poor management approaches is provided by recent calls for a return to more orthodox approaches favouring fortress conservation. However, this does not reflect the general tendency in Madagascar. The spectacular increase of the surface of protected areas on the island since 2004 is matched by the somewhat less spectacular recognition by conservationists that livelihood issues need to be addressed if biodiversity conservation is to succeed in the future. For some conservationists, extending both the surface of and the range of options available for managing protected areas is in itself an adequate means to address livelihood issues. According to this rather optimistic view, biodiversity conservation is ultimately in the interest of people whose livelihoods are affected by protected areas. But this assertion is disputable. Ultimately, the political project of migrant settler communities expressed by forest users' associations in Ankarafantsika's buffer zone points to the larger issue of the role civil society is to play in postcolonial African states, as well as to less democratic aspects of global environmental governance in this part of the world.[7]

7.3.2 Policy implementation at the regional level

A major problem ANGAP has faced at Ankarafantsika is how to curb human pressures on the protected area without infringing the livelihoods of the estimated 27,300 villagers that inhabit the immediate surroundings of the park. To address the problem, ANGAP has mainly relied on a discourse of benefit sharing. Approaches were designed to gain local cooperation with the existing state-controlled management regime, the focus being put on providing alternative sources to forest income, employment opportunities, improved legal access to certain resources and shares from revenue earned from the forest. These approaches were implemented both in surrounding zones and in so-called controlled occupation zones (*zones d'occupation contrôlées*) inside the park itself (ANGAP 2000). According to Malagasy law and policy on protected areas, a buffer zone (*zone tampon*) is the outermost strip of land of variable size located inside the limits of the protected area, where only collecting products for domestic use is authorised and from where people are relocated except in the special case of controlled occupation zones (Randrianandianina et al 2003). However, this definition does not corre-

spond to what is usually meant by a buffer zone, defined as "lands adjacent to parks and reserves where human activities are restricted to those which will maintain the ecological security of the protected area while providing benefits to local communities" (Neumann 1997). In spite of the Malagasy legal definition, a buffer zone is a place where people live and where in the 1990s Integrated Conservation and Development Projects (ICDPs) used to be implemented, which is generally the case on lands surrounding the protected area. The following analysis shall therefore use the term buffer zone to refer to what Malagasy law calls surrounding or peripheral zones (*zones périphériques*), which are located outside the limits of a protected area but over which national park authorities nevertheless claim jurisdiction on grounds that this is where human pressures originate and where relocated people are resettled. The claim is disputable and legal definitions of buffer and/or surrounding zones are bound to evolve under the new kinds of protected areas that are currently being established in Madagascar.

Participation, conservation and livelihood narratives took on yet another meaning when in early 2001 a development project for the management of fuelwood was launched in the park's buffer zone. The project was based on a discourse of power sharing and designed to devolve forest resource control to the community level. It assisted local communities in bringing their livelihoods (the charcoal production chain and to a lesser extent land tenure) under community control, on grounds that only such a level of empowerment would enable local communities to manage the forest for livelihood needs and thus to avoid future encroachments in the protected area. The fuelwood project interventions in some villages located in the buffer zone had unexpected consequences. While the project encountered important resistance from the field-level park management agents, it was extremely popular with recent immigrants in the buffer zone, not because of the improvements the project promised to bring about in the local charcoal production chain but because forest users' associations were seen by villagers as a form of recognition by the administration of their prior occupation of the land.

The misunderstanding between local communities and external actors as to the role and purpose of forest users' associations in the park's buffer zone, and the fact that there has not been much change in villagers' attitudes even after a participatory approach was implemented, is amplified by the lack of communication between those external actors who promote participation to pursue conservation goals (ANGAP, the national park authority) and those who are primarily interested in forest-based poverty alleviation (PEDM, the project implementing sustainable charcoal production). The latter argue that

ANGAP's definition of benefit sharing is far too restrictive and that a strategy of enrolling village associations for fire protection while authorising resource extraction for non-commercial uses is doomed to failure if such obligations are not matched by compensation of losses in monetary income. The former argue that PEDM's call for power sharing, which entails the right of villagers to extract resources for commercial use, is premature because forest users' associations are perceived as lacking the necessary experience to manage forest resources located in the buffer zone in a sustainable way. It is argued that the procedures to work out the amounts individual members would harvest are not sufficiently clear, and that the currently existing associations are not capable of carrying out resource use monitoring, especially given that many associations have members who are members only for a short period of time and that this factor has not been included in the formal arrangements. There have been written agreements between village associations who signed management contracts with the forest service, and PEDM, who had elaborated those contracts on behalf of the forest service. But these contracts contradict earlier memorandums of understanding between some associations and ANGAP, and there have been no written agreements between ANGAP and PEDM to sort out the conflicting claims of jurisdiction in the buffer zone, probably due to substantive differences between their respective management philosophies.

7.3.3 'Environmentally sophisticated land reform' and recognition of customary tenure

The participation of rural communities in managing 'integrated forest landscapes' is difficult to justify while it is acknowledged at the same time that deforestation is a way of securing traditional claims to land (Muttenzer 2006a). Customary land tenure therefore poses a seemingly insoluble conundrum for policy makers. 'Human occupation of protected areas' first emerged as a problematic issue in the environmental policy debates of the early 1990s. Challenging the conventional neo-Malthusian explanations, social scientists pointed to open access as the major cause of human occupation in protected areas, and to the lack of administrative recognition of customary property rules and practices in adjacent zones (Weber 1995). This led international donors and the government to opt for a policy of community-based management of resources located in buffer zones, as well as other 'forests outside protected areas' (Nicoll 2003). The issue of customary land tenure has once again come to the fore during the third phase of NEAP (2003-2008), following President Ravalomanana's 2003 landmark announcement to triple the surface of protected areas from 2 to 6 million

hectares by 2008.[8] The new kinds of protected areas to be created under this policy are eligible, at least in part, for management through forms of community conservation currently still under discussion, but which would ideally be based on pre-existing tenure arrangements.

A century after the introduction of Western land laws in Madagascar, the majority of state-owned land, and even part of privately owned land, continues for all practical purposes to be governed by customary tenure relations. There is also evidence that rural populations take advantage of this legal pluralism by securing new land for cultivation to cope with soil degradation and social and economic inequality.[9] Although they constitute the predominant form of law in rural Madagascar, customary rules and arrangements have enjoyed very limited statutory recognition, at least until recent land legislation created two mechanisms to recognise aspects of customary tenure on public lands. The first such mechanism is the aforementioned contractualisation of forest domains outside protected areas, which was designed for sustainable management of village commons by community associations. The second mechanism is registration by local government of 'customary' ownership rights on cultivated land, which was designed to privatise joint lineage and/or family property.

Although the purpose of an "environmentally sophisticated land reform" (Geisler and de Sousa 2000) is not to substitute one solution for another, but rather to enlarge the range of available options to democratise tenure security, it appears that the new land legislation in Madagascar is set to re-enact the spatial separation of agricultural and forest domains.[10] The effectiveness of community forest management with regard to environmental conservation is as uncertain as that of the earlier state-centred forest policies, particularly in places where poverty reduction entails cultivating land that is being acquired by "first occupants" through clearing a piece of forest, a claim not recognised by community management contracts. By contrast, local registration of customary tenure is expected to encourage agricultural intensification by recognising labour efforts invested in the land. But the registration of customary private property applies only to permanently cultivated lands, such as irrigated and flooded rice fields, and excludes future inheritance claims by joint family and/or lineage members. On formerly forested lands, both individual and joint property claims are altogether excluded from registration by local authorities. To date, the existing legal options for recognising customary tenure have been too limited in scope to bring about or even initiate a significant transformation of prevailing land use management patterns. The following analysis of livelihoods and institutional change shows that

clearing forest is a more effective way for families and descendant groups to deal with pressing problems of rural poverty, from generating revenues by selling charcoal to securing first occupancy rights of migrants, and to integrating later arrivals into the existing social fabric.

7.4 Resources, livelihoods and institutional change: charcoal producers' associations in the context of agrarian colonisation

7.4.1 Economic activities and livelihood strategies

The villages next to Ankarafantsika are at present the main purveyors of charcoal for the city of Mahajanga, as well as smaller towns of the lower Betsiboka (Duhem et al 1999). The importance of the region for charcoal has increased due to exhaustion of wood resources in the rural communes closer to the provincial capital. In the surroundings of the national park, charcoal is produced in two rural districts, Ambato-Boeni and Marovoay. Our case material refers to fieldwork with charcoal producers' associations of two villages in Marovoay district to the north of the park. These villages sell their charcoal either to Marovoay, a secondary town of 30,000 inhabitants, or to the small town of Ankazomborona (less than 10,000 inhabitants), located on the national highway connecting Mahajanga to Antananarivo. We chose to study the two associations in detail after having done a survey on most other forest users' associations operating around the national park, in particular those set up by the fuelwood management project. Usually these associations have little or no influence on the price levels at which charcoal is sold because of the monopoly position of buyers who transport charcoal to Mahajanga. Under present conditions, the production chain is controlled by intermediaries and local associations are unable to re-organise rural fuelwood markets. In the cases we studied, charcoal is sold independently on local and regional markets. Prices are to some extent negotiated on a case-by-case basis when producers own carts and oxen to bring charcoal from village to town. Those without means of transportation have to sell their charcoal to others at a lower price in the village itself.

Producers usually give two reasons for adhering to village charcoal producers' associations. On the one hand, it facilitates the recognition by government authorities, namely the forest service and the *commune rurale*, of an activity that is essential for local livelihoods. On the other hand, the administration does not have to deal with each producer individually to collect taxes,

which makes the relation between villagers and the authorities more comfortable. The issue of access to land is usually not mentioned spontaneously, although it appears to be of central importance in the working of those associations. The arguments related to the livelihood complement in the form of monetary income and to administrative recognition both point to the need to regularise the insecure situation of local communities consisting mainly of migrants. Most of the inhabitants have not lived in the region for more than ten or fifteen years and they moved there to find land for cultivation in and around a protected state forest reserve later converted to a national park.

7.4.2 Migration patterns in western Madagascar

One of the two associations studied illustrates the social project of a pioneer community. This is the usual case of the Tandroy agro-pastoralists from the south of Madagascar, whose strategies of occupation of land are straightforward with little regard for the pre-existing natural and human environments. Even before the legal recognition of charcoal producers' associations by PEDM, an immigrants' association in Marolambo had obtained clearing permits for a surface ten times larger than the current charcoal production forests. Once the forest was cleared, parcels of 2 hectares were allocated individually to each family head member of the association. In situations like this, charcoal producers' associations are at the same time "immigrants' associations" (Rajaonarison 2002). Descendants of earlier inhabitants, both Sakalava and previous immigrants, usually refuse to become members of such associations. The pioneer attitude characteristic of the Tandroy contrasts with the transmigration model of the so-called Betsirebaka from south-eastern Madagascar. In the case of the second association, there is no polarisation between indigenous (*tompontany*) and migrant populations and any resident may join as a member whether he is of local or distant origin. In this case, no "indigenous" claims to land come into play because local communities consist of successive transmigrant groups with complementary histories.

To understand this kind of social structure, it is necessary to recall the colonial economic history of the lower Betsiboka region. In order to attract and keep their salaried migrant labour, the colonial concession owners let them cultivate unexploited lands of the concessions, or beyond. While working on the concession, migrants at the same time tried to establish themselves as small peasant producers, settling on government lands and on indigenous reserves allocated to the local populations (Jacquier-Dubourdieu 2002, p 295). The present strategies of transmigrants follow a similar pattern.

Many charcoal producers we spoke to explained that they first came to work as day labourers in the large rice fields of the Marovoay plain. While working there, they prospected the nearby hills for land of lesser quality that was not yet occupied. After working for a year or two as day labourers, they would decide to settle more permanently in the region cultivating maize, manioc and irrigated rice, on the newly established plots considered as their personal customary property. Small agriculture of the sort is exclusively for self-consumption. Yet at the same time, migrant cultivators would regularly produce some charcoal to generate minimal but more or less stable money income. In some privileged areas, where there is sufficient water to cultivate tomatoes and other vegetables sold in Marovoay, people would produce proportionately less charcoal.

By contrast, in the places where most of the lands are already occupied, arriving migrants would focus their efforts on charcoal, exclusively or combined with sharecropping on agricultural land. The settling on the slightly elevated lands between the Marovoay plain and the limit of the national park is the second stage of a trajectory of social ascension from landless migrant to small peasant. Based on interviews with about one hundred individuals, we infer that this model of immigration applies to at least one half of local inhabitants, and to most of the charcoal producers. The similarity with migrations during the colonial period is not coincidental. Many of our informants, especially the Betsirebaka, who are the majority in the second association we studied, say they "do exactly as their parents did". They have come to the region "in search of a livelihood" and it is their custom to "return to the village" once they have found what they were looking for, only to come back on a later occasion to "search anew". The same pattern of personal transmigration is found among migrant populations other than the Betsirebaka. But this self-definition is an actor ideology rather than an effective pattern of mobility. Whatever individuals may express concerning their customs, intentions, hopes and ideals, as a matter of fact many of our informants are locally born children of immigrants. While descendants of transmigrants continue to be attached to kin in the ancestral villages far away, over time the population movement from the south-east to the north-west of Madagascar is nonetheless substantial and irreversible in its consequences.

As an ideology, transmigration helps to define the community structures in the newly settled territories, more perhaps than it determines the structure of mobility between the place of departure and the place of arrival. Besides that, there are also significant movements within the study region itself that contribute to the shape of local communities. Mobility on a smaller scale is

due to climate hazards, work opportunities, and displacement of settlers by the park authorities. The contrasting ways in which ethnicity is played out by pioneer and transmigrant communities suggest that a feature all types of charcoal producers' associations have in common is to provide a safety net. They are part of a risk-minimising strategy which consists in selling charcoal to ensure a livelihood on when subsistence cultivation of maize and cassava is insufficient to survive. The ways in which the safety net function is linked to the construction of a local political identity may differ between pioneer and transmigrant communities. Yet in both cases, the members of community associations seek to secure permanent cultivation rights acquired through clearing the forest, arguing that they have established "ancestral domain".

7.4.3 Main actors and evolution of interests

Under different circumstances, local solutions to current problems are expressed in terms of ancient customs, and the postulated continuity between the past and the present may be more or less real.[11] In the present circumstances, the invention of a new type of society is expressed in modern, bureaucratic forms although these categories may simply serve as a screen behind which traditional values are still effective. Charcoal producers' associations existed in the region long before the fuelwood management interventions of PEDM. The development project only officialised the village grouping that existed before. The first of the two associations studied is the result of a pioneer community's own initiative, as they were interested in having their occupations of state land officially recognised. The second association was created by Conservation International (CI), the NGO responsible for the management of Ankarafantsika from 1995 to 2000, and interested in opportunities of alternative income generation in the buffer zone that could reduce pressure on the protected area and make relocation from inside the park easier to justify.[12]

At the time of fieldwork, only the first association had a contract for fuelwood based on a simplified management plan, the members of the second association produced charcoal based on annual authorisation by the forest service in Marovoay. The participatory approach pursued by development projects, here defined in terms of community forest management, interfered with an earlier tradition of associations grouping immigrants of common ethnic origin in search of lands and livelihoods. The charcoal producers' associations thus constitute a case of parallel law. They imitate the forms of state law while at the same time pursuing goals that are contrary to declared public policy. The popular reinterpretation of the forms of modern state law

results in a syncretism that is the legal equivalent of an informal economy. Under the surface of development and integrated conservation discourses, the charcoal producers' associations fulfil a whole range of functions related to the transformation of traditional subsistence economies, namely to secure a regular complementary monetary income essential for landless immigrants, to minimise conflicts with local government authorities by insisting on conformity with the law and allowing for the collection of (rather symbolic) taxes, and to internally regulate land tenure among immigrants who settle on previously unoccupied land.

7.4.4 Integrated conservation as an external factor of change

According to current notions of integrated conservation, the purpose of community forestry associations is to contribute to ecosystem conservation through sustainable resource use. In development practice, there are significant differences between conservation projects and types of participation that allow for a more productive engagement with the environment, including commercial uses. The dissimilarities in approach, which seem to reflect a division of labour between conservationist and pro-poor aid agendas, are more pronounced in the present case of resource management in the immediate surroundings of a national park. But there is a potential for conflicts where aid projects are set up without any reference to spatial planning and management by local government, which is virtually anywhere in rural Madagascar. As already mentioned, the Marolambo association was set up (or at least adapted to a new purpose) in the framework of a region-wide effort to control charcoal production. Following the legal procedures, villagers submitted a request for a community forestry contract to the district forest official, after an information campaign by the PEDM project.

In this particular case, the villagers' request indeed led to the elaboration of a management contract with help from the project. A forest plot was delimited for harvesting according to a simplified management plan authorising a sustainable yearly quota of charcoal and requiring yearly rotation. The contract and management plan also mention agricultural land and areas for grazing. To some extent these provisions reflect previously existing relations among members, but they have no further bearing on third parties. The provision concerning rotational harvesting echoes the local perception according to which one harvests the trees where they stand and goes elsewhere once all trees are gone. But villagers do not consider wood for charcoal production to be anywhere close to exhaustion. In our interviews, we raised the issue of occasional charcoal producers who are not members of the association.

The answers we obtained suggest that the difference in status and rights between members and non-members is well understood, which is exceptional in regional comparison. The reason is that the association is also taken by villagers as a tool for social control beyond charcoal production, because membership indicates the discourse of justification of land rights by first occupants.

Community-based users' associations are a symbol of modernity, and confer in the eyes of the field-level officials of ANGAP a degree of respectability even to poor, landless immigrants. In the view of the pioneers settling at Ankarafantsika, forming an association is the first step towards recognition of human occupation of the area by local government authorities. Unless immigrant communities are able to acquire regular administrative status (after reaching a certain population threshold), or to register the occupied land under collective title (following long and complex land titling procedures), forest users' associations are the only means to give the customary territorial groups some form of administrative existence. The search for administrative recognition also explains why members of an association display a lot of goodwill to cooperate with ANGAP in matters such as controlling the movement of persons in the buffer zone or preventing forest fires. In some cases, collaboration with authorities to "preserve the forest patrimony of the nation", as was often repeated by informants, may be directed against the indigenous uses of forest resources by the Sakalava. In other cases, similar arguments are used against other, usually more recent, immigrants pursuing resource appropriation strategies that are perceived as aggressive by earlier settlers.

7.5 Community forestry governance in the buffer zone

We have argued that immigrants voluntarily adopt Western ideas related to associations, rather than avoiding or openly resisting participation in environmental actions. However, given that the goals pursued by projects through enhancing participation of civil society organisations squarely contradict the goals of pioneer communities, the favourable attitude towards community forestry displayed by villagers should not be taken for granted. Whereas development projects try to fit migrant communities within an externally conceived spatial grid to reduce human impacts in protected areas, migrants ask for the recognition by government authorities of a temporary state of affairs in an ongoing process of land use conversion. On closer inspection,

it appears that the types of land and resource use practised under the cover of village associations do not coincide with the objectives and procedures of civil society participation in sustainable resource management. Comparison of land and resource use patterns indicates that there are hardly any differences between the associations who receive community forestry project assistance and those who do not.

7.5.1 Marolambo: community participation with project support

In the first case we studied, individual members of a charcoal producers' association continue to clear forests for cultivation, and occasionally produce charcoal, on parcels other than those designated by the management plan. The papers required to transport charcoal from the village to the town are issued locally even if the legal origin of produce is in doubt. Spatial zoning based on ecological criteria as envisaged by PEDM for the forests where fuelwood is produced, and by ANGAP for the buffer zone and larger surroundings of the national park, is not effectively implemented by the village association. The membership of later migrants is said to be superficial because there are conflicts with earlier members, who were already living there before the contracts were elaborated by PEDM and signed by the forest service.

The interviews with field-level agents of ANGAP reveal a distinctly negative perception of charcoal producers in the buffer zone. National park wardens appear to challenge the legitimacy of contractual agreements and authorisations of the forest service. According to villagers, they threaten to impose penalties on charcoal production in the buffer zone, although it is an essential livelihood component of people having been relocated from inside Ankarafantsika, as well as of more recent immigrants. In the park wardens' accounts, the members of the association are accused of not keeping their promises with respect to protecting forest in the buffer zone, of hiding their true intentions and of benefiting unduly from the presence of, and moral support given by, the regional charcoal management project. These problems were further aggravated by the fact that since 2003, World Bank-funded PEDM, which temporarily liaised between the forest service, the Ministry of Energy and the French CIRAD (Centre de Coopération Internationale en Recherche Agronomique pour le Développement), has disappeared from the local scene. As a consequence, the users' associations received neither financial nor technical support after the forest management contracts had been signed in 2002.

The forest service is competent to follow through contracts and evaluate outcomes, but its role is rather unobtrusive in comparison with ANGAP. This is obvious in the discourses of villagers who project their traumas on this new authority perceived as all-powerful and even willing to put villagers' lives in danger. Independent of aid-supported community forestry contracts, the forest service issues administrative authorisations to produce charcoal on state lands other than protected areas, both to immigrants' associations and individual families. The amount of taxes paid by a charcoal producers' association outside the PEDM framework was between FMG 1 and 2 million per year at the time of our enquiry.[13] Tax revenues generated through the PEDM regional scheme are expected to double or triple if taxes are paid regularly, which is, however, unlikely as long as individual authorisations with lower fees continue to be issued by the forest service.

7.5.2 Mangatelo: community participation without project assistance

The Mangatelo association had initially received the same attention by PEDM staff as that of Marolambo discussed in the previous section. But later on their case was dropped without further explanation, possibly due to the latent conflict between PEDM and ANGAP over project activities in the buffer zone of the national park, even though villagers had already applied for a community forestry contract. The piece of land concerned was adjacent to the buffer zone, and remaining resources there were scarce even in the eyes of the villagers themselves. Given that PEDM failed to support their request and that in no instance could the forest service devolve management without external project funding, this charcoal producers' association was not to be recognised under the new community forestry policy.

The association had been set up in 1996 as an initiative by Conservation International, an international NGO that was managing the Ankarafantsika forest reserve prior to the establishment of the national park. Project staff were interested in identifying alternative income possibilities and more generally in talking to people living in and around Ankarafantsika, rather than in setting apart forests for community-based charcoal production. A second difference with respect to the recent settlers discussed above is that a local community had been in place here for much longer that included several generations of transmigrants.

The surface of 2,100 hectares supposedly managed by the association is relatively large in comparison with most community forestry contracts in Madagascar.[14] Dwellings are dispersed in hamlets and small villages inhabited by one or several extended families. There is no zoning plan defining different land uses nor is there a specific forest set apart for charcoal production. Plots with trees that can be used for charcoal are found in several locations not too far away from the habitations and agricultural fields of a given hamlet. The situation is different from the that in Marolambo where a primary forest is cut down to make way for agricultural land. One could describe it as a mainly agricultural system, including a significant charcoal component from secondary forest growth.

7.5.3 Comparison: membership in associations and belonging to communities

An observation made frequently by Mangatelo villagers is that forest resources are not sufficient to allow charcoal production both by permanent residents and by occasional producers arriving in large numbers from other villages of the region. In spite of resource scarcity, one does not find the polarisation and conflicts observed in Marolambo. The charcoal producers' association is only one among many elements that structure the relations between families and is hardly decisive in creating orderly relations at the level of the local community. The contrast between the two associations therefore cannot be explained only with reference to the organisation of rural charcoal markets. It is dependent on the social role played by village associations more generally. In Mangatelo, this role is mainly limited to charcoal making and the association deals only accessorily with integrating new arrivals, whereas in the case of Marolambo, it is the very identity of the pioneer community in competition with other such communities that is negotiated through the charcoal producers' association. As a consequence, the criteria for membership are far less rigid in Mangatelo.

This difference is nicely illustrated by the contrasting notions of affiliation (to the association) and belonging (to the local community). When interviewing villagers about associations, we usually asked them whether there were particular rules governing participation, whether charcoal production was reserved for certain categories of people, or whether it was an activity open to all. The responses we obtained show that the distinction between affiliation and belonging was not clear-cut, given that the qualification of association members varies according to their individual objectives. Some

of them both plant rice, corn and cassava and produce charcoal, others only cultivate the land. There are people who plant elsewhere but visit the place regularly to produce charcoal. And there are the landless who do not plant anywhere but who come here to produce charcoal for a limited period before leaving for other destinations. Yet in Mangatelo all of those individuals may in some respect be considered part of the local community as soon as they inform the president of the association of their presence and pay a minor fee.[15] Whether an individual actually intends to obtain a more permanent status or to leave after having worked for some time is his personal decision and of no concern to other people. Thus while membership in the charcoal producers' association is a modern legal construct, its underlying purpose conforms to traditional norms of hospitality and of creating a customary community through attracting immigrants.

This observation confirms a conclusion drawn on many other occasions in rural Madagascar. The attachment to certain traditions, although they may be transformed in the process, does not prevent peasants and local officials from adopting Western legal categories to give legitimacy to their practices. On the contrary, charcoal producers make spontaneous use of community associations to display respect and conformity towards state authorities, even without the presence of development projects that encourage them to do so. In other words, there is an adoption of new legal forms, which results in an addition to rather than a replacement of indigenous law by transplanted law (Chiba 1987). The combining of indigenous and foreign legal ideas is a reaction to rural mobility and bureaucratic control, both of which result in a weakening of descendant groups' traditional control over land and therefore a certain degree of legal ambiguity that needs to be kept in check by other means. Hybridisation also reflects a superficial "globalisation" of local law where new concepts, such as community forest management, are adopted in the spirit of traditional categories, i.e. prior occupation of the land, while at the same time they change the mode of operation of those categories.[16]

7.6 Ideas of prior occupation in livelihood narratives

Ideas of prior occupation of the land differ substantially with respect to the period of arrival of migrant populations, ethnic representations of social mobility, and pre-existing social structures in the host territories. Discourse analysis suggests that there are at least two ideal types of prior occupation: original acquisition and derived acquisition of land rights (Muttenzer 2006b). As a consequence of those diverging narratives, the ways in which local peo-

ple strategically use the community-based associations and participatory mechanisms put in place by the park management agency and by the fuelwood management project are locale-specific.[17] While in the case of pioneer communities, the objective of forest users' associations is to immediately secure land rights, in the case of transmigrant communities it is to secure alternative livelihoods to new arrivals during the time needed to establish and improve relations with earlier occupants who give them access to land.

7.6.1 Pioneer communities and original claims to land

Pioneers describe, and justify, their land rights with reference to material acts of appropriation (Rarijaona 1967) followed by cultivation, rather than with reference to a negotiation with earlier occupants. This does not mean that pioneers have no need at all to secure land rights by appealing to a third party, but simply that the objective of installing the group on the territory and the appropriation of family fields are pursued directly through the immigrants' or charcoal producers' associations, rather than through contractual relations with Sakalava *tompontany* (masters of the land), who may claim customary rights, especially for pasture, over the pieces of land colonised by migrants. We asked the members of the Marolambo association why they had chosen to settle on the previously forested plateau of Belavenona rather than elsewhere. They answered that the choice was due to the fertility of the land that "promised to be a way to avoid famine and suffering of families".

In the case of the Marolambo immigrants' association, later to be converted into a charcoal producers' association, the occupation of large pieces of forest land by several pioneer groups from the south took place between 1990 and 1995. The process entailed, or indeed consisted of, the appropriation of family properties because personal lots were distributed to individual family-heads as members of the association. As there were several groups of pioneers, as well as earlier immigrants pushed back towards the river plain, a competition between several community-based associations was the logical consequence of the conquest of new lands. On top of that, numerous families already settled in the lower-lying areas have seen some of their plots destroyed by inundations and changes in the river-bed of the Betsiboka. Usually these families consist of earlier immigrants, who do not appreciate the late-comers taking the most fertile lands in the higher areas. These families thus compete with the "foreigners" for the Belavenona forest, while continuing at the same time to cultivate fields further downhill. This competition may explain the seasonal movements mentioned above between Belavenona and the Betsiboka plain.

The community forestry initiative of PEDM, which legalised already existing immigrants' associations as charcoal producers' associations, was not the origin of this competition for land, but it contributed to the conflict because villagers understood that the fuelwood management contract confers a title that can be opposed, at least in customary terms, both to other pioneers and to ANGAP officials, who try to restrict productive uses of the park's buffer zone as far as possible. All categories of actors we interviewed confirmed that after the intervention of PEDM, huge local enthusiasm for charcoal producers' associations ensued. The fuelwood project is popular among villagers not so much because it regularises monetary revenues generated by the growing charcoal market of Marovoay but because of the administrative recognition it gives to the illegal settlement of government lands since the 1980s. At the same time, the unpopularity among villagers of ANGAP officials, who understand well that the charcoal producers do not settle the buffer zone to practise sustainable community forest management, cannot be explained only by the villagers' fear of losing complementary monetary income "to provide for one's wife and children", nor is it simply a matter of "resolving the energy crisis in the cities" as one informant argued.

From the perspective of customary law, the village narratives about charcoal production, which sometimes repeat the programmatic justifications of PEDM, are hardly convincing explanations. They are not convincing because the main purpose of the community forestry grouping set up by PEDM, although it is legally recognised as a charcoal producers' association, actually is to legitimise the conquest of forest land by a pioneer community as well as individual appropriation of plots by its constituent families. While in the case of Mangatelo, community forestry participants' only stake is charcoal production, in Marolambo it is the economic viability of their families that is at stake because, in this community, membership in the village association is considered a condition for becoming an individual land-owner according to local custom.

We argued above that people readily adopt the discourse of civil society. In reality such adoption is not confined to the discourse of civil society, but extends to all modern expressions of the relation between particular groups on the one hand and political union on the other. Somewhat surprisingly, pioneers reproduce inside the charcoal producers' association the "totalitarian philosophy" of colonial forest law. Individual members of the association say they need an authorisation by the president to cut a tree even if that tree is located on the individual lots allocated to each family, outside the plot for

which decision-making power has been devolved to the association according to the management plan.[18]

In spite of difficult relations with ANGAP, which is perceived to be "in charge of the forests of all Madagascar", villagers surprisingly speak of their community forestry associations in terms of localised branches of ANGAP, although these associations are officially about charcoal. On the one hand, the internalisation of the postcolonial order is for them a means of social control at the frontier, to unite disparate settler groups by giving them a common local identity. On the other hand, it is a means to demonstrate to the outside world the conformity of their social project with that of the Malagasy political community, personified by the forest service and the agents of ANGAP and PEDM. The role of the charcoal producers' association of Marolambo is not limited to regularising relations with the forest service; it includes substituting and preparing for the future administrative recognition of a new territorial group. But the competition between diverging uses of space for production and conservation is likely to remain.

7.6.2 Transmigrant communities and derived claims to land

In Mangatelo, the origin of inhabitants is mainly the south-east (Betsirebaka or Korao) and the north of Madagascar (Tsimihety). We have seen above that the Betsirebaka are characterised by a pattern of immigration where the identification as "foreigner" is artificially prolonged far beyond the time objectively required to accomplish their integration into the local community. Although the latter is a recent political construct that emerged from successive migrations since the late colonial period, it is adequately perceived by new arrivals as the pre-existing social unit with which they have to come to mutually agreed terms. Contrary to pioneer communities, who use the category of "association" to conceptualise their legal identity independently in the host territory, the local integration of transmigrants does not primarily rely on charcoal producers' associations but on agrarian contracts relating senior and junior migrants through patron–client relations. The overall goal of immigrants is the same everywhere, because they seek access to land for cultivation, but the transmigrant way of going about it is specific and contrasts with that of the pioneers.

Later transmigrants must accept that they become the clients of earlier transmigrants, who are their tutors. They must reckon with about five years to move from client status (junior immigrant) to tutor status (senior immi-

grant). During that time, access to personal rice fields is restricted, but they may work on the fields made by others. As a consequence, during that time they depend more than others on collecting forest products and producing charcoal to for their livelihood. Families that have not yet gained access to a plot for cultivation, or only through relations with other families, will concentrate their labour force on exploiting the forest. Charcoal is a major source of income for transmigrants while waiting to become full members of the local community and acquiring customary ownership of some of the fields needed for subsistence. Charcoal producers' associations contribute to the process of acquiring land for cultivation and permanent settlement of immigrants, but only indirectly. Rules of access to agricultural plots in Mangatelo are in continuity with the personal histories of transmigrants. Before establishing themselves on a piece of land, most immigrants had already worked as day labourers or share-croppers in the nearby Marovoay plain. After some time, they try to get their own property and establish themselves indefinitely in the region. This kind of biography is frequent and the corresponding tenure arrangements have several implications for the role played by community forestry associations.

The first, and most obvious, objective pursued through these associations is procurement of monetary income. According to local officials of ANGAP, 95% of cash circulating in villages stems from the sale of charcoal. As mentioned above, membership in associations is a way of generating income, especially for those who have only derived access to agricultural land. But it is only accessory to agricultural colonisation, and people continue to produce charcoal even after they have their own plots because they will always need cash "to pay for other work". Access to land, with unequal relations between senior and junior immigrants, is the less obvious variable which accounts for the amount of (remaining) labour a family will invest in exploiting forest resources. If cultivation is possible, it will be less, if it is not possible or conditions are discouraging, it will be more. Charcoal is complementary to the progressive conquest of territory by several generations of transmigrants. But in Betsirebaka terms, irreversible permanent migration from the south-east to the north-west is thought to never have started because each generation "only does what their parents did", and it will never come to an end because they will always "return to their village" even though they have been living in the host region for several generations and have acquired permanent rights to the land.

Rather than indefinitely reproducing second-class citizens excluded from access to land, the concept of derived rights is used to justify not only use rights but indeed the full right of customary ownership, traditionally reserved for *tompontany* or masters of the land. At the same time, there are original claims to certain types of plots. The second objective of charcoal producers' associations is to authorise clearing of new lands. This is not in contradiction with the derived rights conceptualisation of appropriation just presented, because share-cropping arrangements only deal with rice fields, while the rules of access to less fertile lands are more permissive. Before delimiting a plot and "cleansing" it before planting, villagers must ask president of the charcoal producers' association for an authorisation, to make sure that the plot is not yet occupied by somebody else. However, land distribution is much less explicit here than in the case of pioneer associations where delimitation of individual plots is decided by an assembly and a map is drawn up.

Whatever the differences in detail, the sociology of rural charcoal markets in Madagascar confirms the observation made by others that there has been a revival of "associationalism" in rural Africa in the last twenty years (Olivier de Sardan 1994). Although they may not necessarily lead to efficient community forestry, these associations contrast sharply with ideas of passive resistance and avoidance by local communities of relations with the state and other external actors. On the contrary, these communities seek legal recognition to engage with local government representatives, NGOs and international aid projects, who take this attitude as proof of their organisational capacity and self-promotion. International donors have joined the NGOs and grass-roots developers in trying to establish an open dialogue with "civil society", a term often used to designate forest users' associations, and to counter-balance corrupt and inefficient public administrations. Actors external to rural society think that peasant associations may encourage production, manage production chains, spread knowledge and participate in public policy more efficiently than state bureaucracies. The fuelwood management programme around Ankarafantsika, for instance, was based on the certainty that forest resources will be exploited anyway, and that, instead of prohibition, the administration had better control this exploitation with a view to sustainable management. But this objective is shared neither by pioneer and transmigrant settlers, who form associations because it serves their colonisation project, nor by ANGAP officials working in the buffer zone, who intend to mobilise associationalism for fortress conservation.

7.7 Conclusion

Although the benefit-sharing and the power-sharing narratives differ with regard to the stated goals of conservation policy, their underlying assumptions are similar. The focus of both narratives is on establishing procedures to guarantee the legitimacy of public policy by involving stakeholders who used to be excluded from the decision-making process. The common idea underlying diverging approaches of participatory conservation is to achieve substantive effectiveness of public policy through guarantees of procedural justice. According to the procedural model, land tenure policy cannot be considered just a) unless all participants trust the procedure to be fair and commit to accepting its outcome whatever it may be, and b) unless this procedure has in fact been followed to allocate property rights. The first condition of requiring a fair procedure is not met with the more favourable option of power sharing. Whatever the differences in detail, the expected outcome of integrated conservation is known from the outset: relocation from previously occupied land inside the protected areas and devolution of resource control in designated areas of the buffer zone.

Eviction of immigrant occupants from lands located inside the protected area is un-problematic under the rules of state law. For customary claims based on prior occupation, the fact that the vast majority of inhabitants have obviously arrived in the region long after the establishment of Ankarafantsika Integral Reserve in 1927 is beside the point. In popular legal discourse villagers do indeed consider themselves as legitimate holders of rights arising from prior occupation even though this is disputable according to rules of state law. For instance, many villagers refer to radio-transmitted speeches of the president of the Second Republic (1975-1991) encouraging poor peasant cultivators to occupy fertile state-owned lands.

Given that there is no agreement in the first place as to what would constitute a fair procedure, the second condition raises the issue of the actually existing alternative procedures usually followed to allocate rights. We have argued that community forestry contracts in practice (although not in law) amount to a recognition of prior occupation by state authorities. By the same token, the state recognises existing orders of precedence between first occupants and later migrants. However the state, and indeed the community forestry associations themselves, do not recognise exclusive community rights, because forest agents continue to issue authorisations to people who are not members of the community forestry associations. Rewards for personal labour investment are granted irrespective of time of arrival, and in exchange generate a “rent of non-

enforcement" of forest laws. In stark contrast to this, national park wardens recognise neither the contractual agreements nor the authorisations of the forest service but threaten to impose penalties on charcoal production in the buffer zone, although it is an essential livelihood component of people having been relocated from inside Ankarafantsika, as well as more recent immigrants.

Decoupling policy outcomes from narratives, or switching from one policy narrative to another according to circumstance and expediency, is a common thing to do. To secure support from the external world, any organisation must honour externally legitimated norms and at the same time efficiently deliver services to its constituents (Brunsson 1989). In the postcolonial context, the requirements of internal efficiency may, however, be inconsistent with external constraints. Ideally agents would prefer to decouple logics of appropriateness (integrated fortress conservation) from logics of consequences (recognition of prior occupation narratives) in ways that avoid painful contradictions, but this might not be possible. Talk and action then diverge. An organisation may adopt a new organisational chart (national parks and community management of rural charcoal markets) in response to external constraints, but actual coordination inside it will be accomplished through informal means (forest users' associations as interpreted by pioneer and transmigrating settlers).

Decoupling talk from action appears irrational in a world where nature is a given but where relations between humans are subject to effective benefit-sharing and power-sharing blueprints. The purpose of such procedures is to re-frame power relations in order to protect nature, or to control land and resources in new ways. The necessary condition of such an approach is that all stakeholders commit to following the agreed procedure and to accepting its outcomes. Neither of these conditions is met in Ankarafantsika, where diverging definitions of nature and rights to land and resources are re-framed by the participants as a means to maintain power relations or to control people in new ways. Yet decoupling talk from action appears far more rational in a world where relations between humans change only as a consequence of constructions of nature. In such a world, the purpose of negotiating the properties of property, and of socially constructing nature, is to maintain the idea of a 'naturally given' order of precedence among first occupants, later settlers and political authority. People are not trapped in an un-changing tradition, but committed to another kind of procedure. If there is a lesson to be learned from Ankarafantsika, it is that procedural justice has a substantive core: not only just procedures and their effective implementation, but also minimal common values.

Endnotes

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[2] This chapter is based on data collected during fieldwork in 2004 and 2005 on migration patterns and charcoal production by forest user associations in the Marovoay and Ambato-Boeni districts (Mahajanga), with special attention given to charcoal producers in the buffer zone of the national park. This research was not designed specifically to evaluate the effectiveness of protected area management at Ankarafantsika. The author thanks Zo Rabemananjara, Marc Galvin, Ted Wachs, Anne Zimmermann, Andreas Brodbeck and Ulla Gaemperli for their invaluable help before and after writing up. The careful reading and constructive comments of two anonymous reviewers are gratefully acknowledged. This research was supported by graduate fellowships from the Swiss Centre for International Agriculture ZIL and from the NCCR North-South.

[3] Many associations were established prior to the externally funded negotiation of community management contracts to control charcoal production in and beyond the Park's buffer zone.

[4] Contemporary Sakalava ethnicity refers to the precolonial kingdoms in western Madagascar established in the 17th and 18th centuries through conquest by an incoming dynasty. To this day, to be Sakalava means to be a subject of former Sakalava rulers and is predicated on people's ritual work, including possession by royal ancestors, and multi-form ideological expressions of former political allegiances.

[5] Assisted by the British, Radama I pursued a policy of expansion of the Merina kingdom to strategically important coastal regions including the Sakalava kingdoms, in the period between 1810 and 1828, and was the first Merina ruler to be recognised internationally as "King of Madagascar".

[6] Given the political-ideological rather than ecology-based definition of Sakalava ethnicity, and the subsequent history of Malagasy conquest and immigration of outsiders to the region, it had never been argued that these were lands that belonged only to Sakalava and that were taken away only from them by the French.

[7] This sceptical statement is not intended as an argument against biodiversity conservation nor indeed against making conservation more democratic or morally acceptable to rural African publics. The question is rather whether the notion of a civil society does have any meaning in a world where effective public problem-solving is not essential to the legitimacy of political elites whose domination is traditional or charismatic, instead of being 'rational' in Max Weber's sense of legal rationality.

[8] The 2008 deadline has recently been postponed to 2012.

[9] Despite the revisionist tendency in the political ecology literature, it is fairly obvious that Madagascar's last remaining natural forests are cleared at the expense of both its exceptional biodiversity *and* the long-term sustainability of rural economies, although it cannot be assumed that the two problems are identical (Laney 2002; Anderson 2005; Muttenzer 2006b; Pollini 2007). Peasant agriculture in landscapes transformed by humans may be ecologically sustainable, but it is incompatible with maintaining high rates of species endemism.

[10] Although spatial separation was the basic principle of colonial and postcolonial forest laws and administrations, it had rarely been implemented consistently on the ground (Muttenzer 2006c).

[11] A criticism voiced by political ecologists is that the "received wisdoms" of conservation and development practitioners are influenced by actor ideologies which overrate the opposition between modern and traditional forms of political-legal control, whereas in reality local legal practice is much more hybrid than actor discourses allow for, because the bureaucrat's model has long been internalised by local communities and guides their day-to-day conduct (Kull 2000; McConnell 2002). The assumption of political ecologists seems to be that hybridised law – because of its apparent flexibility in comparison with traditional law as opposed to modern law – is more receptive to "negotiated" policy solutions "balancing" local livelihood interests with global conservation biology interests. Political ecologists are right in noting that customary law is hybrid even in cases where peasants insist on its traditional essence and the state bureaucrats on its backwardness. They are wrong in assuming that customary law is necessarily more negotiable than its predecessors and therefore more likely to avoid stalemates between park managers and buffer zone populations. Given that hybridisation is a defensive reaction to dominant transplanted law with the (more or less explicit) aim of upholding (at least) the structural core of endogenous law, the traditionalist and the mimetic variants of contemporary customary law can be analysed as alternative forms of resistance to externally induced cultural change.

[12] Formalising associations in the buffer zone, eligible to benefit from alternative income generation projects, may in itself be a way to justify relocation from protection zones.

[13] Between US$ 200 and 400 during the period of our fieldwork in Ankarafantsika's buffer zone.

[14] According to an evaluation of around 350 community forestry contracts out of a total of 500, in 80 percent of the cases the surface transferred is below 1,600 hectares (CIRAD-FOFIFA/IRD 2005). It is being recognised that users' associations are generally ineffective in managing more than 500 hectares. The increase in surfaces transferred in a single contract is explained by the need to show "results" to donors.

[15] It is difficult for those individuals to play a role in the management of the resources, since they are only there when labour is available.

[16] From the point of view of 'traditional law', it seems rather unusual that prior occupation should operate in the form of community forestry associations, whose publicly stated aim it is to control and to restrict prior occupancy rights to cleared forest. I therefore suggest reserving the term 'customary law' to account specifically for the observed unusual combinations at the level of legal terminology, if indeed a terminological dualism still exists between an original and an adulterated idiom. I do not wish to imply that at the logical level of legal discourse there is any difference between traditional law and customary law. In fact there is no such logical difference but a cultural continuity based on logical similarity. Traditional law has become a special kind of customary law.

[17] Because of these local strategies, it is not clear in what way migrant users' associations could help community forest management and/or community conservation. The reasons for which these associations have been chosen to implement environmental management are to do more with participatory ideology than with social analysis. The newly created associations were re-framed locally in accordance with the pre-existing model of immigrant associations.

[18] The bureaucratisation of village and inter-village social relations by forest users' associations has been noted by several other scholars who studied the impacts of global environmental norms on customary orderings of territory and landscape (Blanc-Pamard and Rakoto Ramiarantsao 2007; Pollini 2007). The analytical question is whether the observed bureaucratisation phenomenon is a reliable indicator of increased state control over resource access and property by local communities (somewhat like Habermas' 'colonisation of the lifeworld') or whether it simply points to the fact that potentially adverse effects of increased state control are being avoided or neutralised by local people.

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8 The Evolution of Institutional Approaches in the Simen Mountains National Park, Ethiopia

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Abstract

The Simen Mountains National Park (SMNP) was legally gazetted by the Ethiopian Government in 1969. At that time the Protected Area (PA) included 136 km^2, with altitudes ranging from 1,700 to 4,070 m. The boundary of the park, however, encompassed not only wildlife habitats and natural areas but also human settlements including farm and pasture lands. The main actors in the park today are the park authorities, the government administration, tourists, tourist guides, some local communities working in the tourism sector, and several international institutions. Institutional approaches to park administration have changed considerably in the last 4 decades of SMNP management. Before 1990, the PA was managed using a classical top-down 'park without people' approach. This led to sometimes violent conflicts. For example, park authorities were expelled from the park for nearly 10 years and conservation was impossible. After the change of government in 1991, a new, decentralised approach was introduced. At the same time management concepts shifted from an authoritarian to a more participatory style. With international assistance some development activities were possible, including the participatory realignment of park boundaries to exclude settlements and most cultivated land, while including new land constituting actual or potential ibex habitats (cliffs). The park was expanded from 136 to 234 km^2. With increasing tourism – mainly foreign visitors seeking outdoor recreation – benefit-sharing was introduced for some inhabitants of the villages along the tourist routes. Admittedly, practical experience with multi-stakeholder participation in management is still relatively new, i.e. only about 10 years old, and thus will require additional mutual development.

Keywords: Simen Mountains National Park, Ethiopia, World Heritage Site, Walya ibex, land use conflict, multi-stakeholder participation.

8.1 Introduction

Few protected areas (PAs) in Africa are situated in **highland and mountainous natural environments**, as human settlement in this ecological zone has always been widespread. At higher altitudes, the climate and ecology favour both agriculture and health. Therefore, few natural highland areas have survived the agricultural history of the past 10,000 years. As a consequence of human and livestock population densities, PAs in most African highlands are relatively small, under constant pressure, and difficult to manage. The Simen Mountains National Park (SMNP) in Northern Ethiopia is a case in point.

The Simen Mountains are an extremely small part of the Ethiopian Highlands, which cover an area of about 500,000 km^2. Ras Dejen is found here, the **highest peak in the Horn of Africa** and the fourth highest in Africa, with an altitude of 4,533 m according to the Ethiopian Mapping Authority (EMA). The Simen Mountains were formed from an ancient basalt shield volcano, which is about 35 million years old and which was uplifted, tectonically broken, and subsequently eroded into deep valleys and steep escarpments with terrace-like steps at their foot-slopes. The rugged topography of the Simen Mountains offers visitors from Ethiopia and around the world breath-taking beauty enhanced by rich natural biodiversity along altitudinal successions of fauna and flora, and features the traditional lifestyle of a resident population primarily engaged in subsistence agriculture. Simen hosts many endemic species of wildlife, the most prominent being the Walya ibex, which has become a national symbol in Ethiopia. The Ethiopian wolf and the Gelada baboon are also endemic to Ethiopia. This unique fauna is complemented by a number of other mammal and bird species and a very attractive floral assemblage. Historically, Simen has been inhabited by human land users, probably for more than 2,000 years; hence the area has an outstanding cultural heritage and is an example of peaceful co-existence of different religious groups (see also Hurni and Ludi 2000).

The PA called Simen Mountains National Park (SMNP) was established and legally gazetted by the Ethiopian Government in 1969 for **protection of the Walya ibex** as well as other wildlife and flora. At that time it encompassed an area of 136 km^2 with an altitudinal range from 1,700 to 4,070 m. It basically consisted of a steep escarpment zone with cliffs, steep grassland and forestland, as well as some highland valleys and lowland terraces with rural settlements and agricultural land. Recently, the park was extended to include more escarpment areas; at the same time, some of the cropland areas it formerly contained were excluded.

Fig. 1
A Walya ibex – endemic to the Simen Mountains. (Photo by Bernhard Nievergelt, 1968)

The main actors in the park today are the park authorities, the government administration, tourists, tourist guides, to some extent the local communities working in the tourism sector, and several international organisations engaged in development cooperation. Local land users are the major actors, in terms of both numbers and influence on the natural environment. They are linked to the PA administration through local administrative structures. Traditionally they lived in villages, but were grouped into Kebele Associations (KAs) about 30 years ago. Each KA consists of several villages.

The most contested issue of the SMNP was, and to some extent still is, that the PA is permanently inhabited and intensively used by a considerable number of people who practise traditional subsistence agriculture, through the cultivation of cropland, the rearing of livestock, and the collection of firewood and construction wood inside the park. Spatial organisation and management of the SMNP, which have undergone several changes since the establishment of the park in 1969, are the main theme of the present paper.

Fig. 2
Dirni Village below the park – human settlement and land use in conflict with nature protection. (Photo by Gudrun Schwilch, 1994)

The **methodology used for this research** involved compilation of a synthesis based on comprehensive personal and public knowledge derived from field research carried out by the principal author, who was actually present in Simen for a total of more than 3 years over the past 34 years, and by the co-authors, who have been involved in projects in Simen over the past 29, 14 and 6 years, respectively, with regular visits lasting for several months. Major periods of fieldwork took place in 1974, 1975 and 1976, and again in 1994 and 2004. In the time between these periods of fieldwork, the authors carried out regular visits and missions, each lasting several days to weeks. In addition, three of the authors were formally involved in executive functions within the PA administration – the main author as a park warden for two years, the second author as General Manager of the Ethiopian Wildlife Conservation Organisation for five years, and the fourth author as the Director of all PAs in Amhara Region in the immediate past. This paper is also based on an extensive review of scientific publications in all major European languages that have been published on the Simen Mountains and the PA; the authors have integrated this external knowledge into their synthesis. Finally, the first and third authors both regularly serve as consultants and reviewers of SMNP reports to the World Heritage Centre (WHC), which is responsible for monitoring the Simen World Heritage Site on behalf of the United Nations Educational, Scientific and Cultural Organisation (UNESCO) World Heritage Convention.

Fig. 3
Location of Simen Mountains within North Gonder Zone of Amhara Region in Ethiopia. (Map by Andreas Brodbeck)

8.2 The setting of the Simen Mountains National Park (SMNP)[5]

Simen is a mountain massif located in northern Ethiopia (latitude 13°15′ North, longitude 38°20′ East; Figure 3). Administratively, the Simen Mountains are located in North Gonder Zone, a first-order subdivision of Amhara National Regional State (ANRS). The mountains have a volcanic origin and an altitudinal range from 1,000 m to the highest peak in the Horn of Africa, Ras Dejen, at 4,533 m, which is one of 18 peaks higher than 4,000 m.

Despite its location in the Sahel Zone of sub-Saharan Africa, Simen is situated in the Northern Afro-tropical Highlands biome of Ethiopia and receives adequate rainfall due to its **mountainous setting**, with annual totals from

500 mm in the eastern lowlands to over 1,500 mm in the highlands, in a single rainy season that lasts from April to October. Simen is naturally characterised by four distinct altitudinal vegetation belts: an Acacia savannah belt below 2,000 m; a montane forest belt between 2,000 and 3,000 m; a subalpine highland forest belt between 3,000 and 3,700 m; an afro-alpine grass steppe belt between 3,700 and 4,200 m; and a frost belt above 4,200 m. A more detailed description of these belts and their subdivisions, and of the major mammals, the anthropogenous vegetation, and the land use systems, is given in Hurni et al (1987).

It should be noted that the topography described above took shape in this form and at these altitudes only after the Last Ice Age, and that these altitudinal belts shifted up and down regularly in response to long-term climatic variations in temperature and rainfall during the Holocene period in the last 10,000 years. Very recently, for example, the altitudinal zones apparently again moved upslope by 100-200 m as the result of climatic warming over the past 150 years, reinforced by global warming due to human influence. This latter phenomenon can be observed along the uppermost timber line of *Erica arborea*, which moved from about 3,700 m in 1975 to about 3,850 m at present (Hurni 2005).

The **mammals and birds** observed in Simen (Nievergelt 1981, 1996) are a measure of the importance of the Simen ecosystem and of international biodiversity conservation. They include major animal species endemic to Simen or to Ethiopia in general, but with Simen as their primary range: the Walya ibex, *Capra (ibex) walie*; the northern sub-species of the Ethiopian wolf, *Simenia (Canis) simensis simensis*; the Gelada baboon, *Theropitecus gelada*; the grass rat, *Arvicanthis abyssinicus*; the wattled ibis, *Bostrychia carunculata*; the white-collared pigeon, *Columba albitorques*; the thick-billed raven, *Corvus crassirostri*; and the bearded vulture, *Gypaetus barbatus*. With respect to the multitudes of invertebrates, such as insects and spiders, it can be assumed that numerous endemic forms are still awaiting discovery. Other well-known mammals with extensive geographical distribution in the Ethiopian mountains are the golden jackal, *Canis aureus*, and the klipspringer, *Oreotragus oreotragus*. The main reason for this specific fauna in Simen is the overall geographical situation and the island-like nature of the afro-alpine area. Some mammals such as the Walya ibex originate from the palearctic region to the north, while others such as the klipspringer stem from the African region to the south of Simen. Due to isolation, ecosystems in Simen evolved rather independently from adjacent lowland areas and

from other mountain areas in Ethiopia over the past millennia. This isolation from formerly connected ecosystems was the result of excessive deforestation due to human occupation and land use.

The Simen Mountains are surrounded by **old cultural centres** such as Aksum, Lalibela and Gonder, which have a human history that goes back to the first millennium BC in the case of Aksum, the beginning of the second millennium AD in the case of Lalibela, and the middle of the last millennium in the case of Gonder. The Simen Mountains primarily contain rural populations living on subsistence agriculture. Over 95% are peasant farmers earning a livelihood from rain fed cultivation of cereals and pulses and livestock rearing, which are closely linked (e.g. cattle is necessary for the ox-plough system, and small ruminants are an important asset and constitute a local form of savings). There is some small-scale irrigation along rivers in the lowland valleys. The total population in the roughly 4,500 km^2 territory that is known as the Simen Mountains and forms part of the four Weredas of Debark, Janamora, Beyeda and Adi Arkay, was estimated at 425,000 in 2007, or an average of about 94 persons per km^2, living at altitudes between 1,500 and 3,800 m (CSA 2007). Their wealth status could be considered average for rural areas of Ethiopia. Some rural infrastructure has been developed in the last ten years such as schools, clinics, roads and some towns (Hurni 2005) – such infrastructure was barely available in 1994 (Figure 4).

Simen has been populated by **human settlers for at least the last 1500 years** (Kirwan 1972). The Simen Mountains are inhabited by the Amhara ethnic group for the most part, with some Agaw-speaking groups on the eastern escarpment towards Tekeze River. The population is split between two major religions, Christianity and Islam, in an interconnected pattern of villages (Figure 4). Before 1990, Ethiopian Jews (Felasha) also lived in many villages in Simen. But they were resettled to Israel in 1990 in accordance with a bilateral agreement between the two countries. In terms of gender and age, the population structure is typical for all least developed countries. Slightly more than 50% are below the age of 15, and only about 15% are more than 50 years old. Recently population growth has slowed, as in the rest of Ethiopia, which may indicate the beginnings of a demographic transition towards a more stable population, although it is not known whether this has to do with increased child mortality due to general impoverishment among the rural population or decreasing birth rates, as would be expected in a demographic transition.

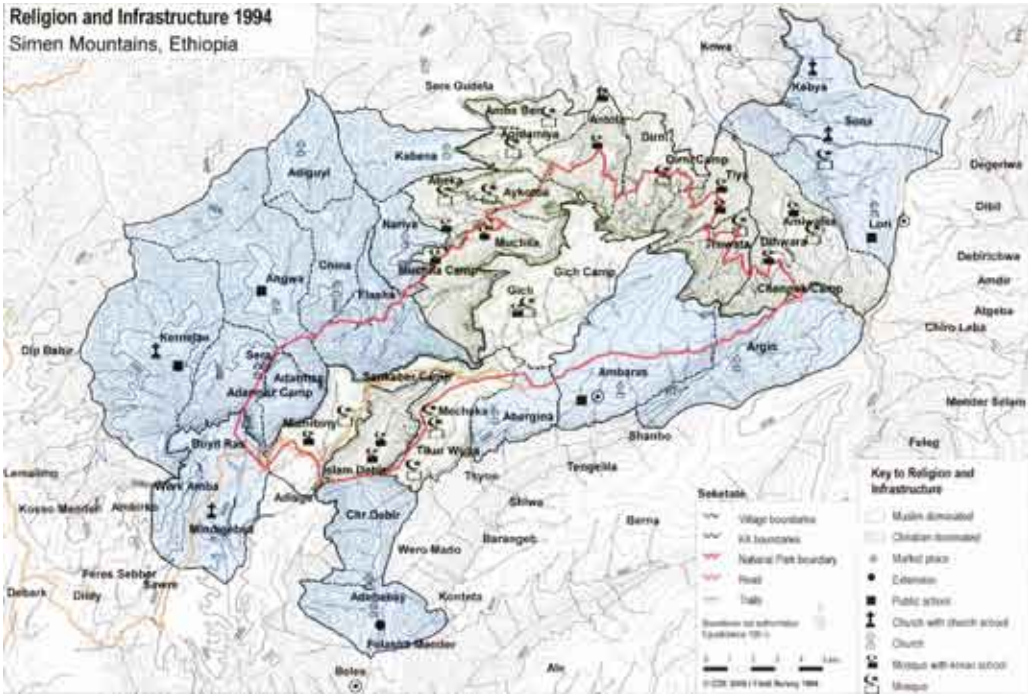

Fig. 4
Religions and rural infrastructure in the wider area of the Simen Mountains National Park. Source: Hurni and Ludi (2000)

Centuries-old soil degradation provides geomorphic evidence that human land use first started on the gentle slopes of the highland valleys at altitudes between 2,500 and 3,000 m. These are the areas that are almost completely degraded today (Hurni 1978, 1982, 2005). C14 dating of charcoal from forest burning in Gich Village in the centre of the park indicates that deforestation first took place there almost 600 years ago (Hurni 2005). The soils of these cultivated areas have been destroyed almost completely due to soil erosion, and many fields are today being abandoned due to low and vanishing productivity. Widespread soil degradation over many centuries, and increasing population density, particularly during the past century, have forced peasant families to extend cultivated areas higher up and onto steeper slopes near the mountain tops, thereby deforesting a large part of Simen. The cultivated slopes still had deep and fertile soils several decades ago (Andosol soil type), but these are now degrading at an accelerated pace. Forest cover in Simen has been reduced from about 80% originally to about 10% at the present time, which is still considerably higher than the national average of 3% and provides high botanical value as well as an outstanding example of natural vegetation belts that can still be seen in succession.

Some 10,000 years ago the Ethiopian Highlands were one large **natural habitat**. Due to agricultural development, this was split into small islands by excessive forest cutting and the spread of agriculture. It is estimated that 90% of the Ethiopian Highlands above 1,500 m were originally forested, whereas closed forests now cover less than 3% of the Highlands. The original afro-montane and afro-alpine communities, which once covered some 393,000 km^2 together, are now restricted almost entirely to scattered and inaccessible areas. One of these is the area that is now the Simen Mountains National Park, which is one of the largest near-natural habitat islands in the Ethiopian Highlands. Nevertheless, its extent is so limited that several wildlife species have already become extinct or may become extinct even if complete protection could be achieved. The key problem in Simen is one of land use conflict. On the one hand, the present agricultural system is land-consuming due to low productivity and non-sustainable soil utilisation, and the agricultural area has been expanding at a rate of 2-3% a year (Staehli 1978). On the other hand, wildlife habitats will require larger areas to ensure the survival of endemic species and conservation of biodiversity.

International and national interest in Simen is based largely on the **existence of the Walya ibex** and other rare wildlife. This is why a Protected Area (PA) was established. The history of the PA is summarised in the following two tables, which have been grouped according to three main phases: (1) the pre-park situation as shown in Table 1, and (2) formalisation of park management and evolution of approaches to PA management in Table 2.

Table 1

Chronology of the Simen Mountains, Ethiopia: from prehistoric times to the 20th century.

Time	Major events
Last Ice Age	Probable immigration of Walya ibex population from the Near East (Lebanon) during Last Ice Age, i.e. around 30-10,000 BP (Nievergelt 1981)
6th century AD	First mention of 'People of Samen' by Cosmas Indicopleustes, indicating that human settlement in the Simen Mountains is 1,500 years old or more (Kirwan 1972).
15th century	First settlements in Gich Village in the centre of the present-day SMNP area; dated with 14C charcoal method in soil accumulation, i.e. marking the beginning of soil erosion processes after initial deforestation (Hurni 1978, 2005). Assumed retreat of Muslim population to villages along forest boundary in highlands and lowlands of SMNP after defeat of Mohammed Gragn in 1535.
19th century	First report of Walya ibex in scientific literature by E. Rüppell (1835-40).
20th century	Extensive external hunting of Walya ibex during Italian occupation of Ethiopia 1935-1941 (Staehli 1978).

The pre-park situation (Table 1) was characterised by free hunting of wildlife and thus little concern for conservation aspects. However, the Walya ibex seemed to have a special status, being mentioned in Ethiopian orthodox biblic texts – it is written that Saint Kidus Yared rode an ibex when he arrived from Jerusalem to the Ethiopian Highlands. Wildlife in Simen was observed and hunted by travellers from abroad in past centuries and thus made known to the outside world. Human settlement in Simen is apparently very old; even the highest villages located near the timber line, such as Gich Village in the centre of the park, are several hundred years old.

Formalisation of the PA as a national park (Table 2, upper part) was initiated by the Ethiopian Government in 1941. In the early 1960s, Walya ibexes were captured and displayed in a 'zoo' at the court of Emperor Haile Selassie. A mission initiated by UNESCO in 1965 and carried out by Bernhard Nievergelt, an ibex specialist at the University of Zurich, focused scientific attention for the first time on protecting the main habitat of the Walya ibex in their only wild location in the Simen Mountains. This came at a time when the total world population of the species was extremely small, probably only about 150 animals. After 1965, wildlife consultants from Kenya delimited the PA. Their focus was exclusively on wildlife preservation without regard for human settlement and agriculture. As a consequence, the PA was carved out of territory belonging to a total of 22 villages, sometimes including the whole village. By 1994 these villages were inhabited by nearly 30,000 people, of whom about 10,000 were either residing or cultivating land inside the park boundaries. Land use, grazing and wood cutting were formally forbidden, and a park management infrastructure with external park wardens (mostly Swiss) was seconded by the World Wildlife Fund (WWF) to the Ethiopian Wildlife Conservation Organisation between 1969 and 1977. These wardens initiated a number of scientific and development projects. Meanwhile formal regulations vis-à-vis the local population were poorly enforced by the park administration because park authority was weak and widespread illegal practices could not be mitigated. As a solution, resettlement of the human population residing inside the park boundaries to faraway provinces in southern Ethiopia was proposed in 1972. However, resettlement was never carried out, mainly due to failure on the part of the government. This phase was also characterised by initial development projects as well as by a formal request to the UNESCO World Heritage Convention to list the SMNP as a natural World Heritage Site, which was formally approved in 1978 (Hurni and Teshome 1986).

Table 2

Chronology of Simen Mountains, Ethiopia: establishment of the Simen Mountains National Park (SMNP) and World Heritage Site since 1965, including milestones of institutional approaches to PA management until 2007.

Time	Major events
1965	UNESCO mission fielded to Simen to focus on the threatened Walya ibex population (Nievergelt 1981).
1969	Establishment of SMNP (gazetting of boundary); start of formal management by Wild Life Conservation Organisation (WLCO) of Ethiopia.
1972	First proposals for resettlement of human inhabitants of SMNP to remote areas such as Arsi-Bale Province; explicit refusal by village representatives (Staehli 1978).
1969 - 1977	Expatriate Park Wardens (CW Nicol 1968-1969, J Mueller 1971-1973, P Staehli 1973-1975, H Hurni 1975-1977) and recruitment of local staff by WLCO; establishment of outposts in SMNP with permanent game scouts; moderate tourism infrastructure and few visitors (multi-day trekking); construction of first 32-km rural access trail to park for four-wheel vehicles in dry season, 1975.
1974 - 1977	First cooperation projects by Swiss Pro Simen Foundation, including the production of park maps, a boarding house for children of park staff in Debark, and support for various types of scientific research.
Nov. 1976	First disturbance of SMNP management by guerrilla activity.
1977 - 1978	First period of complete isolation of SMNP due to political unrest in Ethiopia that also affected the Simen Mountains; moving of staff from park area to Debark Town, the district capital.
1977	Application by WLCO to list SMNP as a UNESCO Natural World Heritage Site with the World Heritage Convention (WHC).
1978	Listing of SMNP, together with Yellowstone NP, as the first natural site on the WHC list.
1978 - 1985	Forceful removal of inhabitants of lowland villages inside SMNP by local governor and military forces; return of resettled people after guerrilla movement base was established in Simen.
1983 - 1986	UNESCO WHC support of Management Planning inside and surrounding SMNP; workshop in Gonder without local representation. Endorsement of management plan for SMNP and surrounding rural development area (Hurni 1986); very few foreign visitors to park.
1985 - 1989	Second period of complete isolation of SMNP; first Swiss conservation and development cooperation project near Debark, i.e. outside SMNP area.
1989 - 1991	War front within SMNP in Sankaber area, killing of wildlife and demolition of PA infrastructure by communities as protest against previous wildlife policy.
1991 - 1995	Change of government; establishment of regional states; periodic return of wildlife staff to SMNP.
1995 - 2000	Construction of rural access road for Simen districts leading along and through core protection zones of SMNP; workshop for stakeholders held in Gonder, including some representatives of local communities, with proposals to carry out development with active participation of local people.
2000	High-level mission to SMNP by Regional Government; formal establishment of Steering Committee for coordinating activities by different government departments.

1993 - present	Period of accelerating tourism development, mostly supported by improved road access, low-profile trekking infrastructure and camping; one comfortable lodge facility opened at park entrance by private investor in late 2006.
1996 - present	Decentralisation of management of protected areas from Addis Abeba to Bahr Dar; reestablishment of park management at regional level; listing of SMNP by WHC as 'PA in Danger'.
1996 - present	Design and implementation of cooperation projects for National Park and surrounding areas by UN agencies and Austrian Government (Integrated Development Project; SMNP-IDP, Integrated Livestock Development Project ILDP and Simen Mountains Integrated Programme-Programme Coordination Unit); first workshops with full participation of local villagers; second management plan; establishment of new centre of park management in Debark as well as outposts in SMNP.
2001-2005	Park Development and Protection Authority and a Wildlife Board legally established by regional proclamation; reestablishment of SMNP with appropriate technical and support staff and adequate financing. Participatory re-negotiation with local villages and redesign of park boundaries carried out by various stakeholders in cooperation with SMNP-IDP, as well as extension of park area by adding further core protection areas outside the current PA (not yet legalised).
2006	UNESCO/IUCN evaluation mission fielded in SMNP to re-assess possibilities for changing the status of SMNP from a 'PA in danger' back to a 'normal' World Heritage Site. Workshop to endorse second management plan for SMNP and surrounding rural area initiated.
2006	Assessment and preparation of a project document on Alternative Livelihood Strategies for the Population of the Simen Mountains National Park, by the Regional Government in cooperation with UNESCO World Heritage Centre.

Sources: compilation by authors based on ERCAND 2006, Hurni 1978, 1982, 1986 and 2005, Hurni and Ludi 2000, Ludi 2005, Nicol 1971, Nievergelt 1981, Staehli 1978.

The third PA phase has been characterised by an evolution of approaches to SMNP management (Table 2, lower part) since 1978. The period from 1978 to 1991 was characterised by inaccessibility and the lack of permanent management structures. From 1977 there were no more foreign park wardens due to political insecurity. In 1978, all park staff were withdrawn to the nearest town, Debark. This was the result of political protest against the military government and guerrilla activity by representatives of the royal feudal movements and newly established liberation fronts with various but mainly leftist backgrounds. At the same time, a government military expedition expelled about half the population from the park's lowland village areas. Some residents were killed in the process. It was not until 1985 that some of those resettled returned to their villages. By this time the liberation movement had established a base in the Simen Mountains from whence they launched attacks on the military government. In the meantime, occasional visits to the SMNP were possible. The Ethiopian Government initiated a draft management plan for the SMNP and its surrounding area with the support of UNESCO (Hurni 1986). This plan, however, could not be imple-

mented due to ongoing political disturbance. The fighting inside the PA between military government forces and guerrilla groups escalated to reach a peak in 1990. Wildlife was killed or driven away; Walya ibexes became almost completely extinct in the western part of the park and about one third of them were driven to areas outside the park boundary in the south-eastern portion of the PA.

Following a change of the Ethiopian Government in 1991, the PA management was re-established in 1993, camps were reconstructed, and scouts moved into the park again. At the same time, rural development was initiated in the Simen Mountains. Initial activities included the construction of a rural road linking Debark on the main highway with Mekane Birhan, the capital of a district (Janamora Wereda) in the southern part of the National Park. For topographic and economic reasons, the road route partly crossed the PA. There was severe discord between government agencies and park management and wildlife protection agencies with regard to the road alignment, with the latter trying to block the construction of the road through park territory. Decentralisation of government into regional states in the mid-1990s also led to a decentralised approach to PA management. The then Ethiopian Wildlife Conservation Organisation (EWCO) in Addis Abeba retained only a policy role and a management centre was established in the regional capital Bahr Dar. Bilateral and international support projects were also initiated in the Simen Mountains and the PA, and more participatory approaches were applied.

In summarising the situation of the Simen Mountains National Park, it is important to call attention to a number of so-called core problems of non-sustainable development, as defined by the NCCR North-South Programme (Hurni et al 2004), which are listed in Table 3. The table indicates the relative importance of these problems and trends in recent years. There have been improvements in the political and institutional realm, although problems here are still significant. The increased inequity of income and lack of management capacity (CP7) are worrying, although this is common in situations where subsistence economies develop into more market-oriented economies. In the socio-economic realm, limited market and employment opportunities represent a major challenge, since they have not really improved in recent years. Population and livelihood problems are threatening and increasing, as are infrastructure problems despite better communication and land ownership security. Finally, while forest protection (CP27) has improved slightly in recent years, degradation of land, soil and vegetation is acute and worsening. There have been improvements in many other core problems.

Table 3

Core problems of non-sustainable development (adapted from Messerli and Wiesmann 2004) as currently observed in the Simen Mountains inside and outside the Protected Area; subjective assessment of importance by the authors. Legend: 5 extremely important, 4 very important, 3 important, 2 moderately important, 1 of little importance. <= increasing importance; => decreasing importance

Thematic realm	Core problem (CP) of non-sustainable development	Importance of problem				
		5	4	3	2	1
Political and institutional	1) Weak international geopolitical position and negotiation power.			x		
	2) Dominating and conflicting world views and ethical values.		=>	x		
	3) Contradictory policies and weak formal institutions at different levels.	=>	x			
	4) Inadequate legal framework and regulations; lack of enforcement and means.	=>	x			
	5) Erosion of traditional and/or indigenous institutions.				x	
	6) Governance failures, insufficient empowerment and insufficient decentralisation.		=>	x		
	7) Unequal distribution of power and resources; inequity of income.		x	<=		
Socio-cultural and economic	8) Social, cultural and ethnic tensions and insecurity.			=>	x	
	9) Prevalence of crime, violence and violent conflicts.	x				
	10) Unused or restricted innovative capacities and knowledge.	=>	x			x
	11) Great socio-economic and gender disparities.	x	<=			
	12) Incompatible and fragile economic systems with limited market and employment opportunities.	x				
	13) Dominance of the global economy over national development.					x
Population and livelihood	14) Restrictions on human rights and individual development potential.	=>	x			
	15) Poverty and livelihood insecurity.	x	<=			
	16) Health risks and vulnerability to ill health.	=>	x			
	17) Population pressure and multi-dimensional migration.		x			
	18) Unfavourable dynamics and imbalances in socio-economic structures.				x	
Infrastructure, services and land use	19) Poor water supply and environmental sanitation.		x			
	20) Lack of adequate infrastructure and management such as transport, energy and irrigation.	x =>				
	21) Limited and inadequate socio-economic services such as education, health and markets.	x =>				
	22) Discrimination in information and communication flows and technologies.	=>	x			

	23) Inequality of ownership and access to land, natural and common property resources.					x <=
	24) Inadequate and conflicting land use systems and technologies.	x	<=			
Bio-physical and ecological	25) Inadequate availability of freshwater.				x	<=
	26) Degradation of land, soil and vegetation cover.	x	<=			
	27) Degradation of forests and other natural habitats.	=>	x			
	28) Pollution and overuse of renewable and non-renewable natural resources.		x	<=		
	29) Loss of biological and agro-biological diversity.			x		
	30) Risks of natural and human-induced hazards and climate change.			x	<=	

Sources: compilation by authors based on ERCAND 2006, Hurni 1978, 1982, 1986 and 2005, Hurni and Ludi 2000, Ludi 2005, Nicol 1971, Nievergelt 1981, Staehli 1978.

8.3 Changes in resources, livelihoods and institutions

A primary and very important characteristic of the Simen Mountains is the demographic changes that have taken place since the mid-1950s. There has been an impressive overall increase in population, similar to the rest of Ethiopia. Taking the national average population growth rate for Ethiopia, which was about 2.5% per year for the period 1960-2000, as an average for Simen as well, the population growth in the past 40 years can be reconstructed from the figures given for the four Weredas of Debark, Janamora, Beyeda and Adi Arkay, and reduced for the Simen Mountains. This would result in a population of about 425,000 persons by mid 2007 (CSA 2007). From this, an initial population in 1967 of about 160,000 people can be reconstructed – 2.7 times smaller than today. When looking at the population in the vicinity of the Simen Mountains National Park (SMNP), however, the picture becomes more differentiated (Table 4).

Table 4

Population growth in selected villages in the vicinity or inside the Simen Mountains National Park from 1964 to 1994. Sources: Staehli 1978 (for 1964 and 1975), Hurni and Ludi 2000 (for 1994).

Settlement name	Population			Growth rates (% per year)		
	1964	1975	1994	1964-75	1975-94	Overall
Abeka	126	172	297	2.9	2.9	2.9
Abergina	298	454	2,050	3.9	*8.3	*6.6
Agidamya	252	328	280	2.4	**-0.8	**0.4
Amba Ber	172	227	300	2.6	1.5	1.9
Ambaras	1,231	1,483	1,600	1.7	**0.4	**0.9
Amiwalka	407	508	1,700	2.0	*6.6	*4.9
Antola	147	181	280	1.9	2.3	2.2
Argin	508	689	2,400	2.8	*6.8	*5.3
Debir	295	466	2,700	4.2	*9.7	*7.7
Dirni	206	281	330	2.9	**0.8	1.6
Gich	554	748	1,084	2.8	2.0	2.3
Mecheka/Tikur Wuha	480	466	1,800	**-0.3	*7.4	*4.5
Michibiny	202	462	759	*7.8	2.6	*4.5
Mindigebsa	433	487	1,582	1.1	*6.4	*4.4
Muchila	210	172	226	**-1.8	**1.4	**0.2
Nariya	210	286	320	2.8	**0.6	**1.4
Tiya	80	147	210	5.7	1.9	3.3
Truwata	160	193	290	1.7	2.2	2.0
Total for sample	5,971	7,750	18,208	2.4	4.6	3.8

* Villages with high immigration (over 4% annual growth rate) in the given period

** Villages with high emigration (less than 1.5% annual growth rate) in the given period

Analysis of **population assessments** in 1964, 1975 and 1994 for 18 selected villages in the surroundings and inside the SMNP showed that the total population of the sample increased from 5,971 to 18,208 persons in only 30 years' time, resulting in a very high average growth rate of 3.8% per year. In the case of Gich Village in the centre of the PA, the total population in 2006 was found to be 1,672 (ERCAND 2006). Hence the growth rate in the period 1994-2006 was exceptionally high, at 3.7% per year, raising the average rate for Gich Village in the 42 years observed to 2.7% per year. These figures are clearly above the natural growth rate of around 2.5% and will need to be assessed in the light of migration movements into and away from the 18 villages, within the 18 villages, and to wider areas beyond them. Some general observations can be made here. The period 1964-1975 shows much less migration movement than the period 1975-1994, when 11 of the 18 villages

experienced intensive movements: in 6 villages immigration dominated, while 5 villages were characterised by emigration. This distribution was also observed for the overall period, similar to the period 1975-1994, with 7 villages having high immigration and 4 having high emigration. In general those villages receiving people were much less affected by the establishment of the park than villages from which people moved away. For example, in 1978, the villages along the eastern boundary of the SMNP, namely some parts of Argin Village, and all people in the villages of Dihwara, Truwata, Tiya, Dirni, Antola, Amba Ber, Agidamya and Muchila, were expelled by the then governor of Debark, Metoaleka Gebre-Hiwot. His troops burnt all the houses and did not allow people to move back to their own territory. This incident, which caused many casualties, also induced a population movement of 2,500-3,000 persons to neighbouring villages farther away from the park. In 1985, the guerrilla movement known as the EPRDF (Ethiopian Peoples Revolutionary Democratic Front) allowed people to move back and rebuild their villages. Nevertheless, the overall growth rates for the villages mentioned remained relatively low for the period 1975-1994, namely at 1.2% compared to 2.0% for the period 1964-1975. Other villages like Ambaras and Nariya, but also Gich, had below-average growth rates from 1975-1994 of only 0.4%, 0.6% and 2.0%, respectively, as opposed to the rather 'normal' growth rate of 2.4% in the period 1964-1975. This can be explained by the resettlement pressures exerted by the park, which were imminent since the early 1970s and motivated many people to leave their villages before repression would take place.

Other important **characteristics of the livelihood strategies** of Simen inhabitants in relation to the PA establishment in the 1970s were: (a) to attempt to find state employment as game wardens, or (b) alternatively as tourist guides, muleteers, or mule keepers. There was much hope among the local population that the PA would benefit many people. In reality only very few people actually benefited. Most were restricted in their activities as woodcutting was restricted, hunting was prohibited, and whole settlement areas were questioned. At the same time, expansion of cropland was no longer possible in most areas of Simen, except for some lowland areas with bushland reserves. As a consequence of population growth, agriculture and livestock keeping had to be intensified on the basis of existing limited resources, with fallow periods being shortened or abandoned altogether, livestock numbers increased at the expense of grassland and fallow land herbages. Off-farm activities were tried intensively, although they were rarely successful. This intensification of land use led to degradation of grassland

vegetation, particularly in afro-alpine areas above cultivated land. It also triggered more soil erosion on steep slopes – which constituted 80% of all agricultural cropland – with up to 200 tonnes of soil loss per hectare per year, or about 80 tonnes per hectare on average for all cropland. This is equivalent to 1 centimetre of overall loss in soil depth for each year of cultivation. Since the mid-1960s, Simen has thus lost about 20-40 cm of its total soil depth, which amounts to a productivity loss per unit area between 20% and 80% depending on the status of the soil prior to 1960.

All farmers in Simen suffer from ongoing and accelerated **decline of farm productivity**, even without considering the regulatory measures of the PA. The general impoverishment of the inhabitants of the Simen Mountains in the past 50 years has reached a stage today where the annual deficit in food production is between 20% and 80% depending on the assessment of the village in question. This deficit has been made up since 1995 by government programmes in the form of food aid. The core issue, however, is that the deficit is structural, i.e. it has been induced by demographic pressure and land degradation, and is not the result of temporary climatic conditions such as insufficient rainfall, etc., nor is it due to PA management. The SMNP has probably had very little positive or negative influence on this development.

Many local institutions can be found in peasant farm communities. A few of them are related to natural resources, such as preserving trees in graveyards and around Christian churches. Religious institutions of the different faiths are thus the most important ones (Ethiopian Orthodox Christianity, Islam, and formerly also Ethiopian Judaism (Felasha)), but there are also many institutional arrangements of inter-farm collaboration. In 1977, the then socialist military government introduced land reform with distribution of state-owned land to all tillers based on family size, and organised peasants into what were then called Peasant Associations, now Kebele Associations (KAs). This also included the villages inside the SMNP, although KA centres were not located inside the PA. One important source of conflict between the PA and the villages was the construction of schools inside the PA, which began in 1975 and has been successfully banned by park authorities ever since then, into the early years of the 21st century. Thus children from villages inside the PA had to walk long distances if they wanted to go to school. Park residents, however, started to build schools at their own expense, for example in Gich Village in 2004, and thus pressurised the government to provide teachers. After 1995, the services that could be offered by villages to tourists were organised in a system of shifts, whereby each

village in turn would be able to offer animals and carriers to tourists. This system was appreciated by villages that had had no access to tourism, but it is still very inefficient, as village groups offering services have to wait for tourists in Debark or along the road to the PA. A further point of conflict is that these groups are remunerated only indirectly, i.e. by PA staff that collect fees from the tourists. This is a highly non-transparent system over which local people have little ownership or control.

Many external, i.e. regional, national and international factors led to **changes in the management of the PA**. They included the activities of UNESCO and WWF in the 1960s and 1970s, the provision of experts and wardens, and the establishment of the Pro Simen Foundation in Switzerland in 1974 to support research and development in the Simen area, and the reinforcement of local efforts to manage the PA. In 1977, the nomination of the SMNP as a World Heritage Site, and its listing in 1978, brought even more international attention to the Simen Mountains, including technical assistance from the World Heritage Centre in 1982 to develop a management plan for the site (Hurni 1986). Since the change of government in 1991, and particularly with the decentralisation of PA management to the regional government in 1996, a number of measures have been taken to invite foreign assistance to support conservation and development in the area. UN organisations (UNCDF) as well as bilateral technical assistance (Austrian Embassy Development Cooperation) initiated programmes in support of rural access and development, including the establishment of a PA headquarters in Debark, training of tourist guides and PA staff, as well as some rural development programmes.

In 1995, the decision made by the regional government to build an **access road** to the remote Wereda of Janamora, which lacked road access, provoked strong opposition from national and international conservation organisations. The regional road department constructed the access road without prior consultation with other departments of the government, and despite international concerns at the time. Several hectares of primary *Erica arborea* forests and up to 100 ha of afro-alpine grassland in the prime protection zone inside the PA were converted to road, although there were alternatives to this and external agencies were also willing to assist. External engagement would, however, have meant a slower pace in road construction, which regional government agencies did not want to accept. The resulting road now provides good access to the PA as well as the rural area farther away. Despite severe disturbance of important wildlife habitats and other protection zones, the road has facilitated better management of the PA by the PA staff, better

access for tourists, and some transport services for local peasants. In addition, the government also initiated expansion of its administration, particularly in remote areas that had so far not been well served by the administration, such as Mekane Birhan, the capital of Janamora, and Dilyibza, the capital of Beyeda. Other social services increasingly being provided include the construction of a number of primary schools in all major Kebele Associations in the Weredas, as well as springs in villages throughout the Simen Mountains. Thus decentralised development, which never existed before (Hurni 2005), is now visible virtually everywhere in Simen.

The views and attitudes of local stakeholders in Simen towards the PA administration are quite different today from what they were 10 years ago. Although people living inside the park are still confronted with the threat of resettlement, officials no longer talk of forced removal of people and villages. Voluntary resettlement is the current approach used by government. Stakeholders, however, know that even if government agencies talk about voluntary resettlement it is clear that the ultimate goal has remained the same, although room for negotiation has perhaps been widened. In addition, the increasing efforts of regional state and technical cooperation to bring development to the area, such as infrastructure and supportive policies, have created a more positive attitude among village representatives and villagers towards external impacts. Tourism to the PA has grown visibly, from less than 1,000 tourists in 1995 to more than 6,000 in 2006 (ERCAND 2006), and thus raised many hopes. Perhaps the authorities and projects have raised hopes too high given the modest impact this sector can have even under favourable circumstances. Protection of wildlife has finally been generally accepted, although immediate threats remain a point of negotiation leading to sporadic non-compliance. For example, leopards in the lowland parts of the park have entered villages and houses and taken goats. Inside the PA, only trees are respected. All other vegetative resources are still exploited by local villagers both openly and secretively.

The above **violations of PA** regulations by local land users constitute points of direct conflict between PA staff and villages in the vicinity of the PA. These conflicts are sometimes resolved through police interventions and district courts in cases of grave violation, such as killing of wildlife, but usually in direct dealings between PA wardens and the concerned individuals or village institutions in cases of lesser violations such as tree cutting.

Two antagonistic discourses are prevalent in the case of the Simen Mountains PA. On the one hand, there is the **protectionist approach**: the establishment of a National Park excluding human use as far as possible crafts a physical and symbolic divide between nature and culture and expresses humanity's moral commitment to protection of biodiversity (Neumann 2004). This is still prevalent among PA management agencies, although less openly expressed than in the past. On the other hand, **'new conservation'** narratives are gaining ground: they call for the inclusion of local communities in PA management, establishing benefit-sharing mechanisms and stressing the fact that conservation and development are mutually dependent. The current position and strategy of most external development actors in the Simen Mountains PA can best be described as following ideas of integrated conservation and development projects (ICDPs) and community-based natural resource management (CBNRM) strategies. Although they are seemingly convincing, criticism of ICDPs and CBNRM projects is increasing, as there is little evidence of truly successful ICDPs achieving both development and conservation goals. Criticism stems from two positions: The first comes from a tradition that is highly suspicious of conservation in general. It is feared that the 'new narrative' of integrated conservation and development simply hides old-style protectionist approaches and is a means of extending government control. A further criticism is that the concept of 'local population' as partners in ICDPs is flawed, as it usually does not consider differentiation within societies (e.g. by class, wealth, gender) (Neumann 1997; Berkes 2004) and thus offers no new approach to socially equitable biodiversity conservation approaches. Representatives of the second position, which is highly suspicious of development in general, fear that involving local residents in the management of protected areas endangers preservation of species and ecosystems (Spinage 1998), as demonstrated by the continuing and alarmingly high loss of species (Millennium Ecosystem Assessment 2005) despite increasing areas of land under protection (Zimmerer et al 2004).

The ambivalent position of **government agencies** responsible for the management of protected areas in Ethiopia is shown in their approach to actual management of PAs. In the case of the SMNP, for example, the proclamation on PA management clearly lists prohibited activities inside National Parks such as crop cultivation, animal grazing and wood cutting. These provisions are adapted from international treaties to which Ethiopia is a signatory and which relate to the protection of biodiversity. Despite these lists of prohibited activities, the relevant government agencies are not in a position

to control them inside the National Park. This can be explained on the one hand by the fact that the area has always been inhabited, long before the establishment of the PA, and that forced resettlement is currently not feasible politically. On the other hand, the debates on whether rural development should be privileged over protecting nature or vice-versa have been carried over from the former guerrilla movement to the current government. To gain support, guerrilla forces promised inhabitants of remote areas who suffered greatly during the civil war preferential treatment and considerable investments. The government is trying to find a way out of this dilemma by promising the residents of the park that they will profit the most from biodiversity protection and increased tourism through income and job opportunities in the tourism sector if they refrain from using park resources. However, these benefits have not yet been realised and there are far too many claimants, rendering hopes of additional benefits almost meaningless.

International organisations such as the World Conservation Union (IUCN) or UNESCO World Heritage Centre (UNESCO-WHC) primarily see the need to protect endangered species, especially the endemic Walya ibex, and maintain the value of the World Heritage Site, and put greater emphasis on protection than on development – informed in part by the discourse on the moral obligation of international communities to protect endangered species against threats from local communities. They regard declining numbers of ibexes primarily as the result of the government's past inefficiency in park management, the non-enforcement of rules and recent infrastructure development. The secondary culprits are the local residents responsible for expansion of arable land, deforestation, overgrazing, and poaching. International conservation agencies still generally consider land use by local residents as an encroachment on the resources of the National Park. 'Illegal' settlements and agriculture are cited alongside poaching as threats to endangered species and the value of the National Park and World Heritage Site (UNESCO World Heritage Centre 2002). These two reasons led to the inscription of the SMNP on the List of World Heritage Sites in Danger, not in the first instance as punishment for insufficient protection and enforcement of internationally binding rules, but rather to raise national and international awareness of the difficult situation the PA faces. While some of the criteria required to remove the SMNP from the Danger List have yet to be fulfilled, international conservation agencies also recognise that in countries like Ethiopia biodiversity conservation is impossible without the consent of the resident population. Thus, efforts are increasing to find solutions that combine biodiversity and resource conservation with rural development. As biodiversity protection is

primarily an international goal, substantial financial inputs need to be mobilised on this level to compensate resident land users for restricted access.

Local residents, however, claim that without their conservation efforts, endangered species would have been extinct centuries ago. This refers primarily to the protection of the Walya ibex rooted in the Christian legend that the bible was carried on the back of this animal from Jerusalem to Ethiopia. Local residents have started strategically using the discourse on 'guardians of nature' to their own advantage, claiming that through their sheer presence in the park area wildlife has been preserved to date. They also point out that they are cultivating ancestral lands and that they were here well before the National Park was established. Therefore, outside claims on resources are considered illegitimate. Local residents living inside the park also resent being less well served by social development. Since they have had to accept that the National Park is a reality and specific restrictions have been imposed with regard to access and use of natural resources, they claim that they should be compensated for the loss of development opportunities. Residents of villages located totally inside the National Park claim that only they should be entitled to benefit from the existence of the park, for example by being employed, selling wood, or renting out animals. This has led to considerable conflicts among different villages.

Rather than questioning the ultimate goals of biodiversity protection in general or playing off development needs against biodiversity conservation, it is more important to concentrate on the **process** by which biodiversity conservation is practised and which could eventually also benefit local residents (Brechin et al 2002). What options would exist in the Simen Mountains for reconciling these different perceptions of nature protection and rural development and claims by different actors at local, national and international levels? One major approach first formulated in the management plan of 1986 is to redefine park boundaries and create zones with varying management and protection levels. This was one of the first main activities ventured by the parks Development and Protection Authority (PaDPA). Areas constituting important wildlife habitats have been additionally included in a newly proposed park and contested village territories have been excluded. This is seen to potentially reduce tensions between park officials and local residents without endangering the protection of biodiversity. With the support of donor agencies, village conferences were held to discuss options for adjusting the park boundary and creating a core zone for biodiversity protection without human interference. Following these discussions, village representa-

tives were elected to delimitate the boundary on the spot. Even with this new boundary, residents still face restrictions regarding specific access rights to vital natural resources such as forests. Nonetheless, the process of coming to an agreement regarding the location of this new boundary was considered basically fair, and included local residents as partners in the negotiation for the first time. Thus the legitimacy of the new boundary is much greater than the result of any decision previously taken by park authorities and supported by external experts from international protection agencies. By moving away from the old pro-nature or pro-people dichotomy and including local residents in the delimitation of the park boundary, a feasible and just approach has been chosen which leaves room for future negotiations and hopefully long-term biodiversity protection.

8.4 Governance of the Simen Mountains National Park

Presently, in contrast to the policies of the previous government, tourism and private investment are greatly encouraged and are expanding throughout Ethiopia. Yet the draft wildlife policy prepared at the federal level that entails effective overall management and aims to contribute to economic development at community level has not yet been endorsed. Still, wildlife management at various levels takes many different management forms in the country. In Amhara Region, to which the SMNP belongs, wildlife is given due regard by local government. Evidence for this is the official enactment and issuing of a proclamation (Zikre Hig No. 96/2003) establishing the Parks Development and Protection Authority and a Wildlife Board. The proclamation came into force in December 2003 to protect wildlife resources, to manage the National Park and to contribute to the local communities and the overall rural economy. In the case of the Simen Mountains PA, the local government has taken commendable steps towards improving its management by establishing an effective management structure and recruiting appropriate technical staff with an adequate budget. Donor support programmes are also helping to change the attitudes of local communities, i.e. not seeing the park just as a threat to their existence and as a defender of wildlife and habitats, but as a promoter of better livelihoods. Donor programmes also contribute to benefit sharing through tourism development. While the relative contribution to the livelihoods of the whole population in and around the park is still negligible it is symbolically important. Recently an Integrated Development Plan has been drafted whereby development interventions

could be initiated in the buffer areas outside the park under the assumption that alternative livelihoods for local communities will be encouraged, and natural resources managed sustainably.

The SMNP was **officially gazetted** by the *Negarit Gazetta* of 31st October 1969, the legal proclamation document for policies and laws of the Ethiopian Government. This gazetting consisted of a detailed description of the park boundary as prepared by external experts, without the consultation and consent of local people living within and on the periphery of the Protected Area (PA). It is noteworthy that the boundary described in the *Negarit Gazetta* does not even circumscribe a closed area, i.e. the boundary starts at one point in the highlands (Aman Amba Mountain) but ends at a different point 1 km away. Since its establishment, the management and administration of the park has been the responsibility of the former Ethiopian Wildlife Conservation Organisation (EWCO), now the Ethiopian Wildlife Conservation Department (EWCD) within the Federal Ministry of Agriculture and Rural Development (MoARD). However, following the decentralisation process in 1996, responsibility for managing the park was formally transferred to the regional government of the Amhara National Regional State (ANRS), and recently to the Parks Development and Protection Authority.

According to the present draft management plan (ERCAND 2006), a **redemarcation of the park boundaries** was recently carried out based on recommendations made earlier by Hurni and Ludi (2000), and again in the draft management plan (Falch 2000). This included narrowing of the gazetted PA by excluding most of the land cultivated by the villages along the boundary of the PA, adding prime protection zones to the west of the PA up to and including the main road section at Lemalimo between Debark and Dip Bahr along Gonder–Aksum highway, and extending the PA from Chennek towards the southeast, including Bwahit and Mesarerya Mountains (Figure 5). The newly proposed PA thus covers an area of 234 km^2, which is almost double the formerly gazetted PA that encompassed 136 km^2 in reality instead of the 230 km^2 that had been claimed in the original document. A further extension was proposed towards Silki, Abba Yared and Kidus Yared Mountains, as well as the Ras Dejen Mountain area to the east.

The task of **redefining the boundaries** of the PA was carried out with the local communities residing near the park (Teshome Mulu, pers. comm. in Debark on 13 September 2006. The work was conducted by a team composed of representatives from the Parks Development and Protection Authority

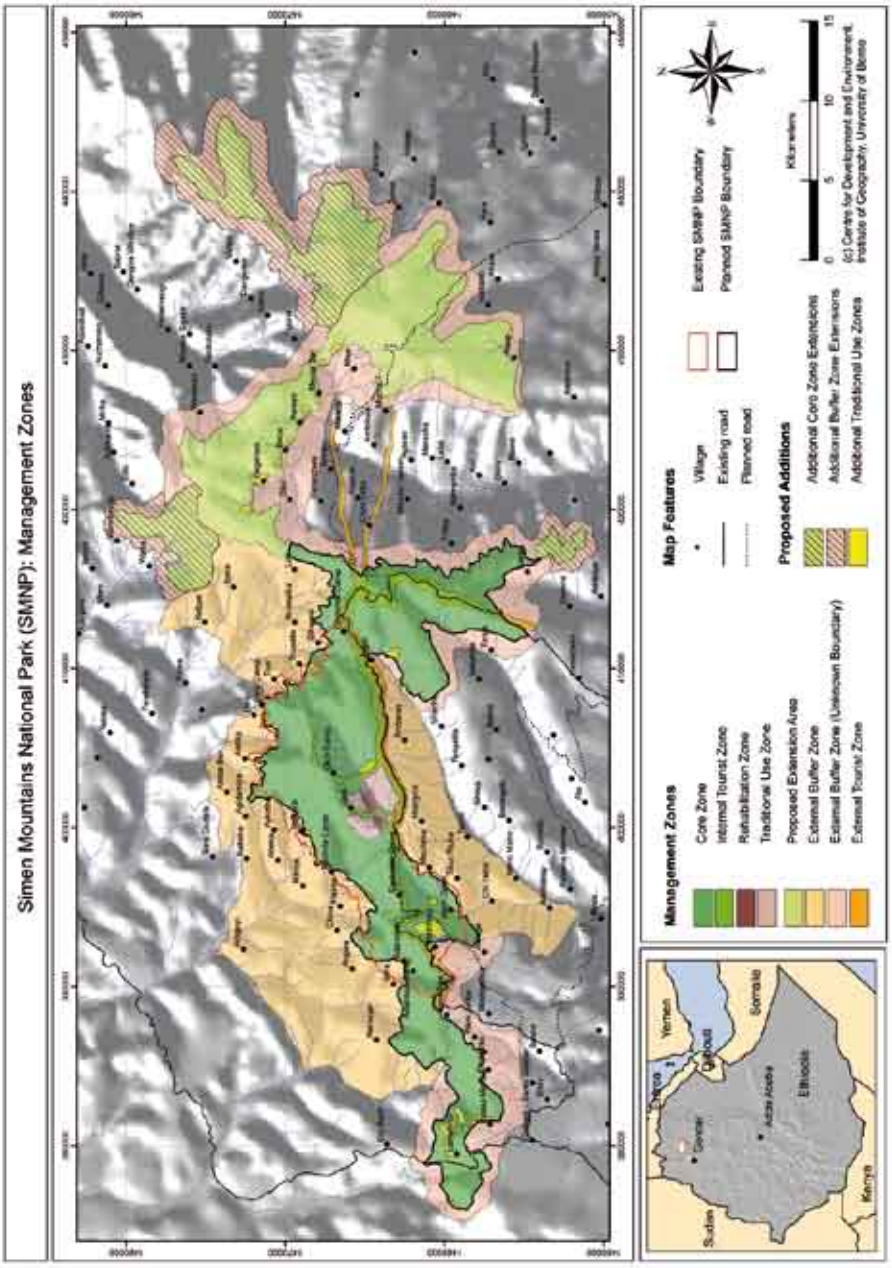

Fig. 5
New demarcation of the Simen Mountains National Park, including proposed extension zones towards the east, as compared to the PA that was legally gazetted in 1969 and thus still officially delimits the Simen Mountains World Heritage Site. Sources: Hurni and Ludi (2000) and ERCAND (2006), map by Kaspar Hurni (2007).

(PaDPA) and from the Environmental Protection and Land Administration and Use Authority (EPLAUA) in Bahr Dar, the park office in Debark, the administration of the three concerned Weredas (districts), the Weredas' agricultural offices, and the concerned Kebele Associations (KAs). Accordingly, the whole re-demarcation process, including establishment of each boundary beacon, was carried out with the consent of the representatives of the KAs. In principle the work was carried out together with the local communities, although some inhabitants objected that the village-level process for selecting village representatives to be part of the demarcation committee was not sufficiently transparent (Ludi 2005). Despite these complaints, the new boundaries of the PA are likely to be respected by the communities living on the periphery of the park, because their cultivated land was largely excluded from the conservation area. For the few communities living predominantly inside, however, the situation remains unchanged. So far, some 200 beacons (concrete pillars) have been erected on the ground, and many more are expected to be built in the near future, particularly along the new PA extension boundary towards the east. Two conferences were conducted in February 2007 in the capitals of the two Weredas of Janamora and Beyeda, in Mekane Birhan and Dilyibza, and village-level conferences in both districts are either underway or have been completed, and have included the definition of boundaries. It should be noted that these new boundaries will have to be legally gazetted again in order to become binding both for the PA and for the World Heritage Site. Despite the realignment, a number of villages are still located inside the park, particularly Gich, Adarmaz and Lemalimo, as well as smaller parts of the villages of Michibiny, Debir, Argin, Truwata, Tiya, Muchila and, since the enlargement of the park, Buyit Ras, Kebero and Afaf. The newly demarcated park thus still includes about 3,500 persons and about 12 km^2 of cropland area (ERCAND 2006), but this is less than in the original PA, which included about 10,000 persons and about 33 km^2 of cropland in 1994 (Hurni and Ludi 2000).

A **number of regulations** have now been proposed for different management zones in the draft management plan (ERCAND 2006). Apart from the new demarcation of the park, the communities have not been involved in the formulation of the regulations. Most important is the definition of a Core Zone, now encompassing about 95% of the new PA or 218 km^2, in which all human activity, including local agriculture and livestock grazing, wood cutting and tourism, is to be forbidden or controlled. Another zone is the Traditional Use Zone, covering about 8.5 km^2, which consists primarily of Gich Village and its cropland and grazing land. Here the villages are permitted to continue their usual activities until they are willing to vacate the area

voluntarily, e.g. after being offered a number of incentives or alternative livelihoods (ERCAND 2006). Other zones inside the PA are a Rehabilitation Zone, i.e. areas where high levels of degradation of vegetation and soils have occurred (again near Gich Village), and a Tourist Zone. These latter zones are very small compared to the rest of the PA. Outside the PA, finally, the park administration proposes an External Buffer Zone, where the main objective is to improve the living conditions of the local communities. This concerns a population of some 85,000 people in 17 KAs bordering the PA (ERCAND 2006) and entails huge investment and careful planning.

The **impact of the international conservation debate** at both national and local levels has been considerable throughout the life of the PA. The first boundary delimitation and gazetting was done by external experts with long experience in East Africa dating back to the colonial period (Nicol 1971). The PA was gazetted irrespective of human land use, with the expectation that local land users would be relocated outside the PA once it was established, and even resettled to far-away places in different agro-ecological zones, i.e. from highlands to lowlands. This thinking persisted with the responsible PA authorities throughout much of the period from 1969 until about 1995, when PA management was decentralised. This attitude about PA management was also part of most curricula in wildlife training, such as the College of African Wildlife Management in Mweka, Tanzania, where many wildlife specialists from Ethiopia were trained in the 1970s and 1980s. It should be noted that already in the mid-1970s external experts had begun to point out the need to combine wildlife conservation with development for the people inside the PA and around it (see Messerli 1978). Most international non-governmental organisations (NGOs), including the Pro Simen Foundation (Switzerland) and the World Wide Fund for Nature (WWF), who assisted in developing the PA as early as the 1970s, had focused on the human land use system and development issues. Since that time, they have proposed measures such as soil and water conservation, reforestation, water development, social infrastructure, etc., but these efforts were hindered by the ongoing political turmoil and war affecting the area at the time. In 1996, an international UNESCO-WHC mission, together with national and regional government representatives, assessed the overall situation in the Simen Mountains National Park and World Heritage Site, and recommended putting the PA on the "List of World Heritage Sites in Danger" (Hurni et al 1996), assuming that this move would trigger increased awareness among national stakeholders and lead to better management and, among international stakeholders, to increased financial and technical support of national and regional park man-

agement authorities. The listing was effected by the World Heritage Committee and its progress has been closely monitored by the World Heritage Centre ever since that date. Increases in donor funding and technical support have not however been as significant as anticipated.

Incentive structures that favour local populations have been, and still are, a standing offer of the government to assist in voluntary resettlement of people who wish to migrate away from the PA. However, such voluntary movement has yet to occur on a large scale. It is therefore difficult to judge whether or not the incentives offered are sufficient to motivate people to relocate voluntarily. Those who actually migrated from the area, particularly since 1975, have not received any support. Their experiences raise doubts about this particular government policy. Other incentives for local residents in the area are the new regulations concerning provision of tourist services by villages. Organised through eco-tourism societies they aim to share the benefits in a fair manner among the individuals and the village-level societies. Members of these societies offer their services to tourists. They wait along the road to the PA or at the first camp inside the PA, in Sankaber, until tourists arrive. The farmers then offer their services as carriers, with transport animals, or as helpers during trekking, and are compensated afterwards. This is an attractive and fairly equitable system, and the farmers who thus earn some additional cash income derive an immediate benefit from the PA. While this can be a considerable share of some people's cash income, they still continue their subsistence agriculture and most of the population do not benefit from tourism at all. Nevertheless, inhabitants see the Walya ibex and other wildlife increasingly as an important resource that attracts tourists and other visitors to the area, thereby providing some additional income.

It can be generally said that the **trust of local people** in policies and government agencies, as opposed to historical experience in Simen, has been growing in recent years. Prior to 1970 there had been very little state influence in the area. Then the PA was established with boundary beacons, a number of wildlife camps were constructed, and a staff of guards to protect wildlife and their habitats against human use were deployed. These measures required the forceful application of state power against most of the customary land use practices of the local people. Imminent threats of expulsion from their home territories persisted over many decades, so that people do not believe that the present government message of voluntary resettlement is really different from earlier rhetoric. In fact, experience and lessons learnt from past government policies have led to a negative attitude on the part of the local

population – not only in the SMNP, but in other PAs in Ethiopia as well. In some cases deliberate killing of wildlife and demolition of park infrastructure have resulted. This was especially forceful and violent immediately prior to and after the change of government in 1991. At times when the state was weak, for example when guerrilla movements established their bases in hideouts in the Simen Mountains, local residents took advantage of the situation and demolished state infrastructure, thereby pursuing a dual strategy of obtaining some personal material such as corrugated iron for roof building while at the same time inflicting damage on the state. Extensive poaching of wildlife resulted, for example, in the case of Walya ibex, whose numbers were diminished from about 355 in 1983 to about 230 in 1994-1996. It should be noted, however, that in 1969 the ibex population was estimated at only about 200, while in 2005 this number had increased to around 500, and in 2007 may have been as much as 550 animals. The considerable increase since about 1990 can be explained by the increased presence of government and PA authorities and diminished poaching.

Bottom-up experience with the potential to improve active participation and a sense of ownership by local actors on their own territory were gained for the first time in the second half of the 1980s, when Simen was governed by the former guerrilla movement of the Ethiopian Peoples Revolutionary Democratic Front (EPRDF), which was then operating from the Simen Mountains prior to conquering Ethiopia together with the Tigray People's Liberation Front (TPLF). This local government at that time empowered the villagers around the PA to return to their settlements, rebuild them, and reclaim the land which they had had to abandon in part some 7 years earlier, in 1978. At the same time the EPRDF asked the villagers to protect the environment, including the Walya ibex and other wildlife. This created confidence and instilled responsibility with respect to protection of this natural heritage, while also assuring that villagers could use land in the vicinity of the PA. When the EPRDF assumed national and regional political power after 1991, the inhabitants of the Simen Mountains felt at ease with the new government, although they were not sure whether the PA administration would resume the old attitude of opposing land use inside the PA. In general, the relationship between PA administration and local land users has been steadily improving.

One of the most recent developments in the PA concerns the process of establishment of one big Ecotourism and Natural Resources Conservation Cooperative. Two stakeholders' workshops (one in 2005 and the second in February 2007) were held in Debark, involving 100-150 representatives of

the villages to discuss this issue. In the second workshop the participants reached a consensus on having one big cooperative rather than smaller ecotourism groups as they had previously had. The establishment of a unified and stronger cooperative will be unique in Amhara Region as well as in Ethiopia, and could be a model for similar situations in other PAs in the country. The participants also discussed draft bylaws (i.e. administrative regulations) for the anticipated cooperative and approved them with modifications. As a next step, the present ecotourism groups will be audited in order to determine their financial status and capital, and the foundation conference will be organised. It can be anticipated that the upcoming cooperative will be registered as a legal Community-Based Organisation (CBO), which should be capable of administering financial transactions in a fair way, thereby benefiting the members of various ecotourism business groups. To realise this cooperative, the regional government's Agency of Cooperatives Promotion has been working closely with the PA administration, issuing for the first time a Directive on the Formation and Functioning of Ecotourism and Natural Resources Conservation Cooperatives in Amhara Region.

8.5 Conclusions and recommendations

A number of **core problems of non-sustainable development** have been observed in the Simen Mountains, both inside and outside the Protected Area (Table 3). Out of 30 core problems established on the basis of observations of different contexts world-wide (Messerli and Wiesmann 2004), 23 were assessed as 'important' to 'extremely important' in Simen. This is a very high number when compared with other case studies. Using Table 3 as a source, the dynamics of these core problems have been summarised for the different thematic realms in Table 5. The result shows that out of 30 core problems, 12 are showing improvement, 9 remain constant, and 9 are worsening. This can be regarded as a slight improvement of the overall situation in the recent past. A large number (4 out of 12) of the improving core problems are in the political and institutional realm. They are nevertheless still judged as 'important' to 'very important'; i.e. there is still ample room for further improvement. Core problem number 7 in this thematic realm, inequity of income, has been assessed as worsening, simply because there is more economic activity in the region than ever before, fostering unequal distribution of power. In the bio-physical and ecological realm, finally, more than half of the core problems are still growing worse (4 out of 7). This mainly concerns the use of natural resources in traditional land use systems,

Table 5

Dynamics of importance of core problems in the Simen Mountains inside and outside the protected area, grouped into the different thematic realms. Source: based on Table 3.

Thematic realm	Number of core problems...		
	...worsening	...constant	...improving
(a) Political and institutional	1	2	4
(b) Socio-cultural and economic	1	3	2
(c) Population and livelihoods	1	2	2
(d) Infrastructure, services and land use	2	1	3
(e) Bio-physical and ecological	4	1	1
Total	9	9	12

which are all greatly affected and are central focal points of poverty characterised by weak socio-economic structures. The **first recommendation** is thus to pursue sustainable development at all levels: (a) continue improving political and institutional conditions by further empowering local land users and villages in the Simen Mountains, immediately surrounding the park, and taking further measures to prevent corruption in places where financial transactions are involved, e.g. in tourism; (b) improve socio-cultural and economic conditions by tapping innovative opportunities and developing markets in remote locations in mountain areas; (c) take further measures against poverty and livelihood insecurity; (d) see that more social infrastructure is brought into the area; and (e) emphasise mitigating land degradation, particularly by implementing soil and water conservation measures.

The dynamics described in Table 5 are **not directly related to the PA** in terms of mitigation of core problems. This statement is a primary and major conclusion of this paper. Hurni and Ludi (2000) concluded that 'even if the Park and its restrictions on human use were abolished, the sustainability of the mountain livelihood system of the people in Simen could not be guaranteed in the long term'. They argued that substantial investments in sustainable development have to be made in the social, economic and ecological dimensions, particularly in the surroundings of the PA, which could help safeguard the natural heritage of the park in the long term. The second recommendation is thus to further strengthen PA management in line with

world heritage goals, particularly buffer zone development in the vicinity of the PA, as well as farther away throughout the whole area of the Simen Mountains.

With the assistance of international cooperation, some **development activities** have been supported in the vicinity of the PA since 2001. These include the participatory readjustment of park boundaries in a way that excluded settlements and most cultivation land, while new cliff land constituting ibex habitats was included and the park was expanded to 234 km^2. The new boundary of the PA, which was delimited together with the villages concerned, has reduced potential conflicts between nature conservation and land use. This is a further good basis for improved acceptance of the PA, which is also seen more and more as a means to attract the attention of national agencies and international cooperation and obtain investment support for all aspects of development. The third recommendation is thus to ensure that the new boundary of the PA is fully acknowledged by the PA administration as well as the concerned villages as co-managers and owners, by regularly reconfirming the boundary and its beacons in the field, to form a basis for endorsement and follow-up of the current SMNP Integrated Development Plan. As biodiversity protection is primarily an international goal, substantial financial inputs need to be mobilised at this level to compensate resident land users for restricted access to some of the zones.

A process of joint **social learning** and practices has taken place based on the policy of decentralisation and participatory management of the tourism component in the PA. With increasing tourism, consisting mostly of foreign visitors interested in outdoor recreation, benefit sharing was introduced for some inhabitants of the villages along the tourist routes, mainly in terms of being helpers and accompanying the trekking groups. Through these measures and with the support of projects, the park administration was able to create a certain level of trust among local villagers, who came to understand that the park might also be an asset, although the benefits remained small and limited to a few individuals in each village. Nevertheless, the practical experience of multi-stakeholder participation in management is still relatively young, i.e. less than 10 years old, and thus needs to be mutually developed. The fourth recommendation is to improve administrative regulations and procedures so that ecotourism involving trekking and camping can be co-managed jointly with the villages surrounding the PA in an atmosphere of mutual trust and with participatory auditing.

The institutional design of better **separating PA issues from buffer zone development** makes it easier to separately pursue each of the two major lines of activity, although it could also generate new problems. On the one hand, the PA administration will take care of the Simen Mountains National Park, including the protection of wildlife, oversight of tourism, caring for natural habitats and relocation of the remaining human land users in the medium to long term. Local consent plus international assistance will be needed for this goal. On the other hand, the area around the PA will no longer receive the attention of the PA despite the need for sustainable development. This development will depend on government activities and perhaps only moderate external assistance. However, less attention may be paid to this second line of activities, because the total area in need of development support with an equitable approach is much larger than just the vicinity of the PA. The fifth recommendation is thus to maintain a coordinated approach in PA management and integrated sustainable rural development for the Simen Mountains as a whole. It is essential to create a body of stakeholder representatives including various state departments and administrative levels and representatives of villages. Their task must be to implement and supervise, making use of synergies for the purpose of joint development of the PA and its rural buffer zone for the benefit of all. To this end, oversight through a legal institutional framework responsible for overall integrated development would be worthwhile as an effective form of local governance and is a highly recommendable approach for improving the overall situation in Simen.

Endnotes

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[5] The description in this chapter is based primarily on Hurni et al (1987) and Hurni and Ludi (2000).

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9 Are Local Stakeholders Conservationists? Livelihood Insecurity and Participatory Management of Waza National Park, North Cameroon

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Abstract

Waza National Park (1,700 km^2) in Cameroon is one of the most important protected areas of West Africa. It is located in a floodplain area rich in pastures and fishery resources, and was declared a UNESCO Man and Biosphere Reserve in 1979 because of its over 30 large mammal and 379 bird species. Today this resource 'niche' is under pressure for several reasons. Since its creation as a colonial hunting area and transformation into a national park, heterogeneous local ethnic groups (Kotoko, Musgum, Arab Choa and Fulbe) have been excluded from the park in a strict fortress approach. The 1970s droughts and reduced flooding due to a large dam for irrigated rice production also severely decreased resource availability and led to more poaching in the area. Due to Cameroon's economic and political crisis since the late 1980s, governance is a serious problem. Less flooding of the area and weakening of local and state institutions for common-pool resource management have led to an influx of immigrants. Since the 1990s, the World Conservation Union (IUCN) has tried to mitigate these problems by focusing on re-flooding and addressing institutional, economic and political problems. One aim has been to integrate local stakeholders in the management of Waza-Logone National Park following the community narrative based on a co-management structure. Agreements and services related to costs are considered insufficient by local stakeholders but attract people from other areas. In addition, animals such as elephants and lions roam outside the conservation area, causing damage in adjacent regions. Local people have therefore lost the incentive to share the costs of conservation.

Keywords: Northern Cameroon, protected area, floodplain and dam impacts, participatory management, co-management, governance, cost–benefits, human–animal conflicts.

9.1 Introduction

Over the past two decades, conservation scientists have been looking into ways of making conservation responsive to a fast-changing society. These changes, in African terms, include fast-growing populations, a changing socio-economic situation, especially through urbanisation, increasing demand on natural resources to meet basic needs, a changing environmental situation through industrialisation, general climate changes with increased droughts, and changes in political systems. Since the late 1980s and early 1990s the government authorities and cooperating nongovernmental conservation bodies have changed their attitudes towards participatory park management, partly as a response to the much larger incentives made available by bilateral and multilateral agencies for promoting conservation in Africa. As McNeely (1994) argued, new approaches have been designed to conserve biodiversity, built on the use of economic incentives and disincentives as well as the reduction of disincentives. This is also called the new paradigm shift from fortress to community conservation (Hulme and Murphree 2001).

The case of Waza National Park in the Logone floodplain, where the Waza-Logone Project was established, is illustrative. When the international community realised in the 1970s and 1980s that most environmental top-down projects had failed, local communities became involved in the decision-making process, allowing them to enjoy the benefits derived from the sustainable use of natural resources. In addition, it became evident in northern Cameroon that establishing the Maga dam to increase rice production had been a larger threat to the park than poaching. Remaining resources became over-exploited, and a large number of people left the area (see Loth et al 2004). The condition of the wetland has been improving since 1994, when the World Conservation Union (IUCN) Waza-Logone Project – an integrated conservation–development plan established to counterbalance the negative effects – undertook the process of rehabilitating the floodplain through re-flooding arrangements in collaboration with the local population. But since management of Waza National Park itself is the responsibility of the Ministry of Environment and Forestry (MINEF), co-management arrangements mainly deal with the buffer zones around the park. These efforts come at a time when most African countries struggle with stagnation or decline in economic capacity and political changes (Woodhouse et al 2000; Haller 2002, 2005, 2007). In Cameroon, income from petroleum and cotton is declining and decentralisation as well as democratisation schemes have been initiated but are largely controlled by the state. At the local level, there is more intensive use of natural resources in response to the

crisis (Haller 1999, 2001, 2003; Loth et al 2004; Fokou 2006). We argue therefore that Waza National Park represents the trend towards more participatory protected area management in Africa as a response to the management crisis and conflicts with local people. It is a partial response to donor agency pressure but does not allow for real power-sharing or give tangible incentives for local households. Different local ethnic groups are frustrated with this development and still try to use the park illegally. In their view the park is a cultural landscape produced by past human activities with man-made fishing ponds, and grazing and hunting grounds from which they are now excluded. On the other hand villagers face costs from roaming elephants and lions. Despite all the efforts for successful co-management, basic rules governing local people's incentives have not been taken seriously, as a cost–benefit analysis shows. This will dampen the potential positive effect of the "return of the water"[3]. Ideologically, while the government's participation discourse and narratives of overuse by local people prevail, different ethnic groups on the other hand argue that they are exposed to state domination and refer to the discourse of exclusion and the narrative of lost livelihoods.

9.2 Characteristics of the Logone floodplain

The Logone river constitutes the border between Cameroon and Chad in the Far North Province of Cameroon. Large floodplain surfaces lie on both sides of the river, indirectly fed by the waters of the Chari river. Covering 11,000 km^2, the Logone floodplain is the second most important inland wetland in the entire African Sahel, after the Inner Niger Delta. It is situated in the Lake Chad basin and covers large territories of north Cameroon and Chad. The Cameroonian part of the floodplain is also called the Waza-Logone floodplain, and covers about 6,000 km^2. It is a large inundated area lying between the Logone river in the east and Waza National Park in the west (Figure 1). It is a flat, featureless and roughly circular plain, less than 400 metres above sea level, seasonally flooded by the Chari and Logone rivers (Loth and Acreman 2004).

9.2.1 Ecosystem of the Logone floodplain

The total area flooded annually by the Logone hydrological network is estimated to be 12,000 km^2 (Hughes and Hughes 1992). The process of flooding in the plain depends on the short rainy season from June to September, with an annual average rainfall ranging from 750 mm in the south (Pouss) to less

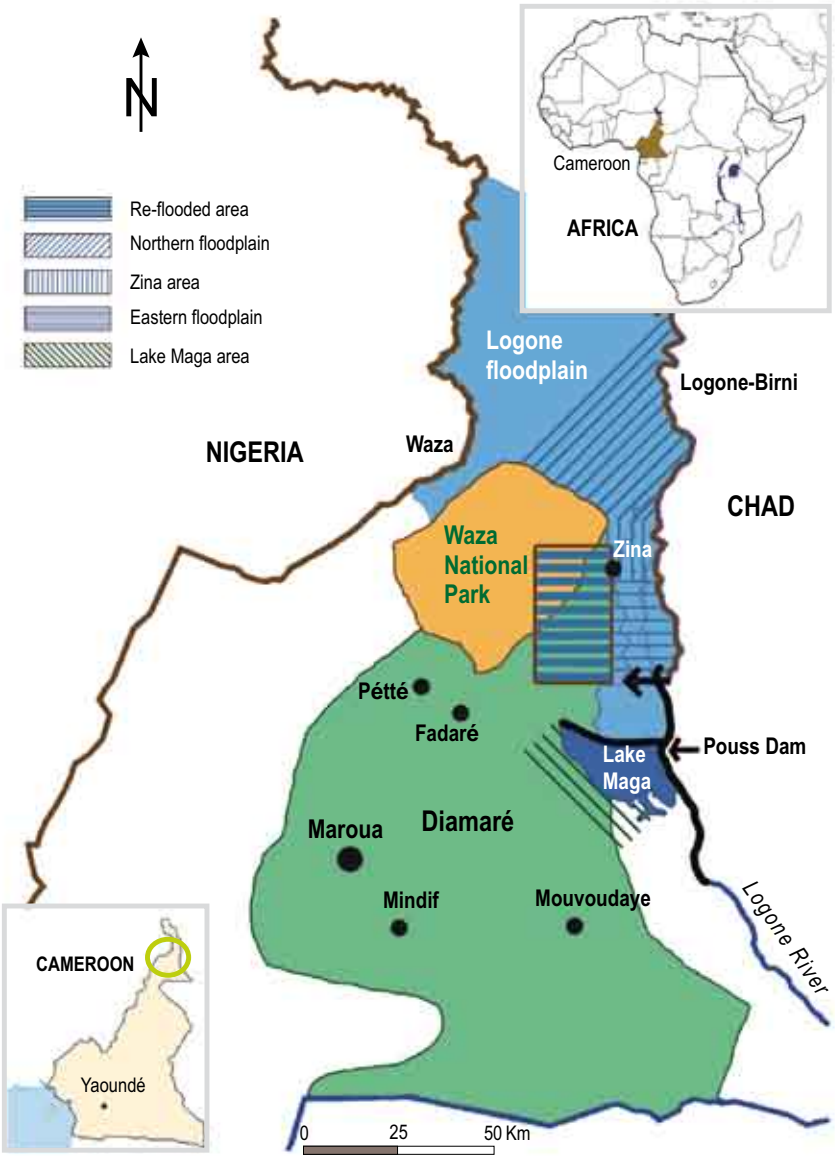

Fig. 1
Location of Waza National Park. (Map by Corinne Furrer and Ulla Gaemperli, based on Scholte et al 2006 and IUCN 2003)

than 550 mm near Lake Chad (Loth and Acreman 2004). The level of the flooding is high between August and September and varies from one to two metres (Boutrais et al 1984). With a soil of black hydromorphic clays and vertisols from quaternary fluvio-lacrustine deposits, water loss is mainly due to evapotranspiration.

Even though the mean annual temperature in the floodplain is 28°C, it may vary from 16°C in December to 41°C in April. Thus, the loss of water due to evapotranspiration is estimated as being 10.55 billion m^3 per year (Hughes and Hughes 1992, p 468). The vegetation of the floodplain is, as in many other wetlands, influenced by the depth and duration of the flooding. The area comprises the *karal*, areas partially inundated by water in the rainy season, and the *yaérés*, which are permanently flooded (Boutrais 1984). In the *yaérés*, the vegetation is comprised mainly of perennial grasses (*Echinochloa stagnina*, *Vetiveria nigritana* and *Echinochloa* spp.). After the water retreats, the floodplain is covered with green grasses. This rich environment is attractive for thousands of wild animals. Two national parks are found in the Lake Chad basin: Waza and the much smaller Kalamaloue National Park. These reserves are among the most important in West Africa. In Waza National Park, more than 30 species of wild mammals and 379 bird species have been identified, some of them migrating seasonally from Europe (Loth et al 2004). The most represented species of mammals are elephant (*Loxodonta africana*), giraffe (*Giraffa camelopardalis*), hippopotamus (*Hippopotamus amphibius*), 7 antelope species, 3 primate species, warthog (*Phacochoerus africanus*) and predators such as lion (*Panthera leo*), spotted and striped hyena (*Hyaena hyaena*, *Crocuta crocuta*) (Scholte 2003). There are also many varieties of fish migrating between the watercourses and ponds within the floodplain. The most important species are *Clarias* spp., *Tilapia niloticus, Hemichromis fasciatus, Alestes* spp., *Synodontis* spp. Some animals like elephants or lions regularly move out of the park, damaging crops or herds.

9.2.2 Ethnographic information

For centuries, Lake Chad's southern shores have been considered a crossroad of peoples of diverse origins. The area attracted many groups in search of better living conditions, often organised as ethno-professional groups (fishermen, pastoralists and hunters). It is also a region where different neighbouring pre-colonial empires converged such as the Bornou, Baguirmi and Kanem-Borno, extending their political influence up to the Logone banks. Although the whole area is recognised as the land of the Kotoko fishermen, there are also other ethnic groups such as the Musgum agro-fishermen, the Choa pastoralists, the Massa, the Kanuri, the Fulbe pastoralists, the Sara and the Kabalay. The Kotoko are recognised as descendants of the Sao, who developed an important civilisation on the shores of Lake Chad in the 6th century BC (Mveng 1969; Lebeuf 1973). After their empire collapsed under

the influence of the Kanembou, the rest of the population merged with a local group to form the Kotoko. Currently, they are subdivided into several principalities, each of which is ruled by a centralised administration led by a sultan called *Mianré* in the south (Logone-Birni) and *Mey* in the north. Constituting only 7.7% of the total population of the Waza-Logone floodplain (Kouokam and Ngantou 2000), the Kotoko are a minority group of fishermen on their own land. They were converted to Islam by the Kanuri, before the *Jihad* of the Fulbe Moslems, who influenced many other ethnic groups of north Cameroon during the 19th century (Figure 2).

The Choa Arabs arrived in the area after the Kotoko. Even if their presence is mentioned on the west banks of the Chari river during the 16th century, it is only in the 19th century that they immigrated in large numbers into the area in search of fertile pastures. They appear as descendants of a group of white Arabs, originating from Choa Island in the Nile valley, who mingled with the black Sudanese during their migration towards the west (Hagenbucher-Sacripanti 1977). The Choa Arabs are found nowadays around Lake Chad in Cameroon, Nigeria and Chad. They are subdivided into several tribal groups without a central political government. In the floodplains, the most important subgroups are the sedentary agro-pastoralists called Salamat. But during the dry season many groups of Arab pastoralists, called Khawalme, move in from Nigeria and spend up to six months in the *yaérés* to feed their animals on the pastoral reserves.

Fig. 2
The Sultan of Logone-Birni, the leader of the local Kotoko groups: the Kotoko fishermen once controlled the area and managed its common-pool resources such as fisheries but also coordinated access to pastures. (Photo by Tobias Haller)

The third group is called Musgum; they are agro-pastoralists and fishermen who immigrated only recently (beginning of the 20th century) but who make up the largest group with 35.9% of the total population (Kouokam and Ngantou 2000). They arrived in the *yaérés* around 1920–1930 from the south (Pouss). After consecutive domination by the Moslem empires of Borno and Baguirmi, most of them have been converted to Islam, but they still practise some of their local animistic rituals.

9.3 History of Waza National Park

Waza National Park was created by colonial administrators in an attempt to preserve biological diversity in a fragile ecosystem. As documented by Loth et al (2004, p 41), the park was created on 24 March 1934 as a hunting reserve by French administrators under the name Zina-Waza. It was enlarged from 155,000 hectares to 165,000 hectares in 1935. The hunting reserve became a forest and fauna reserve in 1938. In 1968, after independence, it was then raised to the status of a national park by the Government of the Federal Republic of Cameroon. In May 1979, it was classified as a Man and Biosphere Reserve by the United Nations Educational, Scientific and Cultural Organisation (UNESCO) (Figure 3).

Fig. 3 Entrance of the Waza-Logone park: The park is situated in a resource-rich floodplain with pastures, fishing grounds and wildlife managed by local people before colonial times. It has been exposed to many environmental and institutional changes, including participatory approaches. Still, resource use in the park is not allowed. (Photo by Tobias Haller)

These political and institutional changes initiated by the colonial and post-independence administrations aimed to put in place new regulatory mechanisms for conservation of biological diversity and to ensure economic growth at the national and local levels. The area is a rich pocket of resources that needed to be preserved for ecological equilibrium. At the same time there was a need to develop tourism in order to feed the emerging national economy and to help local people to meet their livelihood goals. Through the 20th century many ecological, social and political events had an impact on the management and sustainability of natural resources. A chronological sequence of the major events that occurred in the Logone floodplain during the 20th century is provided in Table 1.

It appears from this table that various political, ecological and economic changes that occurred at the national and sub-regional levels have affected the availability and management of natural resources within and around Waza National Park (WNP). Despite such decisions and agreements, indicators such as the reduction of the surface of Lake Chad, conflict escalation between various stakeholders, or reduction of annual levels of floods testify that natural resources in the area are still under pressure, declining and disputed.

As of its creation in 1934 and until 1992, WNP was institutionally attached to many entities with different management objectives. From 1934 to independence in 1960, the reserve was managed by the colonial service for water, forestry and hunting, with the idea of protecting wildlife for hunting and tourism purposes. This idea of preserving flora and fauna species for tourism objectives was reinforced after independence and the administration of WNP was successively under the responsibility of various departments of tourism. With the creation of the Ministry for Environment and Forestry in 1992, management of the park integrated more conservative objectives and increasing involvement of local communities in resource management. As of 1994 and especially with the idea of a management plan, a dialogue was started, ultimately leading to a consensus between park authorities and local people on improved park and periphery zone management (Scholte et al 1999).

9.4 Core problems

The Logone floodplain faces many problems that contribute to non-sustainability of development processes and that can be related to core problems in international development. These problems involve such issues as popula-

Table 1

Chronology of the Waza-Logone area

Time	Major events
Pre-19th century	Different states in Sahel zone, slave trade, Kotoko rule, centralised power. Traditional pasture coordinator (*ngalway*) organises access to common-pool resources (CPRs).
19th century	Islamisation of Kotoko. Immigration of Fulbe and Musgum.
1885/1916	German colonisation. Pacification and taxation.
1916	French rule after the defeat of Germany. Management system characterised by direct rule with some indirect rule features, market economy.
1930	Development of infrastructure and veterinary service by colonial administration, *ngalway* still in place.
1934	Creation of Waza Game Reserve.
1960	Independence: new political structure, *sous-préfectures* and incorporation of local chiefs, Sultan of Kotoko and *ngalway* disempowered.
1964	LCBC (Lake Chad Basin Commission): New ponds and transmigration routes for pastoralists.
1968	The game reserve is transformed to Waza National Park ➔ less pasture.
1969–1973	Droughts ➔ less pasture, high pressure on floodplain.
1973	Green Revolution: SEMRY (Société d'Expansion et de Modernisation de la Riziculture de Yagoua) I-III /1971–1978) (irrigated rice).
1974	Land tenure reform. Vacant lands without master become state property.
1979	Construction of the Maga dam: less inundation of floodplain, less pasture, less fish, less wildlife.
1986	Economic and drought crisis in Cameroon ➔ more interest in land ➔ less pasture.
1991	Democratisation process. Political pluralism: Musgum gain more rights.
1992	Creation of a Ministry of Environment and Forestry ➔ more interest in international environmental debate about community participation.
1992	Waza-Logone Project put in place (IUCN, World Wide Fund for Nature [WWF], the governments of Cameroon and the Netherlands) ➔ restore and safeguard biological diversity and living conditions.
1993	Devaluation of the CFA (currency of French-speaking Africa), prices for goods rise (some doubled).
1994–1996	Major droughts, sharp reduction in flooding; start of second phase of IUCN Project, first re-flooding.
1995–2000	Third phase of IUCN Project; second re-flooding regimes, new management plan for Waza National Park; continued economic crisis in the country.
2001–2006	Unintended impacts of project (increase in canal building [less grass and less fish], open access or privatisation of pasture areas, continual conflicts).

Source: compiled by Haller, based on Loth et al 2004; Landolt 2005; Fokou 2006.

tion and livelihoods, infrastructure, services and land use, socio-cultural and economic behaviours, and require institutional regulations. However, the absence of an adequate institutional framework for natural resource management is the core problem at the centre of people's changing attitudes towards their environment. Most of the time, existing legal frameworks and regulations are inadequate or lack enforcement. This is in part due to the substitution of traditional institutions with new governmental laws and regulations that fail to give incentives to the local people and thus encourage them to accept responsibility and ownership for the management of local resources. Many communities living in the Waza park area before its creation have been gradually excluded from exploiting resources in the reserve for their daily subsistence. This led to poverty and livelihood insecurity especially in an environment where resources fluctuate drastically, both seasonally and yearly. On the one hand there is human pressure on scarce resources available, on the other, farmers and pastoralists are competing with animals from the park such as lions, which regularly roam out of the area and kill cattle or sheep. Elephants migrate each year to the Logone river banks, where they feed on dry season crops and gardens.

There are many social, cultural and ethnic tensions between inhabitants of the floodplain due to inequitable ownership and access to common-pool resources such as pasture, fish and land for agriculture. The Logone area is occupied by several ethnic groups, which do not have equitable traditional rights over natural resources. People from the Kotoko ethnic group claim their traditional rights to regulate access to fisheries and pastures but they have increasingly lost their monopoly (Van Est 1999; Socpa 2002; Fokou and Landolt 2005). In a context of livelihood insecurity, conflicts are exacerbated by limited or inadequate socioeconomic services such as education, health care and markets. Social services such as school, water infrastructures and health centres are not distributed in a way that would increase confidence and well-being.

The Logone floodplain is also exposed to risks of natural and human-induced hazards and climate change. Indicators of radical climate change in the area are the drastic reduction of Lake Chad's surface during the last decades and the reduction of the depth and magnitude of the flooded surface in the Waza-Logone area. Change is due in part to the man-made construction of a storage lake (Lake Maga) and an embankment along the Logone, as part of a large rice irrigation project.

9.5 Resources, livelihoods and institutional change

The region is considered as one of the most productive inland fishing reserves of sub-Saharan Africa because of its annual floods creating rich pastures and fishery grounds. For centuries fishing has been regarded as the traditional activity of the local Kotoko, while immigrants in the 19th century were pastoralists (Fulbe, Arab Choa) or agro-pastoralists and fishermen (Musgum), creating an ethno-professional specialisation. The use of the floodplain depends on the seasonal variation of the resources and specialisation of the resource users. As a pocket of resources, this area is at the centre of the rural economy in the region. Fish (breams, sardines) and dry season sorghum (*muskwari*) are exported (Figure 4). At the same time, the area can provide fresh pastures and water for herds from Cameroon, Nigeria and Chad (Seignobos and Iyébi-Mandjek 2000).

Fig. 4
A fisherman in the Waza-Logone area fixing his net. Fishing is one of the most important subsistence and commercial activities in the floodplain. (Photo by Tobias Haller)

Nowadays in the Logone floodplain, the strict ethno-professional specialisation prevailing in the past has disappeared and people pursue mixed resource use strategies. In addition, in the dry season many activities are initiated: charcoal making, firewood selling, creation of small kiosks for food selling and trade with pastoralists by women. Younger generations often migrate seasonally or permanently to the shores of lakes Chad or Maga for fishing activities, or in town for salaried jobs.

Traditionally, the Logone floodplain lies within the sultanate of Logone-Birni, one of the most important Kotoko principalities situated south of the shores of Lake Chad. With a centralised government, a *mianré* (sultan) exercises power over this territory through a council of noblemen, district chiefs and village representatives. Some of these officials had a pivotal role in natural resource management in the past. This was possible through customary institutions embedded in their culture. The objective was to coordinate the activities of various users in order to make the best use of fisheries and pastures in an environmental context where resources fluctuate all the time. The sultan was considered the holder of the land, and transhumant and nomadic pastoralists had to request his permission to access rangelands on his territory. They had to make a "nomadic contract" with sedentary populations (Moritz et al 2002). Through this arrangement access to pastureland was coordinated, which was one of the most important features of this local institution managing common-pool resources such as pasture (Fokou 2006). This involved negotiating access and use of rangelands with local chiefs for the coming season. They had to pay taxes and tributes to the local Kotoko sultan, who in exchange guaranteed access to pastures and personal safety. The tax (*djangal*) was paid to local chiefs; *djangal* refers to the Hausa appellation of the dues pastoralists from northern Nigeria had to pay to obtain access to rangelands. These activities were conducted by the *ngalway*, a nobleman who played a critical role in resource management, meaning he had sole responsibility of pastoral activities. Taxes collected in kind (milk, sheep, calves and bulls) were sent mostly to the sultan, keeping a portion for himself as compensation for his coordination services. The *ngalway* not only had to collect taxes, but also coordinated pastoral activities, defining modalities for the use of fallows and fishing canals as pastures, and settled conflicts arising at the local level between pastoralists and other resource users (Fokou and Landolt 2005).

People from the Kotoko ethnic group have long been the traditional fishermen of the floodplain. As the first settlers in the area, they claim rightful

ownership of the land, allowing them to impose their rules. Thus, their management regimes were at the centre of various activities in the area. Musgum fishermen as well as Choa Arabs and Fulbe pastoralists, who arrived only recently in the *yaérés*, considered themselves as being in the "house of the Kotoko" (Seignobos and Jamin 2003) and therefore accepted existing institutions. Fishing grounds were open to everyone during the flood season. However, during the dry season, conditions were more restrictive. After the floods had receded, fish were concentrated in reserves (rivers and ponds) and the Kotoko imposed their management regimes. These reserves were managed by traditional chiefs with the power to decide over fishing rights (Loth et al 2004; Fokou 2006). Some water-filled depressions were 'closed' to users during the 'great fishery'. These reserves were then 'opened' during the dry season when the floodplain was completely dry, helping to sustain the livelihoods of the local populations and to coordinate local fishing activities of a village area. Autochthonous Kotoko families, with the power to regulate access, also exploited private ponds. The rationale of this behaviour was that in a context of high variability and unpredictability, local fishermen could expect reciprocity by being invited to collective fishing activities. On the other hand local owners could levy a tax on foreign users. Fishing management regimes were based on two critical institutions: tax collection and the *mha laham* ritual. The latter was linked to the close relation with spiritual beings that legitimised control and coordination by the major Kotoko families in the villages (Fokou 2006). A fee was charged before anyone, regardless of status, was allowed access to the fisheries. The traditional tax was estimated at 10% of the total production and paid to the local authorities. In some locations, the fees were evaluated in kilograms of dry fish, a practice that has evolved from traditional institutions (Loth et al 2004, p 65; Fokou 2006). In Logone-Birni, the tax was called *tondoli* and evaluated in litres of fish oil (*Alestes* spp.). The *tondoli* was gradually transformed to a payment in cash. The fishing fees were more important during the dry season, when fishing reserves were opened to the public, locals and non-locals (also see Drijver et al 1995). For local authorities, the more fishermen, the more substantial the *tondoli* is. This increased their incentive to control and sanction those breaching reservation regulations.

Resource management in the floodplains during the 1950s was dominated by the colonial administration. European presence started in the area with the arrival in 1902 of the Germans, who had been in Cameroon since 1885. But in 1916, after their defeat in World War I, they were replaced by the French, who received the mandate to rule this part of the country. The new

administration relied mostly on local political authorities. Later, the area was divided by the colonial administrators into nine cantons and the head of each was intermediary between the headman (*blama*) at the level of villages and the *mianré* (sultan). In the political organisation, other ethnic groups such as the Musgum or the Choa Arabs who were considered as outsiders were excluded from the central political organisation.

Today, the Waza-Logone area, as also the rest of the national territory, is primarily state property, containing two national parks as well as privately owned property (Kouokam and Ngantou 2000). Generally in Cameroon, those wishing to settle in an area have to follow town planning regulations. However, the procedures for gaining access to land in rural zones (whether in use or not in use) are straightforward. The change of ownership from local elites to the state results from the elaboration and implementation of a new policy introduced after independence. At that time, local authorities were recognised as auxiliaries of the administration and placed under the authority of the *sous-préfet*. Municipalities (communes) were then created and given the responsibility of managing pastoral resources. Each commune had to organise tax collection from nomadic pastoralists coming into the floodplain for dry-season grazing.

9.6 Actors involved in resource management around Waza National Park

Many actors or groups of actors interact directly or indirectly with the park or the floodplain in general (see Table 2). Their interests and incentives for the conservation of natural resources in the area vary. Stakeholders can be classified into different categories: Groups depending entirely or partly on natural resources for their livelihood, decision makers and technical services within the area such as development agencies, research institutions and non-governmental organisations (NGOs), and others who use wetlands for recreational purposes (Kouokam and Ngantou 2000). The rich diversity of natural resources in the Logone floodplain has attracted many users of diverse ethnic origins.

Groups of people relying on natural resources for their livelihood: Sedentary populations living in the area are mainly farmers, fishermen and pastoralists, of which the Kotoko fishermen traditionally claim exclusive rights to land. This category also includes seasonal migrants such as fishermen or nomadic

and transhumant pastoralists spending more than six months each year in the floodplain. This group is highly heterogeneous with conflicting interests.

Local authorities (sultan, canton head and *blama*) are also considered as natural resource users because their livelihood strategies rely directly or indirectly on these resources. They are customary managers of lands, human and natural resources. Most of them own fishing canals, which are often a source of problems with pastoralists. At the same time, compensations and fines paid during the resolution of conflicts are one of the most lucrative sources of income for those chiefs (Moritz et al 2002).

The hakoma: Among the official state actors are *appointed officials and elected members of the district council.* Although stemming from different departments, the population refers to them as the *hakoma* or government authorities. Administratively, the Logone floodplain and the Waza park area are comprised in three separate subdivisions. Decisions are taken by the district administrator (*sous-préfet*) of Logone-Birni, Waza and the head of the District of Zina, the representatives of the government in these administrative units. Local people are represented in these units by municipal authorities. These authorities collaborate with governmental authoritires such as the ministries of agriculture and rural development, environment and forestry, and livestock and fisheries. In the process of tax collection, municipal authorities are assisted by veterinary services of the livestock department at the local level for sanitary inspection. They have to issue a *laissez-passer de transhumance* for international herders. Additionally, technical services collaborate with government authorities at the local level such as the *sous-préfet* and police force (*gendarmes*) to solve conflicts between resource users.

Appointed by the Department of Natural Conservation, Waza *park authorities* contribute to the conservation and protection of biodiversity in this nature reserve. They are under the supervision of a warden. During the 1990s, the economic conditions contributed to a decline of park staff (guards). Nowadays, WNP has less than 10 guards, reinforced by 16 eco-guards. The state has given them the mandate to manage land and natural resources. There are also *non-governmental organisations* with technical skills and financial means that contribute through specific projects to supporting local livelihoods. One of the major actors is IUCN, with the Waza-Logone Project to mitigate changes caused by the Maga dam, which has realised that a participatory approach is needed.

Table 2

Main groups of actors involved in resource management around Waza National Park.

Groups of actors	Activities	Interests
Sedentary populations	Fishing, farming, animal husbandry, hunting, wood collection.	Claim exclusive rights to resources even inside the park. Ask for more flexible rules for resource management. Affected by damages of elephants on crops.
Mobile populations	Fishing, pastoralism.	Claim more involvement in resource management for they pay taxes before being allowed to come into the floodplain. Affected by predation of livestock by lions.
Local chiefs	Customary management of lands and natural resources.	Recently weakened by institutional change, they take advantage of legal pluralism to generate personal resources.
Park authorities	Park management through surveillance and regulation of interactions with neighbouring populations.	Working for sustainability of natural resources, raising resources from tourism.
Administrative, military and municipal authorities, technical services	Organising access to resources, conflict settlement, tax collection, support to livelihood efforts of local users.	Implementation of national rules, security, improve living standard of local populations.
NGOs and research institutions	Support conservation and local livelihoods through financing, technical and scientific expertise.	Contributing to sustainable environment and local livelihoods.

Source: compiled by Fokou, based on Kouokam and Ngantou 2000; Fokou 2006.

9.7 External factors leading to changes in natural resource management

Up to the end of the 19th century the area of Waza-Logone was included in long distance trade and slavery (Haller 2001; Moritz 2003). This economy turned to cash-crop production during the colonial period. This change resulted from the colonial policy to encourage agricultural production. For many decades, the rural economy was based on coffee, cocoa, timber, groundnut and cotton exports. The German and French colonial and post-colonial administrations forced people to increase the production of these

crops by installing a locally grounded governance structure and taxation (Njomaha and Pirot 2004). The state policy of increasing and commercialising agricultural production for export gradually pushed the local people into the cash market economy. In the north, peasants were forced to cultivate cotton (and rice to a certain extent) on their fields. For this purpose, perimeters and many support structures were created.

9.7.1 Economic changes

After independence, state efforts focused on increasing agricultural production by introducing the strategy of the Green Revolution based on the ideology of achieving a "policy for food self-sufficiency" (Delancey 1989). In addition, Cameroon also became an oil-producing nation, but the revenues from the oil sector found in the south of the country were not substantial. Until the 1980s agriculture was the most important source of income and the land tenure reform of 1974, which gave more rights to people owning 'land in use', encouraged commercial use of land: In the Logone floodplain, the new agricultural policy led to the intensification of rice cultivation based on a large-scale irrigation scheme created in 1954 called SEMRY (Société d'Expansion et de Modernisation de la Riziculture de Yagoua). This first project was extended in 1971 and became SEMRY I. It was expanded to other regions of the floodplain such as Maga (SEMRY II in 1977) and Kousseri (SEMRY III in 1978). But in order to avoid the high costs of irrigation by pumps, the government decided to build a dam to create Lake Maga (Njomaha and Pirot 2004).

In the mid-1980s Cameroon entered a severe economic crisis with many consequences for the rural population. The government embarked upon a series of economic reform programmes supported by the World Bank and the International Monetary Fund (IMF), beginning in the late 1980s. The prices of agricultural products collapsed, while the prices for pesticides increased exponentially. Rural areas were also increasingly under pressure due to the retrenchment of government officials and thousands of *compressés* or civil servants, who had no other option than to rely on natural resources for their subsistence. Additionally, the economic crisis led to severe salary reductions at the beginning of the 1990s, as well as to a devaluation of the CFA franc by 50% in 1994. In 2000, Cameroon became eligible for debt relief under the Heavily Indebted Poor Countries (HIPC) initiative, but the economic crisis remains, making local common-pool resources such as fisheries and pasture for cattle one of the most important sources of cash income (Fokou 2006).

9.7.2 Environmental changes

Even if environmental change in the Logone area is partly due to such human activities as the construction of dams or collection of wood, there are also many climate changes. As reported by Scholte (2005), changes in hydrology, vegetation, land use and especially wildlife have occurred on a regular basis throughout the last two centuries, but in general the system was resilient enough to recover. However, this resilience was endangered during the 20th century by the severe droughts that struck the entire tropical region of Africa. The Logone area was particularly affected by the episodes of 1969–1973 and 1983–1985, which were characterised by a drastic decrease in annual rainfall with many negative effects for human populations and biodiversity. This recent decline seems to be the worst (Loth et al 2004). The deteriorating climatic conditions also affect the annual depth and extent of the floods in the Logone floodplain. Combined with infrastructural change, droughts have contributed to reducing the original flooded area by approximately 30% (IUCN 2003).

This series of sometimes severe droughts since the mid-1970s has affected the range of floods and local rainfall in the adjacent areas as well, leading to a food crisis (Haller 2001). The vegetation in the floodplain has changed. Annual, less productive grass species have replaced the indigenous perennial types, limiting dry-season regrowth and reducing the carrying capacity of the area for both livestock and wildlife. Waza National Park, partly situated in the floodplain, has also badly suffered from the lack of inundations. As one of the consequences kob antelope has decreased and several animals (waterbuck and others) have disappeared (Scholte 2003).

9.7.3 Change in infrastructure

The creation of new infrastructure has seriously influenced natural resource management in the Logone floodplain. The area is close to towns such as Kousseri or N'djamena (capital city of Chad), where products (meat, Arabic gum, woods, fish and cereals) are easily sold. A tarmac road passing close to the Waza park has also been constructed and facilitates communication and commercial activities in the whole area. However, the most important infrastructure change in the area was the construction of the Maga dam. In 1979 the natural hydrological regime of the Logone floodplain on the Cameroonian side was seriously affected by the construction upstream of a dam storage lake (Lake Maga) and an embankment along the Logone as part of a

large rice irrigation project (SEMRY II), which was introduced to reduce the local population's dependency on the unpredictable floods and rain patterns that occurred in the 1970s. This had devastating effects on the lives of the local inhabitants, which depended on fishing or herding cattle in the floodplain. After the construction of the dam, about 40% of the human population left the floodplain area (Scholte 2003).

9.7.4 Formal laws and regulations

Since colonial times, natural resource management was based on the fortress or fine-and-fence approach, and consumptive use of the parks by local people was totally banned. This was a serious problem for several pastoral groups as well as local Kotoko and Musgum villages close to the park who lost fields for cultivation and possibilities for fishing. This was the case in Waza National Park until 1993 (Bauer 2003a). However, during the 1990s the state changed its legislation and policy on natural resource management. The turning point in Cameroonian formal legislation was the creation of the Ministry for Environment and Forestry, which contributed to changing the rules. This started in 1994 with the adoption of law No. 94/01 of 20 January 1994 on forests, wildlife and fisheries (Mahamat 2000). This was followed in 1996 by a new article in the constitution giving citizens the constitutional right to a healthy environment and the right to information and participation in environmental issues. After that, the framework law No. 96/12 of 5 August 1996 defining the orientation for future environmental legislation to implement these rights was adopted (Bauer 2003a). As discussed by Bauer (2003a, p 22), the innovative aspects of this law are: the recognition of people's participation in conservation; the need to have a management plan for NPs; clarifications on the procedures for community involvement in commercial hunting and/or wildlife-related revenue sharing; the right for self-defence; and the definition of the term "buffer zone". Thus many participatory management plans have been elaborated or are still being developed, but in practice this goal is seriously jeopardised by the interests of administrators and park authorities, who might lose power in this process and are attracted to corruption due to bad payment. The rules are often formulated by policy makers but implementation in the field is mostly based on practical norms (Nguinguiri 2005).

9.7.5 Impact of international conservation debate

Conservation of biodiversity has always been a preoccupation of different governments and conservation scientists. Over the past two decades, conservation scientists have been looking for ways of making conservation responsive to a fast-changing society. After "fortress conservation" (Barrow and Murphree 2001) consisting of fencing in natural resources against local communities through physical, legal and economic measures, the debate has recently changed (Bauer 2000). Concepts of decentralisation and co-management were introduced and are implemented on common lands or in protected areas with multiple objectives such as community hunting zones or resource management areas (Bauer 2003a). In Cameroon, this trend inspired policy makers to initiate legal reforms. The new measures aimed to ensure conservation of biodiversity while allowing local people to sustain their livelihoods. Interest in conservation also increased among international NGOs, who tried to link it with incentives and development issues such as IUCN in the Logone floodplain (improvement of fisheries, quality of grazing lands, etc.). A committee for the support of conservation and sustainable development initiatives was created, which brought together government organisations, residential and settled communities, traditional and administrative authorities and various private-sector bodies such as hotels and tourist agencies to rehabilitate the floodplain. Roles and responsibilities of different stakeholders were well defined (Bauer and Madi 2000; Kouokam and Ngantou 2000). All the stakeholders had to be involved in management structures but the major aspect often missing was a careful analysis of power relations and incentive structures as well as of unintended outcomes.

9.8 Incentive structure and cost–benefit analysis

We therefore wanted to compare costs and benefits in order to assess what kind of incentives this new co-management regime includes, such as revenues from tourism, infrastructure and subsidies. As tourism in Cameroon is a minor sector generating little national revenues, one might think that Waza National Park is insignificant. However, in the West African context, it is by far the only larger protected area for tourists to be visited. At least on paper, it generates income for local communities and the state through tourist earnings and drives investment in infrastructure. Nevertheless, local people view the park and its animals as nuisances, especially because of lions and elephants. Lions regularly roam out of the park and kill the pasto-

ralists' cattle or sheep. Elephants migrate each year to the Logone river basin where they feed on dry season crops and gardens. But compensation systems for elephant damage have often been described as inefficient, ineffective, expensive and unfeasible. Clear assessment of damages seems particularly difficult. WNP hosts a population of 1100 elephants. There is no safari hunting inside the park, but outside, there is a mean annual off-take of 10 elephants out of a sustainable quota of 30 (Bauer 2003a). This type of activity constitutes one of the main sources of revenue for the park. Assessment of total revenues from tourism (based on data from 1992 to 2002) shows that wildlife contributes about US$ 55,000 per year. But this is far less than the damages caused by these animals. As calculated by Bauer (2003a), financial value of wildlife damage and tourism revenue in the WNP between 1992 and 2002 can be assessed as follows (Table 3):

Table 3

Financial value of wildlife damage and tourism revenue in WNP assessed between 1992 and 2002 (in US$ per year).

	Elephant	Lion	Other carnivores	Other wildlife	**Total loss and revenues**
Damage	–200,000	–130,000	–100,000	0	**–430,000**
Current revenues*	+38,000	+8,000	+0	+9,000	**55,000**
Totals	–162,000	–122,000	–100,000	9,000	**–375,000**

* Estimations by Bauer (2003a) of the value tourists gave to each animal, then calculated in relation to the revenue generated by the park for the local level.

Source: adapted from Bauer (2003a).

The money from conservation is not distributed to households but goes into community projects. Theoretically, 40% of the revenues of the park go towards the development of the villages adjacent to the park. This money is mostly invested in providing basic social infrastructures and services. Recently, 37 wells were established in 33 villages to provide water to villagers, contributing to a reduction in the incidence of diarrhoea by 70%. Total revenues generated by the park cannot easily be estimated, but it is obvious that wildlife revenues constitute the most important part. From data presented in the table above (Table 3) on wildlife revenues, we could evaluate the theoretical benefit per household per year. Data on household composition show that when the hydrological conditions were improved with the implementation of the Waza-Logone Project at the end of the 1990s, the number of households in villages close to WNP rose to more than 500 (±15) (Scholte 2003). The situation is not significantly different today. If the total amount of revenues from wildlife were redistributed to households (which is not

the case), the benefit per household per year would be about US$ 107. This money is supposed to compensate for the loss of crops (sorghum yields) and livestock (predation by lions). At the same period, damages from wildlife are estimated at US$ 835 per household per year (Table 4). These figures show that the presence of the park endangers the livelihood of local people, whose losses are far greater than their gains.

Table 4

Cost–benefit analysis for households bordering Waza-Logone.

Country/ case	Annual benefit from WNP for all villages	Annual (monthly) benefit from WNP per household (HH)	Average annual monetary income from other sources (monthly)[4]	Percentage of annual cash gain	WNP-related costs per household (crop damages in 2006)	Percentage of loss compared to gain from Game Reserve (hypothetical HH revenue)
Cameroon, Waza National Park	US$ 55,000	US$ 107 (US$ 8.9)	US$ 770 (US$ 64.4)	13.8%	US$ 835	87.2%

Source: Calculation based on data from Bauer (2003a) and Fokou (2006).

9.9 View of the institutional design

Since the 1974 land tenure reform in Cameroon, Waza National Park is recognised as state property and is no longer formally managed as common property. However, if one looks at the IUCN project and the attempts of the government to increase co-management measures, one could imagine that different local groups might have a positive view of the new institutional design. This is however not the case: Mainly the Kotoko fishermen still consider themselves the rightful owners of the land in the floodplain and even within the park. Some of them previously lived within the park and were resettled outside of this territory after the authorities banned any consumptive use of the park. Local people of neighbouring villages and pastoralists have never stopped using the resources of the park. Even when they know that it is forbidden to exploit the resources of the park such as fisheries and pastures, many of them continue going there overnight or during the flood season when it is more difficult for the guards to patrol the eastern part of the reserve. They also use the park intensively during the dry season when resources elsewhere in the Logone floodplain are scarce, but still abundant in the park. Going into the park is the only option they still have. Secondly,

they know that in case they are caught, they can make an arrangement with the badly paid guards to avoid being reported to the authorities. Thirdly, many local users consider the park as their territory, where they have buried their parents and where they invested time to dig waterholes for fishing activities long before the creation of the park. Others argue that they have not been compensated since their eviction from the park and they do not really benefit from the conservation of the resources. In their view, they cannot be penalised for using resources such as fish, dead wood or thatch grass for their livelihood. They are also gradually investing in the exploitation of commercial products such as gum Arabic or firewood.

This point of view is also shared by nomadic pastoralists, who come to the floodplain for dry season grazing. Thus, livestock intrusion from nearby grazing lands is considered one of the most urgent problems by the park authorities (Scholte 2003). Livestock coming into the park competes with herbivores during the dry season. Nomadic pastoralists, who have to pay grazing taxes before being authorised to use the resources of the floodplain, intentionally go to the park with their herd to profit from the grass reserves that are still green during the dry season. After paying taxes, the nomadic groups claim that they have "bought the floodplain" including areas in the park and, therefore, they can use it as they please (Figure 5).

Fig. 5
An Arab Choa boy looking after a herd of cattle. These pastoralists migrate from the WNP area up to Lake Chad. Paying taxes to the authorities in Cameroon makes them argue that the pasture inside WNP should also be accessible to them. (Photo by Tobias Haller)

These selected examples testify that around WNP, each group of users still has its own interpretation of the institutions in place. This is due to the fact that there is legal pluralism and institutional weakness at play. Local users feel that with the new institutional framework of participatory conservation approaches, they have more duties and fewer rights.

9.10 Conflicts and resolution of conflicts

Apart from human–animal conflicts, there are frequent tensions between pastoralists and farmers, pastoralists and fishermen, Waza National Park authorities and fishermen or pastoralists and between fishermen themselves (Kouokam et al 2004). On the one hand, there is animal predation outside the park (damages caused by elephants on crops or predators such as lions on livestock), creating many tensions with neighbouring communities. On the other hand, conflicts are exacerbated by human intrusion inside the park to illegally exploit resources (mostly fish and pastures). Many villagers living around WNP have been evicted from the reserve without consultation or compensation (Bauer 2003b). They regularly complain about animals destroying fields and the absence of a system of compensation for the damages caused by animals. Even though it is legal to kill animals in a situation of self-defence, they are always in conflict with park authorities, which classify such acts as poaching. They hold the park authorities responsible for wildlife outside the park because these animals and land resources are considered as the property of the government (Kouokam et al 2004). However, local people need to have access to the resources within the park not only for consumption but also for commercial reasons, in order to earn cash to make a living.

Other types of conflicts in the floodplain take place between farmers, pastoralists and fishermen. Contrary to many other areas in the floodplain, the conflict between farmers and herders is not rampant to the east of WNP. If there are conflicts these occur mainly between fishermen and transhumant pastoralists during the dry season. The latter increasingly arrive in the area when fishing activities are still going on and they interfere with the activities of local people, damaging their gears, nets and canals. The source of the conflict dates back to the mid-1990s, when the Waza-Logone Project was initiated to make water come back into the plain (Loth et al 2004). The aim was to assist the local population, to support the park management and to ensure hydrological and ecological restoration. One side effect of the initiative is

that many local actors active in the fisheries use this opportunity to intensify their digging of fishing canals, irrespective of transhumance corridors, creating tensions with pastoralists.

But conflicts are not just a sign of bad management in the area: Interestingly, conflicts appear as a coping strategy for some powerful actors in the floodplain, especially traditional and administrative authorities. They are regularly accused of being at the centre of most conflicts occurring in the region. Local authorities are those who give the right to dig new fishing canals. In addition, transhumance corridors are sometimes used by farmers with their agreement. That is why some nomadic pastoralists often suspect that the compensations and fines paid during conflict resolution are a lucrative additional source of income for both local populations and authorities. The government has instituted a commission for agro-pastoral conflict regulation in each administrative unit. Such a commission consists of the divisional officer, who is the president of the commission, the mayor, military officers (*gendarmerie* and the police), the local officer of technical authorities (Department of Animal Husbandry and Fisheries, agricultural services and environmental protection staff), the sultan, the canton head, and the representatives of the conflicting farmers and pastoralists (see Kouokam et al 2004). However, these mechanisms do not really contribute to conflict mitigation because the process is slow and does not seriously involve local people. In addition, some of the activities in the IUCN Project have recently led to an increase in conflicts due to the fact that property rights and access rights in the park are not clear or clearly enforced. The improvement of hydrological conditions in the floodplain has implicitly encouraged open access, as many users take advantage of the unclear institutional context of the newly returned water to claim access to resources even within the park.

9.11 Governance of Waza National Park

WNP, like many other protected areas in Cameroon, is state property, and the state organises its administration according to national legislation. During the 1970s and 1980s law enforcement was strict. Barriers were set up around resources in order to exclude local people. During that period, consumptive use of the resources was more or less effectively prohibited (Bauer 2003a). The park was equipped and facilities were created to receive thousands of tourists a year. Staff members were recruited and trained at the regional training centre (Scholte 2000). This was a top-down approach where the

population benefited directly or indirectly from tourism revenues without themselves being involved in the process. Decision-making was purely administrative and monopolised by the Department of Wildlife Conservation. Administrative and municipal authorities had little say in management of the park. During the 1990s many events led to changes in the governance structure of the Logone floodplain and specifically WNP. As pointed out by Scholte (2000), the first indicator was the creation of the Ministry of Environment and Forestry (MINEF), which united previously dispersed departments. It helped to establish a new law in 1994 facilitating more participatory management. Through collaboration with the IUCN Waza-Logone Project, a management plan including a functioning local steering committee for WNP and its immediate surroundings has been prepared. This process has received government approval. Various stakeholders were involved at different levels of the management committee by the Waza-Logone Project, with the explicit task of managing the natural resources in a participatory way (Kouokam and Ngantou 2000). This was possible through a co-management structure developed to ensure the long-term sustainability and equitable use of these natural resources. But this only involves buffer zones, as management of the Waza park itself is the responsibility of MINEF. As described by Scholte (2000) and Bauer (2003a) the main points of this participation are:

1) A definition of a peripheral zone included in a ring of varying width but a maximum of 5 km around the park. All villages in this ring and all nomadic groups known to pass through the area are included.
2) The people in the peripheral zone retain the exclusive right to use the peripheral zone and any type of exploitation inside the park that might be permitted in the future.
3) They can refuse immigrants, which is always possible under traditional land tenure regulations; village chiefs were requested to comply with this policy in their decisions on new installations.
4) Consumptive use is an option that can be included in annual activity plans to regulate the use of some vegetative resources and fish. Hunting, grazing and agriculture inside the park are specifically excluded.
5) Local people's involvement in park protection will be encouraged, possibly through the creation of a network of village scouts.
6) The people in the peripheral zone are accorded priority in the sharing of tourism-related benefits and employment opportunities.
7) A forum for information, discussion and decision-making will be installed. The aim is to encourage social fencing with local people protecting resources from outsiders to retain exclusive usufruct rights.

At the level of the government authorities this would mean, on paper, sharing responsibilities and rights at the local level and would therefore imply a partial loss of power and advantages for administrators. The government has opted for gradual decentralisation of responsibilities in participatory management structures as defined in the legislation. Thus, the management structures are under the authority of an existing regional committee (the "permanent committee") responsible for management of the entire Waza-Logone area. The role of this committee is to ensure that development activities in the Waza-Logone area are compatible with conservation purposes and to adjudicate conflicts within the management structures (park and flooded area) (Kouokam and Ngantou 2000). Initiated in 1993 by IUCN, as an Integrated Conservation and Development Project (ICDP), this project aims at providing assistance to the population and supporting park management under the condition that hydrological and ecological restoration is implemented. The project assisted in drafting a management plan for the park, comprising one multi-stakeholder management committee for the protected area and the surroundings (Bauer 2003a). This sounds like giving power back to the local level but, as indicated above, government officials are reluctant to share power and local people also face legal challenges.

9.12 Legal setting of park management

Although the 1994 Law of Forestry recognises that participatory management by local people can be an important means of local conservation, the legal framework does not include locally developed institutions. The creation of the park brought new regulations, and the local Kotoko could no longer impose their management regime, which involved coordinating activities and imposing taxes on access to land resources. Furthermore, the traditional rights of people evicted from the park have been undermined and their activities are now considered illegal, on the land they have inhabited for centuries and have contributed to reshape as a complex landscape (planting trees, digging ponds and canals). As the 1994 law formally made participation possible through management plans, many discussions at the local level were held on the concept of buffer zones. This newly introduced concept was not adapted to the area, since communities settled there had already been evicted from the park and settled in this "peripheral zone" supposed to be managed by local people (Loth and De Iongh 2004). But their participation was questionable because it remained unclear to what extent they had the possibility of voicing their opinion on management of the area. Customary resource

use institutions have been weakened and replaced by state rules. However, some local communities still refer to these institutions to try and justify their access to resources.

Trust between local people and state: Many factors have contributed to the loss of trust between local people and the state in the Logone floodplain. Among them are activities of the state in the area, or the attitude of many government representatives. Administrative and military authorities (*gendarmerie* and police), representatives and administrators of technical services, park officials and even municipal leaders are known by the local people under one term: *hakoma*. All the activities and all the decisions implemented by these people are considered to be done with government approval, which for them is associated with negative past experience. When the park was formed, many communities were evicted without compensation. Their frustration is understandable as this coincided with the severe droughts of the 1970s, at a time when it was particularly difficult for them to achieve their livelihood goals. During this period, the surrounding people were forbidden access to park resources. In the floodplain, the situation was worsened by the construction of the Maga dam in 1979, a project integrated in the state strategy, which aimed for food self-sufficiency through rice cultivation. The negative impacts on the local population were enormous (reduction of fish production, poor pastures, etc.) and therefore reduced rather than enhanced livelihood resilience and led to widespread mistrust in government agencies (Moritz et al 2002; Fokou 2006).

9.13 Discourses and narratives: perceptions, wishes and motivations

9.13.1 Main discourse and narrative used by stakeholders

Park authorities consider the local users to be responsible for the degradation of park resources because of their fishing activities and their grazing of cattle within its territory. Local people are also accused of illegal hunting. Even if it is not clearly stated, the authorities would like to keep local communities away from the park because they lack the spirit of conservation, and allowing them to use park resources is seen as a submission to open access. Local people are accused of behaving opportunistically, aiming for short-term benefits at the expense of long-term sustainability. All parties have agreed on the necessity to put management mechanisms in place, but although persons in charge

of park conservation voice agreement with the new policy, which involves the local population in park management, they have not yet changed their attitudes to wards local people (Kouokam and Ngantou 2000). Consequently, the implementation of the management plan has been very slow, especially in the areas of consumptive use of natural resources such as wood, resin, thatch and fish in the park (Bauer 2003b). In addition, the number of park guards was reduced as a result of the diminishing commitment of the state for conservation, which in turn was a consequence of an economic crisis that affected the country from the mid-1980s on. The remaining personnel saw their salaries reduced by 50% (Bauer 2003a). This led to a decline in the quality of monitoring and protection.

By contrast, local Kotoko fishermen, considered to be "the owners of the land", have a radically different discourse on the use of resources. Almost four decades after some of them were evicted from the park, they still consider themselves the rightful owners of waterholes within the park. The reason is that they were never compensated after their eviction. Today the younger generations are faced with greater difficulties when trying to satisfy their needs and they believe it is right for them to be allowed to return into the park to fish. During a focus group discussion with Kotoko fishermen, they recognised that:

> *It is normal for us to go back to our former villages to fish. We are suffering a lot since the use of fisheries in the park has been banned. It is difficult for us to understand the behaviour of the* hakoma *(state). We are not allowed to go back to our land even for fishing but nothing is done to help us. About twenty years ago, the* hakoma *constructed a dam upstream and we are not receiving enough water here and our catches have been drastically reduced. If we stop going fishing in the park, who is going to take care of our families?* [5]

And another fisherman continues:

> *We are prevented from using the resources but many outsiders are granted authorisation to exploit the fisheries and other resources. It is right for local people to claim their rights by using the resources as it pleases them because they are not profiting anything from the presence of the park.*[6]

As for the nomadic pastoralists, they have their own line of discourse on the presence of the park and the use that should be made of its resources. When the reserve was declared a national park, it became illegal for transhumant and nomadic pastoralists to graze or water their livestock in the Waza area. However, herders continue to use pastures inside the park because during the dry season, they can feed their animals on the fresh grass near waterholes when the rest of the floodplain is completely dry. These pastoralists are aware that they could be caught and sanctioned by game guards, but this does not deter them. The rationale of this behaviour is that these foreign pastoralists have to pay grazing taxes before entering Cameroonian territory and this is why it is difficult for them to understand why they are not allowed to use the resources everywhere. They consider that by paying the grazing tax they have purchased the right to use the pastures as they desire, even in the park territory.

On hearing this point of view it sounds as if the local people are in revolt, after enduring abuse for so long on their own territory. This is an illustration of a general opinion of local user groups of the peripheral zone of WNP who recognise that they are not benefiting enough from resources generated by the existence of the park. Therefore they refer to the ideology of tradition securing livelihoods. The discourse is that traditional management systems had been working well before the park because there was clear ownership, and that the landscape was shaped by their traditional activities (ponds). The narrative regarding the crisis is that eviction and exclusion have caused poverty and a weakening of the livelihood systems in times of need, while degradation of resources is caused by ineffective state management based on low salaries and corruption. It is not the local people who use most of the resources but outsiders with high bargaining power who are able to buy free access to wildlife, fish and pastures. Participation is not seen as a process that involves local people for it is in practice not taken seriously by the park authorities, who gain more by selling access.

9.14 Conclusions and recommendations

Like other protected areas, Waza-Logone has a history of eviction of its local inhabitants in order to install a hunting reserve. Beginning in 1934 under the French colonial masters, the local users were denied access to common-pool resources such as pasture, fisheries and wildlife, which they were using under the rule of the Kotoko before colonial times. As with many examples in this book, the area had been used and even transformed by local peo-

ple, who were digging ponds that were used after inundation as rich fishing grounds. The transformation of the hunting reserve into a park during independence was characterised by strengthening the fortress approach to achieve conservation. The area became closed to livelihood needs and to management by local institutions that regulated access to fish, pastures and wildlife. After a situation of economic crisis and later on during the democratisation and decentralisation phase, financial means for the enforcement of the fortress approach became scarce. In addition, and clearly increasing the pressure on the protected area system, a large-scale irrigation scheme with a large dam (Maga) transformed the ecology of the floodplain. Through a combination of ecological and institutional changes, the Waza-Logone area was facing increased pressure, and at the same time open access constellations. As access is officially denied, locals and foreigners adopt a short-term strategy to use as many resources as possible. In the 1990s, following the paradigm shift, there was a change of management plan initiated by the IUCN Project and partially also by the local government.

There is now a major shift towards community conservation for several reasons: First, the model of protected areas based on the principle of limited or zero human presence, has proven to be counterproductive to the achievement of the overall goal of protected areas. It was more difficult to set aside large areas totally free from human use or occupancy. With this evolution, park management today can be labelled as park outreach and consultative participation, with land and wildlife being government property (Bauer 2003a). Second, this conforms to the new paradigm shift of participation that has been adopted by IUCN in the area. Third, the government in this model can still be the strong partner determining what actions are to be taken, as the model does not include real participation in the sense of decision-making power. Rather, it is consultative consensus-seeking at the level of remaining power asymmetries. The conditions for increased participation and acceptance of the rules of the game are that local villagers receive some revenues from the park (tourist entry fees and hunting fees), while some use of CPRs in the park are permitted.

Our main point is that the Waza-Logone project is a case where the evolution of community conservation has taken a particular path that depends on the adoption of the dominant ideologies and discourses. Yet despite trying to develop a people-friendly and institutionally sensitive setting, the project has produced mixed results. First, the project was designed to rehabilitate the floodplain, which was of major ecological importance. IUCN tried to mitigate the man-made problems of industrial agriculture. But the Maga

dam created so much damage to the downstream landscape and ecosystem that "Return of the Water" was an obvious ecological strategy to restore the floodplain and Waza National Park. Although the political and resource-use dynamics have been studied, they have not been sufficiently understood, with a negative effect on the sustainable use and protection of resources in specific areas. This leads us to the second point: Although it was trying to pay attention to pre-colonial, colonial and postcolonial institutions and understanding that there was a need to fill the institutional vacuum, the project still had negative impacts on the Waza-Logone Park and on the participatory process. The failures were, for example, a lack of understanding of the political economy of the transformation phase. An institutional analysis shows that the most powerful people in the local communities of fishermen, herders and agro-pastoralists, administrators (government and park authorities/ scouts) as well as NGOs had already adapted their strategies to cope with water scarcity. This is based on a peculiar kind of legal pluralism by which some resources remain in a situation of open access, while others are privatised. Access to resources in the park and its surroundings can be obtained by bribery of local leaders, administrators or scouts who earn income from their way of interpreting the situation. Also, due to less money for effective state monitoring of boundaries, enforcement of laws and establishment of a functioning legal framework, the rather chaotic legal situation we have termed legal pluralism benefits the most powerful actors. This is evidenced by the following facts: administrators who profit from conflicts, increasing tax systems, pastoralists who interpret grazing taxes as open access rights and powerful fishermen increasing the number of canals to capture short-term profit from the return of the water. This erodes trust in the administration, the state and the neighbourhood, as well as in institutionalised contacts between different ethnic groups. It is not co- but counter-management that takes place. Even worse regarding park management, wrong incentives exist at the local level. Revenues are so low that if paid at the household level they would only compensate for 12 to 13% of the losses that peasants and herders incur because of wild animals. Yet in times of need these actors are excluded from the resources, frequently with no alternative to resort to but illegal activity. Therefore, the very economic basis for co-management is absent (Borrini-Feyerabend 2000), while inputs in infrastructure are attracting people from dryer areas. They are for example trying to get access to a public good that has become open access. Therefore, even more water to restore the floodplain would not fix the ecological crisis. There has to be an open debate on how to manage Waza National Park in a much more participatory way than has been done up to now.

Endnotes

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[3] Title of IUCN publication on the project's achievement.

[4] Calculation based on data on average household income of a family living on fishing, farming and animal husbandry.

[5] Focus group discussion with Kotoko fishermen in Damardi near Kalkoussam in March 2004.

[6] Interview with a Kotoko fisherman from Hinalé and member of a resettled family from the park, met in Damardi in March 2004.

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Part III
Asian and European Case Studies: An Evolution of Interests

10 "Because the Project Is Helping Us to Improve Our Lives, We Also Help Them with Conservation" – Integrated Conservation and Development in the Kangchenjunga Conservation Area, Nepal

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Abstract

The present case study of the Kangchenjunga Conservation Area Project (KCAP), located in the north-eastern corner of Nepal, empirically investigates successes in and obstacles to addressing biodiversity conservation priorities at the same time as local inhabitants' livelihood needs. The research results indicate an improvement in forest conditions and a perceptible growth of the wildlife population – judging from the increase in crop and livestock depredations – as well as an enhancement of local people's livelihoods and the creation of a positive attitude towards conservation among most of them. The challenges that emerged with the project's success are primarily related to increasing crop and livestock depredations by wildlife, growing expectations among the local people for further livelihood enhancement-oriented activities, and a need to enhance the institutional capability of the recently established Kangchenjunga Conservation Area Management Council (KCA-MC) to manage and sustain conservation efforts. Another insight is that factors such as the country's current political instability and present economic trends affect conservation and livelihood issues more than any project intervention. Nevertheless, it is imperative to address local livelihood needs while also receiving long-term external support for the conservation of endangered species. This requires a good balancing act, backed up by periodic monitoring, evaluation and research feedback to enhance the learning process.

Keywords: Conservation, participation, development, livelihoods, Nepal.

10.1 Introduction

Since the 1980s, people-oriented conservation approaches have been applied so as to attempt to reconcile conservation and livelihood interests in protected areas worldwide, including in Nepal. This case study examines the participatory conservation strategies that have been very effectively applied in the Kangchenjunga Conservation Area Project (KCAP). The aims, questions and analytical concepts underlying the research are specifically formulated to allow the exploration of the ways in which participatory conservation approaches reconcile conservation interests with the sustainable livelihood needs of the local people residing in protected areas. Considering the holistic nature of the KCAP approach, emphasis was placed on examining project activities and implementation processes and strategies, as well as assessing the overall impact of the project on biodiversity conservation and on the livelihoods of local people.

The research methods consisted of a combination of in-depth and semi-structured interviews with 108 residents of the Kangchenjunga Conservation Area (KCA) and 50 experts. Individual and group discussions with members of district-based NGOs, political parties, project trainees and journalists also took place during 2005. The results were analysed against secondary data and were presented to the stakeholders for substantiation. The case study findings represent the perceptions and experiences of men and women from all 35 settlements in the KCA, as well as conservation, development and research institutions working in integrated conservation and development projects (ICDPs) in and around the protected areas of Nepal. The risk of being selective and/or gathering biased information was decreased by including all of the concerned stakeholders (Silverman 2000).

The success of an ICDP goes, to a certain extent, beyond the influence of the actors who are directly involved and responsible. Likewise, the effectiveness of research can be strongly affected by external factors. The field research work began when Nepal was going through one of its most serious internal crises since its founding in the mid-18th century. The Maoist Communist Party of Nepal has been waging a so-called 'people's war' since 1996, with the aim of replacing the monarchy with a communist republic (Thapa 2002; Upadhya 2002). In response, the Government declared a state of emergency to combat the insurgency and mobilised the Army and other security forces. Despite this mobilisation and the Government constantly reporting its own success, no security improvements were observed on the ground during the

fieldwork and the fighting and killing continued even during the ceasefire period. The mobilisation of the security forces made the situation even more unpredictable and it became dangerous for anyone, including the researchers, to move around and talk to people, particularly in the late evening and in groups.

This volatile security and political environment led to increased mistrust among and between villagers. Due to the hiring of local research assistants, the planned interviews could nevertheless be conducted satisfactorily. Hence, instead of the usual 'problem-oriented' approach, a 'solution-oriented' investigative approach was taken, which fitted in well with the research objective of understanding the best practices of participatory conservation. The KCA initiative, like most conservation undertakings, represents to some extent a 'top-down' global agenda (WWF-NP 1998). Therefore, it was considered more important to explore solutions to improve participative conservation rather than to focus on the problems of integrating people into protected area management. Thus, interviews and discussions were focused on finding ways to mitigate problems (Hurni et al 2004; Haupt and Müller-Böker 2005) rather than simply extracting problems. For instance, instead of asking why snow leopard protection is problematic, the question was framed in terms of how snow leopard conservation could generate benefits for the local population. Indeed, the research approach was designed so as to contribute to solving social problems by examining successes and failures (Rubin and Rubin 1995).

In the following sections, we begin by presenting the case study area, its location, and its ecological, socio-cultural and historical context. We then focus on the main problems and areas of conflict that the KCA has to face. Before turning to the programmes the KCAP runs to mitigate unsustainable conditions, we outline the prevailing traditional institutions and livelihood strategies, along with the main organisations and actors in the KCA. The reader will thus be able to evaluate the appropriateness of KCAP interventions. Particular emphasis will be placed on the governance structure of the KCAP, since, at least for Nepal, the project marks the very first time that a community-based organisation has been entrusted with the responsibility for managing a conservation area of this scale and importance. Finally, we conclude by weighing up the strengths and weaknesses of the KCAP and put forward recommendations derived from the main lessons that were learnt.

10.2 Setting of the case study

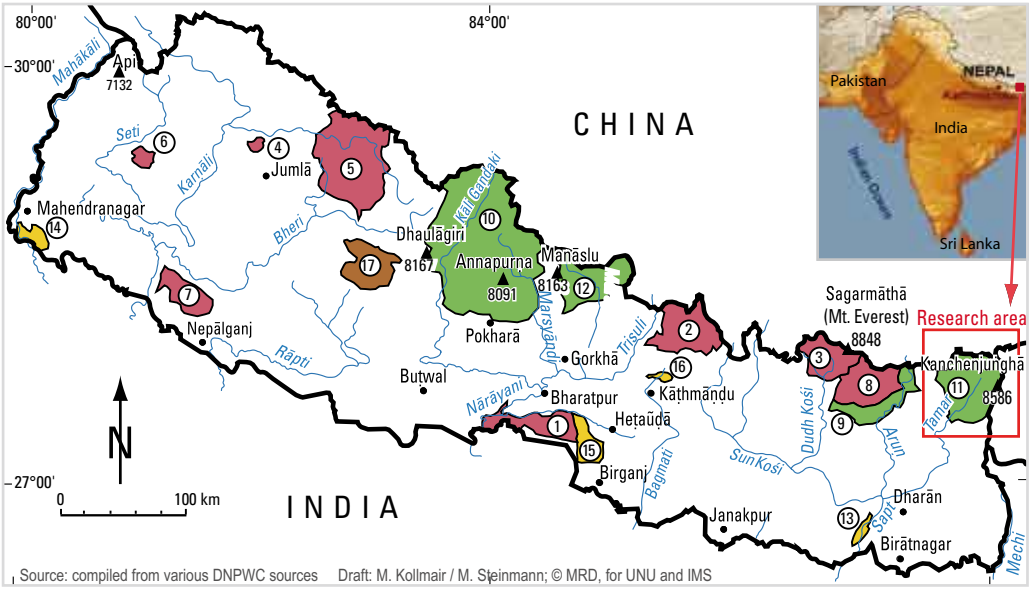
The following chapter provides a brief introduction to Nepal and outlines the state of its conservation efforts and its experiences relating to the development of protected areas. This chapter then goes on to present the local environmental and socio-economic conditions in the Kangchenjunga Conservation Area (KCA).

10.2.1 Location and ecological information

Nepal is one of the least developed countries in the world, with a Human Development Index (HDI) value of 0.526, and is ranked 136th out of 177 countries (UNDP/Nepal 2005). Over 40% of people live below the poverty line of less than US$ 1 per day. Despite poverty and an insurgency that has spread since the mid-1990s, conservation efforts are continuing steadily in Nepal, thanks to the commitment of international conservation organisations, donors and, most importantly, the local communities living in and around protected areas.

The combination of varied geographic and climatic conditions in Nepal has created unique habitats for floral and faunal diversity (Shrestha 1999; HMGN/MFSC 2003). Over 29% of the total land area still remains under forest cover and over 18% of the country's land area has protected status of one kind or another. This extensive protected area network includes ten national parks (some with buffer zones), three wildlife reserves, three conservation areas and one hunting reserve, all of them established to achieve various conservation and social goals. National parks, wildlife reserves and hunting reserves are centrally managed and strictly protected with the support of the Nepalese Army (Müller-Böker 1999). Conservation areas are managed with the participation of local communities, without any Army involvement (Gurung 1995; WWF-NP 2005a).

The KCA, named after the world's third highest mountain, Kangchenjunga (8,586 metres), is situated in the north-eastern corner of Nepal (Figure 1), which shares an international border with Sikkim of India to the east and the Tibet Autonomous Region (TAR) of China to the north. This mountain ecosystem has the potential for transboundary conservation (Maskey 1997; WWF/ICIMOD 2001) and is an important watershed for eastern Nepal and India (Yonzon et al 2000; KCA-MC 2005). The landscape is dominated by high mountain terrain (with 10 additional peaks over 7,000 m) and one of the



National Parks *(IUCN Category II)*

1. Royal Chitawan
2. Lāngtāng
3. Sagarmāthā
4. Rārā
5. She-Phoksundo
6. Khaptad
7. Royal Bar diyā
8. Makālu-Baruṇ

Conservation Areas *(VI)*

9. Makālu-Baruṇ
10. Annapurṇa
11. Kanchenjuṅghā
12. Manāslu

Wildlife Reserves *(IV)*

13. Kośi Tappu
14. Royal Shuklā Phāṭ
15. Parsā
16. Shivapuri

Hunting Reserve *(IV)*

17. Dhorpāṭan

Fig. 1
Protected areas in Nepal. (Map by M. Kollmair and M. Steinmann, modified by Ulla Gaemperli, based on map published in Müller-Böker and Kollmair 2000, p. 325, reproduced by permission of UNU and IMS)

longest non-polar glaciers on Earth (Gurung and Gurung 2002). The altitude of the KCA varies from less than 1,200 metres to over 8,500 metres above sea level. Topographically, the KCA is characterised by four main steep-sided river valleys, i.e. the Ghunsa, Simbua, Tamor and Yangma. The area consists of 65% rocks and ice/rivers, 14% different forest types, 10% shrubs, 9% alpine meadows and only 1.6% is used as agricultural land (Amatya et al 1995).

The KCA climate ranges from sub-tropical to alpine due to an extreme altitude gradient of over seven thousand metres within less than 10 km. According to Dhakal (1996) about 80% of the rainfall (2,625 mm annual average) in the Kangchenjunga Conservation Area occurs during the monsoon (mainly June to September), while the rest is fairly evenly spread throughout the year. The areas at lower altitude (below 1,800 m) – Lelep, Tapethok and Yamphudin – experience warm summers and mild winters, whereas the higher-altitude areas (above 2,500 m), such as Ghunsa, Gola, Pholey and Yangma, have mild summers and cold winters with snow and frosts.

10.2.2 Ethnographic and demographic information

The KCA has four Village Development Committees (VDCs), namely Lelep, Tapethok, Walangchung-Gola and Yamphudin, and covers about 56% of the northern part of the Taplejung district. The total population of the KCA is 5,254 (2,562 females and 2,692 males) living in 35 widely scattered villages consisting of roughly 1,000 households (KCA-MC 2005). Despite continuing out-migration since the democracy movement of 1990 and the current political instability, the recent trend reveals a slight population growth in all VDCs of the KCA (from 4,941 in 2001 to 5,254 in 2004). The annual population growth was constant over all three years. On average, the Tapethok VDC has the highest population growth rate, followed by Lelep VDC (WWF-NP 2001a).

The ethnic groups in the KCA can be broadly divided into two groups by language, i.e. Tibeto-Burman and Indo-Aryan. The main ethnic groups in the area are Sherpa/Bhote (including Tibetan refugees), Limbu and Rai. They together represent about 86% of the total population and can be considered as long-established local people. The remaining 14% consists of Gurungs and Tamangs as well as Brahmins, Chhetris and the Dalits (Figure 2), who have made the KCA their home relatively recently.

The Limbu and Rai are known as 'Kiranti' with a history going back thousands of years. They are believed to have been the first settlers of the area.

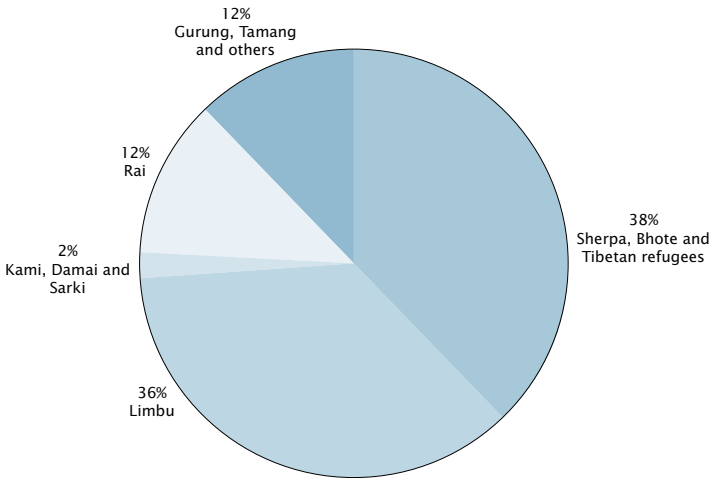


Fig. 2
Ethnographic and demographic information. (Source: WWF-NP 2001a)

The Limbu and Rai are Tibeto-Burman descendants. They speak Tibeto-Burman languages and share similar traditions and customs. The Sherpa ethnic group is also known as Bhote or Bhutia (generic Nepali term for Tibetan), as they originally migrated from the Tibetan plateau about 450 years ago (Oppitz 1968) and have a close affinity to Tibetan culture. Uprety (1994) and Dhakal (1996) suggest that the majority of Bhotes took the Sherpa surname a generation ago to convince Nepalese census-takers that they were not recent Tibetan immigrants. Tibetan refugees are the most recent migrants to have settled in Gola and Pholey, and arrived only after 1959 (Amatya et al 1995).

10.3 History of the Kangchenjunga Conservation Area

The Kangchenjunga area was declared a "Gift to the Earth" by the Government of Nepal in April 1997 in support of the "WWF 2000 – The Living Planet Campaign". In July 1997, it was designated as a conservation area. Thus, in the KCA, similar to many other conservation projects in developing countries, the concepts and ideas of the international conservation lobby meet those of a traditional subsistence-oriented population (Müller-Böker and Kollmair 2000). The main reasons for protection stated by the World Wide Fund for Nature (WWF) are the unique environmental characteristics of the Mt. Kangchenjunga area, with its high density of glaciers, high biodiversity indices, extensive forests of endangered Himalayan larch, and endangered wildlife (e.g. red panda, snow leopard and blue sheep).

To manage the area, the Ministry of Forest and Soil Conservation (MFSC)/ Department of National Parks and Wildlife Conservation (DNPWC) and WWF Nepal Programme (WWF-NP) jointly launched the Kangchenjunga Conservation Area Project (KCAP) on 22nd March 1998 "… to safeguard biodiversity of the area and improve living conditions of the local residents by strengthening capacity of local institutions responsible for making decisions, which will effect long-term viability of genetic conservation and economic development of the area" (WWF-NP 1998, p 4). The KCAP model emphasises the tripartite partnership between the local community, the Government of Nepal and WWF-NP (WWF-NP 1998). The initially top-down implementation phase was reversed into a guided bottom-up approach that culminated in the handing over of management responsibilities to locally built organisations representing all relevant stakeholders (KCA-MC 2005; WWF-NP 2005a).

Table 1 presents the major events and achievements in the history and development of the KCAP chronologically.

Table 1

Major events and achievements of the KCAP in chronological order.

Date	Events and achievements
1994	WWF-NP/DNPWC conducted a feasibility study in Kangchenjunga region to collect baseline information.
1995 (Nov)	Kangchenjunga Project endorsed by the MFSC.
1996	WWF-NP/DNPWC formulated and conducted biodiversity, socio-economic and tourism studies in Kangchenjunga region to assess conservation and socio-economic conditions.
1997	WWF-NP/ICIMOD sponsored a regional consultation on the conservation of the Kangchenjunga Mountain Ecosystem in Kathmandu to explore the Tri-Nations Peace Park concept.
1997 (29 Apr)	Kangchenjunga region declared a 'Gift to the Earth' by His Majesty's Government of Nepal (HMG/N) in support of WWF's Living Planet Campaign.
1997 (21 Jul)	Core area of 1,650 km^2 of Kangchenjunga region conferred protected area status and declared a Conservation Area by HMG/N based on ecological boundaries.
1998 (22 Mar)	WWF-NP/DNPWC launched the KCAP by establishing the project head office in Lelep and sector offices in Ghunsa, Walanchung-Gola and Yamphudin.
1998 (14 Sep)	KCA boundary extended from 1,650 km^2 to 2,035 km^2 to facilitate community-based conservation area management by including all the remaining areas within the political boundaries of Tapethok, Lelep and Yamphudin VDCs.
2001 (13 Jul)	Supplementary agreement signed between MFSC and WWF-NP to ensure a five-year funding commitment from WWF.
2006 (22 Sep)	The Government of Nepal handed over ownership and responsibility for the management of the KCA to the KCA-MC, according to the legal framework and the five-year management plan.

Source: KCA-MC 2005, Gurung 2006.

10.4 Core problems

With regard to the goals of sustainable development, the KCA is primarily facing 'problems' in the realms of livelihoods and infrastructure.

10.4.1 Livelihoods

More than 90% of KCA households do not produce enough food to meet their needs for the entire year, mostly due to lack of productive land (Brown 1994; WWF-NP 2001a; KCA-MC 2005). The average annual household food sufficiency from their own land is estimated to be less than six months per year (Mountain Spirit 2003; KCA-MC 2005). In economic terms, 34% of households in the KCA remain below the national poverty line (NRs 4,400

or US$ 65 per annum, set in 1996) (KCA-MC 2005). Another study (Mountain Spirit, 2003) measured 'poverty' through a 'well-being ranking' with a particular focus on subsistence food deficit – rather than the globally recognised measure of less than US$ 1 per day – in order to keep the measurement locally applicable. Results show that the poverty rate is as high as 75% based on the level of farm income in relation to subsistence requirements.

The level of poverty differs from VDC to VDC and between individual households. On average, Walangchung-Gola is the wealthiest VDC followed by Yamphudin, Lelep and Tapethok (WWF-NP 2001a). However, the level of poverty between individuals and/or households differs tremendously within each VDC. For instance, there are many Limbu households in Tapethok VDC who make hundreds of thousands of rupees annually from their cardamom farms. Many Limbu men also serve in the British and Indian armies, providing their families with a decent income. Similarly, there are many poor Sherpa/Bhote households in Walangchung-Gola VDC who live at a meagre subsistence level, whereas the others own dozens of livestock and a house in the district capital. Nevertheless the Limbu, who mainly live in Tapethok and Lelep VDCs, are the poorest ethnic group on average, with the lowest level of food sufficiency (Amatya et al 1995; WWF-NP 2001a; Loksam 2003; Mountain Spirit 2003). Indeed, the poorest of the poor are the individuals and households who own no land in the lower KCA belts and no livestock (or potato fields) in the upper settlements. As a result, they are compelled to adopt numerous different livelihood strategies for their subsistence (see below).

10.4.2 Infrastructure

Similar to most of the rural mountainous areas of Nepal, the KCA lacks basic community infrastructure and services. Poor infrastructure is further compounded by the harsh environment, the distance from development centres (e.g. a road head) and the poor state of service provision (WWF-NP 1998, 2001a). Due to poor trails and bridges, the only year-round means of transportation is walking. This obviously multiplies transportation costs. Basic community infrastructure does exist in the area, including schools, health posts, post offices, drinking water schemes, a customs office, VDC offices, police posts, micro-hydro schemes and 25 water-powered mills (*ghattas*) (Table 2).

Table 2

Status of basic community infrastructure and services in the KCA.

Infrastructure	Status[5]	Remarks
Health/ Sanitation	- 5 health posts and 1 health centre - 175 toilets - All schools have toilets - Regular clean-ups in main villages	- Ghunsa health centre is privately run - Sanitary toilet installation is growing - Drainage system needs improvement
Education	- 19 schools - 1 childcare centre (CCC) in Helok - 32 scholarships for girls' education	- 1 girls' hostel in Lelep - Established endowment fund to run the CCC - Fund managed by mothers' groups (MGs)
Communication	- No telephone service available - 5 post offices	- KCAP has wireless communication sets - Only connection with the outside world
Alternative energy	- Electricity in Lelep and Gola - 2 kerosene depots - 123 back boilers (BBs) - 526 households with solar lighting	- 4 micro-hydro schemes planned - Depots are in Ghunsa and Yamphudin - BBs installed with 119 improved stoves - Solar power in poorest households and scattered settlements
Access	- Accessible on foot - 54 km of trails repaired - 24 bridges repaired, 4 installed	- Transportation of goods by humans and pack animals - 6 suspension bridges designed for installation
Agriculture	- No veterinary services - No irrigation schemes	- Offices remain in district headquarters - Has some traditional irrigation systems
Trade	- Customs office in Gola	- Not rebuilt after the Maoists destroyed it in 2002
Drinking water	- 17 schemes serve major settlements	- Small scattered settlements lack access
Tourism	- 685 snow poles installed - 46 teahouses/hotels, 53 campsites - A few garbage dumping sites exist	- Between Ghunsa and Yamphudin pass - A few community campsites exist - Regular village clean-ups take place
Cultural	- 6 monasteries - 1 temple	- All in a dilapidated condition - Garbage needs to be managed
Security and trade	- 5 police posts - 1 customs office	- No police posts or customs office exist after the Maoists destroyed them in 2002
Local government	- 4 VDC office buildings	- Not rebuilt after Maoists bombed them in 2002
KCA Management	- Head office in Lelep, 3 sector offices with 2 visitor information centres	- Own buildings in Lelep and Ghunsa, and fully equipped sectoral offices and liaison office at Taplejung district headquarters

Source: KCA-MC 2005, Gurung 2006.

10.5 Livelihood strategies and local institutions

Livelihood options and strategies vary between higher and lower altitude belts as well as between villages (cf. Table 3). For instance, animal husbandry along with carpet weaving in Gola and tourism in Ghunsa are the most important livelihood strategies in the higher belt, whereas agriculture and cardamom and *chiraito* (a medicinal herb) farming remain the main strategies in the lower belt. Carpet production is the single most important livelihood strategy for Gola villagers and Pholey Tibetan refugees. Carpet production started in the 1960s with initial support from the Swiss government at the request of His Holiness the Dalai Lama (Uprety 1994). The average cost of carpet production (per unit of 112 cm x 170 cm in size) is about NRs 2,200 (about US$ 30). The price of carpet per unit reached as much as NRs 3,500 in 2002 and NRs 4,200 in 2005.

The livelihoods of local people can be broadly divided into two categories: farm/forest-based and off-farm strategies.

Table 3

Different livelihood strategies per altitudinal belt in the KCA.

Characteristics and livelihood strategies	Lower altitudes (1,000–2,500 m)	Higher altitudes (above 2,500m)
Ethnic groups	Limbu, Rai, Gurung, (Sherpa)	Sherpa/Bhote, Tibetan refugees
Main settlements	Tapethok, Hellok, Lelep, Lungthung, Yamphudin	Gyabla, Pholey, Ghunsa, Yangma, Walangchung-Gola
Farming system	Mixed small-scale farming on mainly rain-fed and irrigated fields, shifting cultivation	Animal husbandry and transhumance, rain-fed farming, trade
Main crops	Rice, maize, millet, cardamom, *chiraito* (two crops per year)	Potato, wheat, buckwheat, barley (one crop per year)
Livestock	Cattle, buffalo, goat, sheep	Yak, *nak* (female yak), *chauri/urang* (cow and yak and/or bull and *nak* crossbreeds), cattle, sheep
Off-farm activities	Porter, military service, seasonal labour migration, selling of forest products (e.g. medicinal and aromatic plants/ non-timber forest products), tourism	Trade with Tibet and Sikkim, tourism, carpet weaving

Source: Müller-Böker and Kollmair 2000, p. 327; Gurung 2006.

10.5.1 Farm and forest-based livelihood strategies

The main farm and forest-based livelihood strategies are agriculture, medicinal and aromatic plants/non-timber forest products (MAPs/NTFPs) and cash crops. The functioning of traditional institutions is prevalent in the KCA among all the ethnic groups. The most notable traditional institutions are the *Kiduk* (Tibetan for welfare) among the Sherpa/Bhutia communities and the *Kipat* in the Limbu ethnic group. The main distinction between the two is that clans and/or individuals and families hold land title under the *Kipat* system, unlike the *Kiduk* system, which is mainly a regulatory body. The *Kipat*, as a form of communal land ownership, dates back to the period of the Sen Kings, prior to the Gorkhali conquest of the region in 1774 (Regmi 1976). This traditional institution still regulates pastures and the use of forest products (Brown 1994; Kollmair et al 2003), despite the fact that the system was officially abolished after the 1964 Land Reform Act followed by a land survey (Uprety 1994).

Subsistence agriculture is the predominant livelihood strategy of KCA residents, as the survival of an overwhelming majority of households is dependent on agricultural production. In the KCA, 81% of households own land, 14% are sharecroppers, 3% are landless and 2% identified themselves as Kamaiya or bonded labourers (WWF-NP 2001a). Even though over 80% of households own land, only 8% of households produce enough to sell some of their harvest on local markets. Less than 10% of households produce enough cereals for their own yearly consumption (WWF-NP 2001a) and the majority therefore requires additional off-farm or other secondary income sources to sustain their livelihoods.

Over 90% of KCA households have kitchen gardens, which produce vegetables for household consumption, and surpluses are sold to visitors/trekkers for cash (WWF-NP 2001a; Mountain Spirit 2003; WWF-NP 2005a). Vegetable gardens are promoted by the KCAP to improve the nutrition and health of the local people, particularly of the women and children (WWF-NP 1998, 2000; Mountain Spirit 2003).

Animal husbandry is an integral part of the subsistence livelihood strategies of KCA inhabitants and 60% of households own cattle (WWF-NP 2001a). It is one of the most important livelihood strategies of highland Sherpas and Tibetan refugees, as well as of many other ethnic groups in the area.

Forest products are not only harvested for subsistence purposes but also to generate cash income. MAPs (medicinal and aromatic plants) and NTFPs (non-timber forest products) play an important role in sustaining and improving the livelihoods of the KCA inhabitants by their contribution to household income (Sherpa 2002; Paudel 2003; Oli and Nepal 2003). In particular, cardamom farming is a labour-intensive activity that also benefits poor people who own no land but can work as waged labourers (Dhakal 1996). Currently, 42% of households in the KCA grow cardamom, which has contributed to increasing household income and decreasing livestock holdings (WWF-NP 2001a).

10.5.2 Off-farm livelihood strategies

The main off-farm livelihood strategies in the KCA are trading, working as a porter, wage labour, migration, hunting/poaching, handicrafts and tourism. With regard to commercial activities, Walangchung-Gola has long been an important trading centre between Nepal and India, and also between Nepal and Tibet before China closed its border in 1959 following the annexation of Tibet (von Fürer-Haimendorf 1975; Schrader 1988; Brown 1994; Amatya et al 1995). The route still remains vital to localised trade between the KCA inhabitants and bordering Tibetans. Export products from the KCA include handmade carpets, butter, *chhurpi* (cheese), yaks, crossbreeds, MAPs and timber.

Over 20% of the adult population (mainly males from the Rai, Limbu and Tamang ethnic groups) work as porters as part of their livelihood strategy (Dhakal 1996). They mainly transport goods between the road head and the KCA villages.

Hunting is part of Limbu and Rai – as well as some Gurung – cultural traditions and subsistence economy (Wegge 1991; Sherpa 1994; Yonzon 1996). However, in recent years, hunting was not observed to be an important economic livelihood activity (Mountain Spirit 2003). But the illegal hunting of musk deer for their musk and Himalayan black bears for their gall bladder is still rampant in the KCA, along with mainly retaliatory killing of snow leopards (WWF-NP 2003, 2004; Toccoli 2004).

Labour migration has to be considered as an important livelihood strategy in many respects; about one person per six households in the KCA migrates for seasonal jobs, and two-thirds of them are male (WWF-NP 2001a). One

of the main income sources for some Limbu and Rai is employment in the British or Indian armies (Uprety 1994). Out-migration is not only for income reasons and in search of a better life, but also for education and, since the beginning of the insurgency, for people's personal safety.

Finally, the KCAP and the local communities view tourism as a potential income option. Annual visitor numbers grew rapidly, from 87 in 1998 to 590 in 1999, and then remained stagnant between 550 and 800 until 2000 (Gurung and Gurung 2002). Since 2001, visitor numbers have been on a downward trend, reaching a low of 417 in the year 2004 (WWF-NP 2003, 2004). This was largely due to political instability and the deteriorating security situation. International visitors are charged NRs 1,000 per person as an entry fee. Fifty percent of this income is set aside for the future conservation and development initiatives of the KCA, while the remaining 50% goes to the central government treasury. The KCA entry fee generated NRs 807,500 (about US$ 11,400) in revenue between 1999 and 2003 (KCA-MC 2005). Only a few households on the trekking routes, porters and the Ghunsa community have directly benefited from tourism. But even if the political situation were to stabilise, no significant increase in tourism is expected in the near future, as the area has a short trekking season due to an early monsoon and lacks physical tourism infrastructure and services. Therefore, it is important that not too much emphasis is placed on promoting tourism in order not to generate exaggerated expectations of tourism development amongst the locals and to avoid their relying on the industry (Gurung 1995).

10.5.3 Main organisations and actors in the Kangchenjunga Conservation Area

Alongside the traditional and KCA institutions, a number of district-based government and non-government organisations, as well as national and international development and academic/research organisations, have a stake in the KCA (Table 4). The responsibility for community development and nature conservation in the KCA primarily resides with the local government (i.e. the District Development Committee (DDC) of Taplejung, the four VDCs and the Wards) and the district-based government line agencies. The District Forest Office (DFO), District Soil Conservation Office (DSCO), District Agriculture Office (DAO), District Livestock Development Office (DLDO), District Drinking Water Office (DDWO), District Education Office (DEO), District Cottage Industry Office (DCIO) and District Women's Development Office (DWDO) are mandated to improve

the living conditions of the KCA inhabitants and protect natural resources. However, most conservation and development responsibilities have fallen to the KCAP since 1998. The DFO withdrew its sector offices from the area in 2000, leaving the KCAP to take over full responsibility for natural resource management.

Table 4

List of most notable local institutions and organisations active in the KCA (abbreviations are spelt out in the main text).

Community-based		Governmental		Non-governmental		Research
Traditional	**KCA**	**Local**	**Line agency**	**INGO**	**NGO**	
Kiduk *Kipat* *Gompas* *Govas* *Dhuntshangs* *Rani-bans* Grass-cutting	KCA-MC CAUCs UGs MGs SLCC CFUGs Eco-clubs	DDC VDCs Wards	DFO DEO DAO DDWO DCIO DLDO DSCO DWDO	WWF KAAA BBLL ICIMOD TMI	NGO Forum Alternative Group Nepal Mahila Sangh (Nepal Women's Association) Pathibhara Development Committee	Tribhuvan University University of Zurich San Francisco State University Hokkaido University Himalaya School for International Training

Gompas are monasteries, the centres of the cultural ceremonies of Sherpa and Tibetan refugees, playing a profound role in shaping the way of life of Buddhists; *Govas* (generic Tibetan term for the headmen of a village) still have influence over the day-to-day affairs of their villages; *Dhuntshangs*, which means 'feast together' in the Sherpa language, is a popular local way of welcoming guests and regulating their compensations for food and drinks; *Rani-ban* means 'Queen's forest' and is a religious forest; to avoid individual exploitation of a crucial common resource, village representatives fix the day on which grass-cutting is allowed to start ('grass-cutting day').

Source: compiled from Brown 1994, Uprety 1994, Yonzon 1996, Müller-Böker and Kollmair 2000, WWF-NP 2001a, WWF-NP 1998-2005b, Gurung 2006.

The Kadoori Agriculture Aid Agency (KAAA) and Bridge Building at Local Level (BBLL) are active in the KCA in the field of community infrastructure development. Likewise, the International Centre for Integrated Mountain Development (ICIMOD) and The Mountain Institute (TMI), in partnership with WWF-NP, are involved in designing the Sacred Himalaya Landscape project, which covers the KCA.

Among the stakeholders, international non-government development organisations (INGOs) play an important role in improving the living conditions of the KCA inhabitants, whereas district-based government line agencies have the potential to address the various livelihood, as well as conservation, issues of the area – if the state service delivery system can be made

more effective and efficient. Likewise, the district-based local NGOs fulfil the role of civil society (e.g. advocacy) and provide technical support to the many nationally and internationally funded projects in Taplejung district, including the KCAP. Research institutions also play an important role in raising livelihood and nature conservation issues relevant to the sustainable development of the area.

10.6 Programmes run by the Kangchenjunga Conservation Area Project

The KCAP has devised and implemented a number of programmes and activities, as presented in Table 5, in order to achieve its dual objectives of conserving biological diversity and improving the livelihoods of the local inhabitants of the KCA.

These interventions are designed and executed based on study findings (feasibility, socio-economic and biological studies), lessons learnt from other ICDPs and annual needs assessments. All project interventions directly and/or indirectly emphasise building and enhancing the capacity of local people (e.g. women, men and children) and their institutions to ensure that activities are effectively and efficiently implemented and sustained in the long run.

Of the five programmes presented in Table 5, nature conservation and sustainable community development are the main objectives of the project. Capacity building, communication and partnership development are the means to achieve the set objectives, ultimately contributing to the long-term conservation of biological diversity. The implementation process for each programme is presented below.

10.6.1 Nature conservation

The primary objective of the KCAP, nature conservation, is attempted by the implementation of private and community plantations, control of forest fires and deforestation, community forestry projects, protection of non-timber forest products and medicinal plants, wildlife monitoring and anti-poaching operations (Mountain Spirit 2003; WWF-NP 1999, 2004, 2005b). The KCAP staff, Snow Leopard Conservation Committee (SLCC) members and the members of the Council and its sister organisations are directly involved in wildlife monitoring and anti-poaching operations (Mountain Spirit 2003; WWF-NP 2003, 2004; Toccoli 2004).

Table 5

Summary of the KCAP's main programmes and activities (1998-2005).

	Programmes	Main focus and activities
Objectives	**Nature conservation**	Forest/wildlife programmes including biological research, monitoring and specific conservation-awareness activities.
	Forest	Encroachment control, planting, monitoring and management training.
	Wildlife	Monitoring, anti-poaching, depredation control, wildlife insurance.
	Sustainable development	Focus on skill development and technology transfer based on the results of gender-disaggregated socio-economic studies and gender-sensitive annual participatory needs assessments.
	Basic social services	Trails, bridges, drinking water, schools, child care centres, girls' hostels, sanitary toilets, health posts, drainage, mobile health camps, clean-up campaigns, hygiene-awareness camps, multi-purpose nurseries.
	Income generation	Goat-keeping, piggery, poultry, carpentry, sewing, knitting, horticulture, carpet weaving/cutting, small shops, *chiraito* farming, petty trade.
	Tourism and heritage	Garbage clean-ups, cook/porter/guide training, sign boards/posts, snow poles, visitor information centres, campsites, tourism awareness, monasteries, temples, cultural sites.
	Alternative energy	Kerosene depots, back-boilers, improved cooking stoves, solar lighting, micro-hydro schemes.
Means	**Capacity building**	Training of project staff and local women/men to provide them with the knowledge to build, transform and strengthen local institutions with a specific focus on empowerment and leadership development of women.
	Local KCA institutions	Non-formal education, girls' education, eco-clubs, extensions and study tours; and brochures/leaflets, audiovisual/cultural shows, quizzes, interactive public sessions, environment days, gender awareness-raising and street plays.
	Education and awareness	(Same as above for local KCA institutions).
	KCA infrastructure	Lelep head office, three sector offices, one visitor information centre equipped with furniture and radio communication sets.
	Communication	Information directly through community-based organisations, in Nepali and English, with a focus on transparency.
		Brochures, leaflets, tourist guide book, quarterly newsletter, annual project and research reports accessible to the public; and workshops, media briefings, stakeholder consultations, joint evaluations.
	Partnership development	Work in partnership with conservation and development organisations and research institutes at local, national and international levels.
		Staff exchange programme and study tours in conservation areas; infrastructure development cooperation; much collaboration with national and international universities and research institutes.

Source: WWF-NP Annual Technical Reports 1998-2005b, WWF-NP 2005a, Gurung 2006.

Mountain Spirit (2003) and Toccoli (2004) report that the project's conservation-awareness activities and the direct involvement of local people in wildlife monitoring are effective and recommend continued monitoring (at least three times a year) and awareness-generating activities to minimise wildlife poaching. The need to involve more local people in wildlife monitoring and other project activities for wildlife conservation, as well as local income generation, was deemed to be clear (Loksam 2003; Toccoli 2004).

Wildlife depredation issues are of major concern (Loksam 2003; WWF-NP 2003, 2004; Ikeda 2004; Toccoli 2004). Livestock rearing is one of the main livelihood strategies in the upland communities of the KCA. As a result, livestock losses have significant economic impact on the community, often leading to the retaliatory killing of snow leopards by livestock herders (WWF-NP 2004). The livestock insurance scheme, by providing compensation for any loss incurred due to livestock depredation by snow leopards, has not only increased the livelihood security of livestock owners, but has also reduced the number of snow leopards killed in retaliation. An endowment fund of NRs 1,200,000 (about US$ 16,900), supported by the NCCR North-South through the Department of Geography, University of Zurich, Switzerland in collaboration with WWF-NP, was set up at the Taplejung Bank in December 2005. The endowment fund generates interest of around NRs 36,000 (about US$ 500) per annum. This interest is used to replenish the premium fund (NRs 50 per yak) only when the losses incurred are higher than estimated, and also to repay the premium at 3% interest at the end of every year. In addition, a community-based verification mechanism has been established. The mechanism stipulates that the Snow Leopard Conservation Committee (SLCC) must verify individual claims before compensation. This is expected to mitigate some of the inherent risks associated with insurance, such as fraudulent claims. Moreover, provision has been made to distribute any surplus funds in the form of a no-claim bonus at the year's end. The no-claim bonus will increase as compensation claims decrease, ensuring better monitoring of the claims made and an incentive for livestock owners to proactively guard their herds, as only those owners who do not make a compensation claim will be entitled to this surplus fund. The premium fund is collected locally and invested locally, as the interest is higher (25%) than the interest for bank deposits (3%). This also helps to generate local income from the investment and increase the endowment fund. So far, direct compensation has been given with NRs 2,500 per yak less than two years old, which is considered reasonable compensation by the local yak owners.

The KCAP regularly conducts village-level awareness programmes and interactive sessions (on health and sanitation, wildlife, forests, social development, etc.) to inform villagers about the importance of conserving natural resources and wildlife (WWF-NP 1999, 2000; Toccoli 2004; Locher 2006). Project staff members also make regular household visits to gather conservation and development issues at the individual and household levels that do not normally emerge during public meetings and needs assessments (WWF-NP 1999, 2001).

To reduce fuel-wood consumption, two kerosene depots, hundreds of solar lighting sets and over 100 back-boiler systems (to heat water while cooking) with improved stoves have been installed. Out of five micro-hydro schemes that were designed, two schemes are in the process of implementation (one of them providing 35 kilowatts of power for heating and cooking along with lighting, the other providing less than 10 kilowatts of power). The project has also established three multi-purpose nurseries with a total capacity of 40,000–60,000 saplings (e.g. trees, fodder trees and fruit trees), which are managed by mothers' groups (MGs) (Mountain Spirit 2003; WWF-NP 2004; Locher 2006). Tree seedlings are planted on community and private lands, and fruit and fodder tree seedlings are planted close to houses on private land. Plantation is promoted as a means of generating conservation awareness, rather than as a solution to deforestation (WWF-NP 1999), and has been found to be effective (Mountain Spirit 2003).

10.6.2 Sustainable development

To sustain community infrastructure 'hardware' and for further progress to be possible, the KCAP runs local capacity-building or 'software' activities, such as literacy, girls' education, public interactions, exposure/study tours, as well as awareness camps, street plays, audiovisual shows and numerous skills development training sessions. The project also regularly provides training on social mobilisation, gender awareness, sustainable development awareness, forest and tourism management, office management, bookkeeping and leadership development for local women and men, as well as for project staff (WWF-NP 1999; Mountain Spirit 2003; WWF-NP 2005a).

The KCAP has implemented multiple community infrastructure development activities based on feasibility studies, gender-disaggregated socio-economic research recommendations and annual gender-sensitive participatory needs assessments carried out by the project (WWF-NP 1999, 2004).

Various participatory tools are applied to ensure that the benefits of project interventions are equitably shared at all levels (e.g. individual, household and settlement levels). The project employs an adaptive and flexible activity implementation strategy to enable it to respond to changing community aspirations, priorities and political environments, as well as to the changing availability and sources of funding. The main initiatives include the repair, maintenance and installation of community infrastructure (WWF-NP 1998, 2005b). Due to the internalisation of the value of community participation, local contributions to infrastructure development activities, in cash and kind, constituted between 16-49% of the total estimated cost (Mountain Spirit 2003), exceeding the 10% expected by the project. However, it was reported that some infrastructure, such as the sanitary installations in Pholey and the drainage system in Walangchung-Gola, was no longer functioning properly due to the community not taking proper responsibility for their management (Mountain Spirit 2003) and the project's inability to create a sense of community ownership of these services. Similarly, the Ghunsa and Gyabla drinking water schemes also suffered from the use of low-quality construction materials (e.g. pipes) and weak community participation.

Of the basic community infrastructure, safe bridges over (often life-threatening) fast-flowing rivers are one of the main community development priorities. Investment-intensive activities are also a high priority. In the initial phase, the KCAP carried out a lot of repair and maintenance work on wooden bridges in collaboration with the Taplejung DDC. The project was able to install high-quality suspension bridges with metal decks after developing partnerships with development organisations.

One of the most noticeable development activities of the project is the establishment of 32 mothers' groups (MGs) with 32 endowment funds for savings–credit schemes to generate income at the household level and educate disadvantaged girls (Loksam 2003; Mountain Spirit 2003; Locher 2006). The endowment funds serve a dual purpose by generating income for women and their households and educating girls who could otherwise never complete their schooling (WWF-NP 2000). The first two batches of recipients of the girls' scholarship graduated from school, went on to complete higher secondary school in Taplejung and are currently employed.

10.6.3 Capacity building

The KCAP has established a complex management structure of community-based organisations (CBOs). The aim of this structure is to transform traditional institutions through modern conservation and development values and to enhance local institutional capacity so that it should, in the near future, be able to assist with project initiatives and to manage the KCA, with reduced outside support. All of the management institutions were formalised and are regulated by the Conservation Area Government Managed Regulations of 2000 until 2005, and will function under the KCA Management Regulations of 2005 from 2006 onwards once – and if – the government endorses the draft regulations.

The KCAP has established physical park infrastructure and human resource capacity for the sustainable management of the area through its head office in Lelep and sector offices in Ghunsa, Walanchung-Gola and Yamphudin villages, all with their own office buildings (except in Walanchung-Gola). These are well equipped with furniture and radio communication sets, and run by project staff, over 70% of whom have been hired and trained locally (Mountain Spirit 2003; WWF-NP 2002, 2004). Since July 2007, three government staff, two WWF staff and 6 locally hired staff are working for the KCAP. Most of local staff are working at village level, representing ethnic, gender and spatial proportions, whereas the wardens and rangers have to be deputised by the Government, and financial and administrative staff has to be nominated by WWF.

10.6.4 Communication

The KCAP has made maintaining transparency in project implementation a priority. This has been promoted through stakeholder coordination meetings at the local, district and central levels; interactive public meetings; workshops; joint project evaluations; press visits; the publication of a quarterly Nepali-language newsletter; and public auditing in recent years (WWF-NP 1998, 2001b, 2003, 2005b).

Three specific examples of the way in which the KCAP has tried to maintain transparency are described here. The first example is the hiring of local project staff through public notice with the participation of the local VDC chairperson and other local representatives on the interview panel. This innovative approach, bringing local representatives into the staff selec-

tion process, not only helps to select the best candidates, but also minimises conflict between the project management and the local and district political parties who manoeuvre for their own candidate. The second example is the publishing of project activities, with income and expenditures (e.g. project, community and third-party contributions), in a quarterly Nepali-language newsletter in order to inform the general public (WWF-NP 2001b). Lastly, the impact of the project was jointly evaluated in 2003 by representatives from donor organisations (WWF-UK and WWF-US), project implementers (DNPWC and WWF-NP), independent evaluators (Mountain Spirit), local women and men (KCA institutions), local government (DDC and VDC), district-based government line agencies, district-based NGOs, major political parties and the KCAP staff (Mountain Spirit 2003).

10.6.5 Partnership development

Over the years, the KCAP has developed a series of partnerships with various local, national and international organisations working in the fields of conservation and development. The first activity of the project was to conduct village-level interactions to inform local people about the project, develop a rapport and a deep-rooted partnership with the local inhabitants (WWF-NP 1998, 1999). During the inception phase, a strong partnership was developed with the Annapurna Conservation Area to transfer the lessons learnt from that project to the KCAP as practically as possible through staff exchanges and study tour programmes (WWF-NP 1998, 1999). The KCAP has forged a strong working partnership with development organisations like Bridge Building at Local Level (BBLL) and Kadoori Agriculture Aid Agency (KAAA) to scale up project activities and address larger-scale community infrastructure development needs, such as suspension bridges and alternative energy requirements (WWF-NP 2000, 2004, 2005b). Through the facilitation of the KCAP, the KAAA provided hundreds of solar sets for lighting and also installed suspension bridges. Likewise, the project has developed partnerships for conservation and research initiatives with the International Centre for Integrated Mountain Development (ICIMOD), The Mountain Institute (TMI), Resources Himalaya, Tribhuvan University, Kathmandu University, Minnesota University and the University of Zurich.

10.7 Governance of the Kangchenjunga Conservation Area

While the KCA evolved from a top-down approach, in 2005 the HMG/N began to transfer the management responsibilities to the KCA-MC with the preparation of the KCA Management Plan and the 2005 KCA Regulations. The handover in September 2006 marks the beginning of a new era in protected area management, both nationally and internationally. In Nepal, this is the very first time that a community-based organisation has been entrusted with managing a project area of this scale and importance (WWF-NP 2005a).

The WWF-NP head office in Kathmandu provides the required technical supervision and logistical support, and the DNPWC mainly provides policy and legal support to the KCAP. The project is largely financed by the WWF

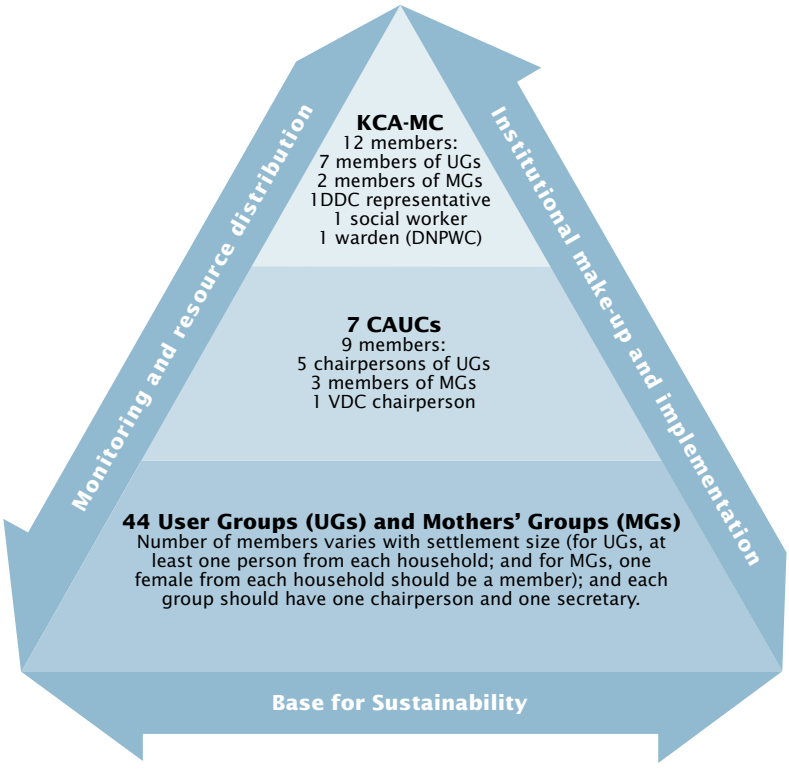


Fig. 3 Management structure of the KCA.

Source: Gurung 2006, based on WWF-NP 2001b, 2004.

network (mainly WWF-US and WWF-UK), foundations (e.g. The MacArthur Foundation, USA) and is supported by a few private donors (Mountain Spirit 2003; WWF-NP 2005a). The average yearly project budget for the first two years was about US$ 80,000 (WWF-NP 1998, 1999) and over US$ 200,000 per annum thereafter (WWF-NP 2003, 2004, 2005b). Altogether, approximately US$ 1.2 million has been invested in the area by WWF-NP between 1998 and 2004. Local communities and other conservation and development partner institutions have contributed additional amounts. On the basis of clear working procedures and the enhanced capacity of community-based organisations, the KCAP has been able to spend over 90% of its budget on the execution of planned activities (Mountain Spirit 2003).

The 44 user groups (UGs) and 32 mothers' groups (MGs) are the foundation of the local organisations (Figure 3). The MGs and UGs are formed in each settlement for practical reasons, and each household is represented by at least one member in each group. Their representatives form the seven Conservation Area User Committees (CAUCs) and ultimately the Kangchenjunga Conservation Area Management Council (KCA-MC). The CAUCs are responsible for the implementation of conservation and development initiatives through the UGs and MGs. The KCA-MC is primarily responsible and accountable for resource distribution, monitoring and the overall management of the area.

There are two CAUCs per Village Development Committee (VDC), except in Walangchung-Gola, which has only one CAUC, as a result of having a smaller population and fewer settlements compared to the other three VDCs. The VDC chairperson in the CAUCs and the District Development Committee (DDC) representative in the KCA-MC are mandatory members – to ensure effective partnership with local government, to improve coordination and to avoid the duplication of conservation and development initiatives in the area. It is important to create a collaborative management framework between the KCA-MC and the DDC as the 1998 Local Self-Governance Act authorises the DDCs/VDCs to manage their natural resources, directly conflicting with the 1973 National Parks Act and the 2000 Conservation Area Regulations.

There are other sub-user groups such as the Snow Leopard Conservation Committee (SLCC), community forestry user groups (CFUGs), eco-clubs, eco-youth clubs, hotel management committees (HMCs) and a number of action-oriented user groups to address specific conservation and community development needs at site level. These local institutions are based on

a combination of traditional and modern conservation values, interests and priorities. None of the traditional institutions were dissolved while establishing the KCA institutions. Instead their strengths and their potential were incorporated into new community-based organisations (CBOs).

One of the innovations in the KCA institutional setup is the formalisation of MGs as a separate entity. The representation of MG members in UGs, CAUCs and on the Council allows women to participate and to voice their concerns at all levels of the decision-making process. This is the first time in the history of protected area management in Nepal that there is a legally enforceable minimum of 30% female representation in the CAUCs. This proportion of representation is considered desirable to enable the voicing of the unheard voices (Dahlerup 1998 in Locher 2004, p 90).

A lot of effort was made while forming the KCA institutions to achieve membership by consensus nomination rather than by democratic election, so as to avoid conflict within and between the political parties in the unstable political situation (WWF-NP 1998, 1999, 2004). After discussing the procedures for establishing the mothers' group, user group, user committee (UC) and KCA-MC, the KCAP asked the villagers to come up with a list of members agreed on by all the major political parties and other interest groups (WWF-NP 1998, 1999, 2001b, 2003, 2004).

The 2000 regulations provide a platform for consensus nominations and/or democratic election of women representatives in the CAUCs and on the Council, rather than top-down nominations by the Warden. These new regulations also provide an opportunity for women to negotiate their concerns with their male counterparts and successfully address strategic gender needs (Mountain Spirit 2003), compared to other political bodies and well-known Annapurna Conservation Area (ACA) institutions (Locher 2006). However, the MGs are only effective in making decisions and implementing conservation and development activities at the group or settlement level, not yet at the CAUC and the Council levels (Mountain Spirit 2003; Locher 2006). The KCAP has placed the emphasis on building institutional capacity at the UG and MG level to minimise leadership gaps and ensure that able members slowly reach the CAUC and Council levels, where the most important resource allocation and policy decisions are made. Considering the KCAP head office at Lelep compared to the destroyed Ghunsa police office, one can see the fruit of local ownership of project resources. There is a clear indication of a strong partnership between the locals and the project staff.

The KCAP understands that conservation in a poverty-stricken area like the KCA is a losing battle without the trust and support of the community. The project has adopted the local way of life with a low-key presence in the field in order to gain community trust and implement the project smoothly (WWF-NP 1998). The project staff participate in local events and development activities, respect and promote traditional values and cultures, and as a result, have been able to foster a sense of trust and partnership between the project and local communities (WWF-NP 1998; Mountain Spirit 2003). This locally sensitive development approach is one of the most important lessons learnt from the Annapurna Conservation Area Project and has been successfully replicated in the KCAP.

10.8 Conclusions and recommendations

Ideally, ICDPs should establish direct linkages between conservation and sustainable livelihood needs and contribute to the achievement of quantifiable conservation results (Salafsky and Wollenberg 2000; Hughes and Flintan 2001; Worah 2002). In practice, the potential for linking conservation with livelihood strategies is limited, because conservation and human welfare goals at least partially oppose each other (Jeanrenaud 2002). How then should we assess the KCAP?

10.8.1 The Kangchenjunga Conservation Area Project: success or failure?

In general, the case study results indicate that the KCAP has largely achieved its objectives with an increase in wildlife numbers, improvements in forest condition, the enhancement of the livelihoods of most of the local inhabitants and the creation of a positive attitude towards conservation among a majority of them. The project has also effectively mobilised community participation in project management and gained strong support from district-based government and non-government institutions, as well as from all of the major political parties and the press. These promising results have been delivered with inputs of less than US$ 170,000 per year and 12 to 27 project personnel over seven years. But of course the KCAP still has problems to face.

10.8.2 Conservation of wildlife and forests

The results of this case study show an increase not only in wildlife populations in general, but also in crop raiding in the KCA by Himalayan black bears, Assamese and Rhesus macaques and wild pigs, as well as livestock depredation by common leopards since 2002 and increasing yak calf depredation by snow leopards. Therefore, the success of wildlife conservation comes at a considerable cost to many (poor) farmers. Unfortunately, the poorest of the poor and the most vulnerable households seem to bear the brunt of conservation measures, as their subsistence livelihoods depend to a great extent on forest and wildlife resources and marginal farms are more prone to wildlife raids. Many interviewees believe that the solution lies in eco-tourism development, sustainable wildlife harvesting and the establishment of compensatory mechanisms for livestock and crop losses. These options are set out in the draft KCA Management Plan 2005–2009 and incorporated into the KCA Conservation Regulations 2005.

With regard to the state of forest cover, land cover monitoring based on remote sensing showed that forest conditions have slightly improved from 1989 to 2000 (Schubiger 2006), but the degradation of MAPs seems to be continuing (Sherpa 2002; Oli and Nepal 2003), albeit at a diminished rate after the KCAP and the local institutions took measures to control it. A lack of alternative livelihood options is perceived to be the leading cause behind the continued extraction or 'poaching' of medical and aromatic plants (MAPs) and other forest resources. Indeed, the elderly MAP collectors from Gola, Ghunsa and Yangma and wildlife hunters from Tapethok and Yamphudin only became 'poachers' with the establishment of the KCA. This plight has been faced by many indigenous people living in protected areas around the world (Colchester 1997). Meanwhile, there is a strong realisation among experts that enforcing conservation rules to control poaching without addressing livelihood issues will not have the desired effect. The Country Representative of WWF-NP believes that "… even the guns can't control people when they are simply poor". For instance, some of the most dedicated locally hired KCAP staff reported and also admitted that they themselves had resorted to 'poaching' MAPs after losing their jobs in 2004. This scenario clearly demonstrates the magnitude of the challenges on the ground. Hence, one of the ICDP assumptions – that local people need alternatives to natural resource-dependent livelihoods to minimise and mitigate the negative impact on biodiversity – has proved accurate.

The KCA inhabitants believe that livestock development and the sustainable utilisation of MAPs are the two most important economic sectors for their livelihood improvement. But neither of these potentials has been explored by the project (Mountain Spirit 2003), mainly due to conservation interests and restrictions imposed by national and global conservation policies. For instance, many species of MAPs play an important role in sustaining and improving the livelihoods of local people (Sherpa 2002; Oli and Nepal 2003), but they are tagged as 'endangered species' and strictly protected. Unless such protectionist policies are relaxed, formally linking the conservation of these MAPs with sustainable livelihoods becomes impractical.

10.8.3 Community development and livelihood improvement

Compared to the findings of Uprety (1994) and Dhakal (1996), recent studies indicate a noticeable improvement in community infrastructure, health and sanitation conditions, literacy rates, access to education and income-generating opportunities in the KCA (Loksam 2003; Mountain Spirit 2003; Locher 2006; Locher and Müller-Böker 2007). The case study results also show tangible improvements in the overall livelihood conditions of the KCA inhabitants as a result of the KCAP interventions (see above). To a large extent, the KCAP's benefits have reached every settlement and household (Mountain Spirit 2003; WWF-NP 2005a). Over 790 women have directly benefited from income-generating activities (Mountain Spirit 2003) and the results of development activities are promising (Loksam 2003; Locher 2006). However, a few scattered settlements and some poorer households have benefited much less, primarily due to geographical isolation and societal constraints.

The KCAP's activities that are oriented towards community development have not only created tremendous expectations among the local inhabitants but also raised hopes of development among the adjoining communities. Many VDCs adjoining the KCA have repeatedly requested the KCAP (DNPWC and WWF-NP) and the Ministry of Forest and Soil Conservation to extend the existing KCA boundaries (WWF-NP 1999; Mountain Spirit 2003). Perhaps this is the first time in the history of protected area development in Nepal that local people have requested their inclusion within a protected area after seeing the development benefits. During the inception phase, these VDCs were happy to be excluded from the area, whereas the KCA inhabitants expressed strong dissatisfaction about conservation being imposed on them. In general, the change in attitude of the local inhabitants, as well as the district-based stakeholders, towards the project, from sceptical

and negative (WWF-NP 1998) to positive (Mountain Spirit 2003; Toccoli 2004; Locher 2006), could be confirmed in this study by the vast local support for the project, regardless of age, gender, religion, ethnic groups or profession. Even the Maoists had to re-open project field offices they had forced to close because the project continued to be run through the local institutions and the rebels were unable to justify the closure under such intense community pressure. Nothing shows the local support for the KCAP better than this.

10.8.4 Local capacity building

Most of the KCA institutions, particularly the mothers' groups and the KCA Management Council, seem to have achieved the desired level of participation (Arnstein 1969; Pimbert and Pretty 1997), as they manage their institutional affairs independently and the Council is ready to take over the long-term management responsibilities of the area. The strong functioning of a community-based organisation is an indication of effective participatory conservation serving the interests of local people (Pimbert and Pretty 1997). Among the local institutions, mothers' groups appear the most effective in managing village-level conservation and development-oriented activities. However, the capacity of most of the user groups to participate actively in the decision-making process and manage project activities was deemed unsatisfactory (Mountain Spirit 2003). Likewise, women's participation and influence at the KCA-MC level is still minimal compared to that of their male counterparts (Locher 2006). Considering the importance of the Council as a policy-making and resource-allocating body, the enhanced participation of women on the Council seems to be essential in order to bring gender equality and effectiveness to the KCA management. As most of the MGs have already proved to be effective decision-makers and project implementers at the settlement level, their enhanced participation on the KCA-MC would not only improve women's overall social status in their respective communities, but also greatly contribute to the better management of the KCA resources in general. In many respects, the KCA-MC mirrors the existing social structure, because the overwhelming majority of the Council members are educationally and economically well-off or socially influential individuals (Locher 2004). Mismanagement of community forest resources and project funds by a few members of the Council from Gola and Yamphudin has been reported. This is not surprising, as many respondents mentioned that most of the UC and the Council members joined these institutions with the expectation of directly benefiting from the project and from public resources. Hence, the effective management of the KCA by the current UC members remains questionable.

10.8.5 Main lessons learnt

The research results show that an improved ICDP can effectively deliver positive biodiversity conservation and community development outcomes in protected areas. Indeed, ICDPs need to negotiate and carefully integrate livelihood issues into biodiversity conservation strategies. In addition, projects should be long-term (at least seven years) and transparently implemented, by skilled and committed personnel, in phases with regular monitoring, evaluation and research inputs. In fact, long-term conservation projects provide both professionals and locals with a more reflective learning process and adaptable management.

Factors that seem to have created the conditions for the success achieved thus far, include the employment of personnel mostly from the local area with ethnic/gender representation, gender-focused and partnership development approaches, and its being managed by generally competent Nepali professionals. Indeed, the project was able to operate even during the most critical period of the insurgency owing to the strong commitment of local staff, mothers' groups and the Council chairperson. The Conservation Area Regulations of 2000 (draft 2005) re-instated local legal management of resources, resulting in enhanced community participation and effective natural resource management. As a result of its holistic design and adaptable implementation, the KCAP has been able to harness active community participation in all project activities, from design and implementation to public auditing and joint evaluation.

The key challenges that have emerged with the success of the project are primarily related to the increasing crop and livestock depredation by wildlife; the growing expectations of the local people for further community infrastructure and livelihood enhancement-oriented activities; and the need to improve the institutional capacity of the various KCA committees and the Council to manage and sustain conservation efforts. The limitations of restricting individual use of MAPs, NTFPs and timber (trade), in the absence of alternative livelihood opportunities, are becoming apparent. Indeed, poor people who depend on forest resources and the hunting of wildlife for their subsistence livelihoods are suffering the most heavily from the conservation measures.

10.8.6 Recommendations

It is clear from the case study results that second-generation ICDPs should adopt the principles of inclusive participation and transparency and should apply a wide range of project management strategies for success. These strategies should be compatible with the local environmental, socio-economic and political conditions, as well as with global conservation and development trends. The following recommendations could be considered as pathways for second-generation ICDPs:

- Biodiversity and livelihoods database: a comprehensive database is essential to monitor the status of biological diversity and the livelihoods of local people in protected areas over time. Unlike many other ICDPs, the KCA feasibility studies provided enough empirical grounds for the comparative analysis of the status of forests, wildlife and the livelihoods of local communities. In this context, continued research is necessary in order to document the development processes, particularly the socio-economic transformations and the ecological processes that are taking place in and around protected areas over time and are affected by various local, national and international influences.

- External input: in general, the strict protection of biodiversity seems to be a global and national agenda rather than one of local interest, and therefore continued external input (both technical and financial) is essential to protect endangered faunal and floral species in particular, and to conserve biological diversity in general. It is unrealistic to expect local communities to sustain the project's conservation efforts and, most importantly, to protect livelihoods and life-threatening species of wildlife without any external support.

- Impact-driven rather than result-driven: ICDPs should be driven by impacts instead of by immediate results and should find ways to invest over a period of at least seven to ten years. A longer period of time would enable projects to bring about tangible changes in forest conditions, wildlife populations and the overall state of the local environment, as well as improving the livelihoods of local people.

- Phase-wise strategies: ICDPs are likely to succeed if they are implemented with phase-wise strategies (e.g. from inception to phasing-out) that are flexible enough to enable learning processes and to build on monitoring, evaluation and research findings.

– Locally responsive interventions: the transfer of knowledge and approaches should be practicable and socially just. The institutionalisation of mothers' groups in the KCA is an example of a project intervention that is responsive to the local context.

– Partnerships: besides local communities and the relevant government authorities, ICDPs should find ways to develop working partnerships with a wide range of conservation, development and research institutions in order to be cost-effective, as well as achieving greater impacts. Partnerships with development agencies have enabled the KCAP to invest its scarce resources more in conservation activities, while development organisations have addressed the many community infrastructure development needs of the area.

– Negotiate conservation policy reform: ICDPs should contribute to the reform of conservation policies through stakeholder negotiations so as to magnify the scope of community-based conservation institutions and enable sustainable practices of resource use.

– Staffing and capacity building: highly committed and skilled professionals and trained local people should jointly manage ICDPs, and their skills should be constantly upgraded in line with the growing capacity of the local people and with the scale of project interventions. The staff composition should be inclusive and representative (e.g. gender, ethnic, caste, etc.).

– Gender mainstreaming: ICDPs should focus on gender mainstreaming with an emphasis on women's empowerment. Mothers' groups in the KCA have shown promising results. They are more effective at mobilising and managing resources at the settlement level than their male counterparts are, and the importance of their role in policy-making is also emerging. Indeed, the gender empowerment approach should be geared towards building a partnership between women and men to enhance the development process, without undermining the established social fabric that is important for social cohesion.

It took over three years for WWF-NP and DNPWC to move from the feasibility study to the initiation of project implementation; and over eight years to begin the process of handing over responsibility for management of the KCA to the local community. This clearly demonstrates the time it takes and

the challenges that participatory conservation projects face in establishing a community-based protected area management system that is needed in order to address both the conservation of biological diversity and the sustainable livelihood needs of local inhabitants. Indeed, there are many ways and means of addressing biodiversity conservation and sustainable livelihood issues in the KCA and other protected areas elsewhere. The KCAP approach is just a beginning: it is one alternative for sustainable conservation and needs to be further pursued and improved to ensure promising results from second-generation ICDPs.

Endnotes

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[5] Most of the community infrastructure such as sanitation, alternative energy, trails/bridges and tourism were installed by the KCAP in partnership with local people, the District/Village Development Committees (DDC/VDCs) and other development agencies.

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11 Environmentality Reconsidered: Indigenous To Lindu Conservation Strategies and the Reclaiming of the Commons in Central Sulawesi, Indonesia

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Abstract

This contribution[2] is the only one in the present volume that is not related to the NCCR North-South research programme. It was chosen for publication in *People, Protected Areas and Global Change: Participatory Conservation in Latin America, Africa, Asia and Europe* because of its specific theoretical and regional angle, which would otherwise be lacking in the collection of cases. Greg Acciaioli provides us with a vivid example of how local powerful stakeholders use the notion of being indigenous in a subtle way to accommodate state and NGO discourses and narratives, while at the same time trying to keep control over their land in the Lore Lindu National Park area, Central Sulawesi, Indonesia. Acciaioli examines how the local To Lindu group is dealing strategically with the option of a park in their area, facing immigration from people from other regions in Sulawesi. Based on the knowledge that immigrant groups have to be integrated and that, at the same time, the government of Indonesia and NGOs have an interest in conservation, the To Lindu leaders use the ideology of nature in peril due to immigrant settlers. The indigenous leaders therefore engage in a participatory conservation discourse, fostering indigenous knowledge and indigenous institutions meant for application to conservation of the forest area. While showing that they have incorporated conservation issues, their main strategic interest is to control the amount of land used by the immigrant farming communities by benefiting politically from the PA setting in which they participate. Acciaioli uses this example to give a critical reading of Agrawal's idea of "environmentality" (Agrawal 2005) as a form of local incorporation of conservation by government and NGOs, thus making an important theoretical contribution that reaches beyond this volume. (Tobias Haller, editor)

Keywords: Indonesia, Sulawesi, participatory approaches, co-management, national parks, tropical forests, indigenous peoples, settlers, practice theory, Foucauldian theory, environmental ideology.

11.1 Introduction

In his re-traversal of portions of Alfred Russel Wallace's travels throughout the Malay Archipelago, one of the foci of Tim Severin's (1997) attention was how well the rich biodiversity that Wallace had observed had been preserved in various parts of the region, as well as what mechanisms had been most efficacious in the conservation endeavour:

> *Nearly one and a half centuries later we would visit those same places, look again at the environment, and see what had changed and what had not. On the basis of that evaluation we might also gain some insight into what was being done to protect and preserve those unique habitats, and whether those protective measures were effective.* (Severin 1997, p 12)

Severin summed up his impressions by noting that "traditional care for the environment" – customary regulation of the commons – seemed more effective at conservation than any modern protection policies, such as gazetting reserves (Severin 1997, p 255). Severin's experiences and conclusions are neither unique nor novel. In fact, they echo the views put forth by many environmentalist and indigenous rights NGOs in Indonesia. However, others have disputed the ability of traditional systems of custom or *adat*, now reformulated and re-presented as community resource management systems, to conserve habitats in the face of increasing population pressure and the allure of extending land for cash crops, such as coffee, chocolate, vanilla and others, for the global market. In this regard, it is noteworthy that, despite his nostalgic respect for the operation of *adat* in preserving the environment of Kai Besar, "the most competent environmental protection" that Severin witnessed was that exercised by the NGO-sponsored rangers in the Tangkoko Nature Reserve in North Sulawesi (Severin 1997, p 260). However, it is important to note that his evaluation runs counter to the views of theorists like Arun Agrawal (2005), who in his exploration of what he labels "environmentality" stresses how government regulations foster a modern subjectivity of care for the environment by means of such participatory mechanisms as village forest councils.

What this essay seeks to explore is the formation of other sorts of cooperation around another protected area of Sulawesi, the Lore Lindu National Park (Taman Nasional Lore Lindu or TNLL), specifically the politics surrounding the formation of conservation agreements in the region. By examining how

elements of traditional *adat* management, modern NGO management and the framework of governmentally mandated reserves and parks combine in realisations of park management, it also seeks in its conclusion to question and supplement the theoretical nexus of Agrawal's model of the fostering of environmentality. Instead, it argues that overt "care for the environment" may be a secondary strategy rationalising the assertion of the prerogatives of categorical indigeneity, seeking dominance for one specific party within the continuing operation of conflicting agendas among the stakeholders involved.

11.2 National parks and the problem of accommodating local settlers

As the interests of the international lobby for better management of natural resources and the indigenous peoples' movement (Clad 1988, p 322) have converged, there has been greater recognition since the 1970s that national parks and other reserves are unviable if surrounded by degraded lands or by inhabitants hostile to their existence who have long resided there and claim the warrant of indigeneity in the region. In recent decades, agencies such as the World Conservation Union (IUCN) have attempted to incorporate consideration of the rights of "indigenous" peoples to continue occupying traditional lands. In response, managers of national parks have sought in more recent years to formulate agreements of co-management, involving indigenous peoples in the areas of the parks in conservation arrangements and employing them as park rangers. In order to surmount problems of surrounding land degradation, park managers have fostered development projects and land use plans for peoples living in areas surrounding such parks and reserves to enhance the quality of their lands and thus prevent, or at least minimise, destructive inroads of such peoples into protected areas.

However, such efforts have tended to target almost exclusively peoples deemed "indigenous", as defined by such bodies as the IUCN "Task Force on Traditional Lifestyles":

> *The ways of life (cultures) of indigenous people which have evolved locally and are based on sustainable use of local ecosystems; such lifestyles are often at subsistence levels of production and are seldom a part of the mainstream culture of their country, although they do contribute to its cultural wealth.* (Clad 1988, p 322)

Such endeavours have thus tended to neglect those peoples who do not meet this definition of indigeneity, even if living within or in the vicinity of national parks and reserves, when drawing up cooperative management arrangements, as their lifestyles have been viewed as based on unsustainable extraction rather than sustainable use. There has been lack of agreement even among those organisations urging cooperation with indigenous peoples. NGOs focused upon human rights have tended to argue that indigenous peoples' practices constitute "sustainable use" regimens that serve as the best basis for preserving natural resources. These organisations urge the adoption of indigenous customary practices, represented as community-based resource management systems, as a sufficient basis to protect biodiversity. Others have countered that such practices cannot be considered a sufficient basis for conservation, since the presence of a limited population and the small scale of exploitation may have contributed more to environmental diversity. Population increases and contact with contemporary incentives to find sources of income for financing the material benefits of modernity would render such small-scale practices unsustainable. Such pressures render problematic the view that indigenous peoples will always wish to retain traditional technologies, settlement patterns and small-scale subsistence strategies; in addition, it would be unethical to institutionalise "enforced primitivism", as the World Bank terms it in its rejection of such practices, among such peoples in the interest of nature conservation. Such enforcement would simply lead to the production of human zoos, as was unfortunately exemplified during World War II with the Japanese conversion of the island of Lan Yu into a private botanical/anthropological museum with access only to government officials and anthropologists up to 1945. Although the creation of multi-purpose conservation areas – as in the case of New Zealand's "multiple use reserves" – has accommodated aspects of the former outlook, the latter outlook has also exercised considerable influence on the rise of a popular model of conservation, the "biosphere reserve".

11.3 TNC's eco-region: implementing the biosphere reserve

Using its own label "eco-region", The Nature Conservancy (TNC) has emerged as one of the most active proponents of the biosphere reserve concept. Headquartered in Arlington, Virginia, it has entered into agreements of joint management of parks and reserves with the governments of countries throughout the world, especially in the South. TNC has worked with local partners, including indigenous peoples, in order to achieve the goal of "pro-

tecting nature, preserving life", as its motto reads. However, it has rejected the notion of "sustainable use" as insufficient to ensure biodiversity conservation and hence complete custodianship by local peoples, whether indigenous or not. TNC has acknowledged the appropriateness of local participation, including formal agreements with indigenous communities within and around reserves, as well as facilitating appropriate development for such communities, but it has maintained the stance that some core areas of parks and reserves should not be subjected to human use or incursion. Its park management plans and evaluations thus depend upon a notion of zonation, differently elaborated in different contexts, with some park areas subject to human use, while others are designated as out of bounds.

In contrast to orientations based on the presumed adequacy of "sustainable use" to protect the diversity of plants, animals and natural communities, shared by approaches labelled by such terms as "parks for people", "sustainable development and use", "conservation for development", "grassroots community-based conservation", etc., TNC's Parks in Peril programme (PiP) retains the notion of conservation zones excluding human uses (i.e. core zones), arguing that the use of any technique of forest product harvesting or cultivation, modern or traditional, imposed or indigenous, is scale-dependent. Effective conservation of biodiversity requires combining both participatory inclusion and enforced exclusion in managing a diversity of environments within protected areas (Brandon et al 1988).

In the Indonesian context, TNC has cooperated with the Department of Forestry in Indonesia in the co-management of the Lore Lindu National Park (Taman Nasional Lore Lindu or TNLL), officially declared a national park in 1993 (Surat Keputusan Menteri Kehutanan No. 593/Kpts-II/93 of 5 October 1993). This declaration was issued eleven years after the Indonesian government declared it a candidate for this status as part of its initiative announced at the Congress of National Parks throughout the World, held in Bali in 1982 (Surat Keputusan Menteri Pertanian No. 736/Mentan/X/1982), some sixteen years after UNESCO had declared it a biosphere reservei (Sangaji et al 2004, p 17).

TNC's draft management plan acknowledges that it has had to design and carry out the project of co-management

> *... at a time of great change and upheaval in Indonesia[n] society. Gone are the rigid directives of central planning and in their place are the needs and aspirations of the Park's diverse stakeholders.* (TNC 2001, vol 1, p 2)

In contrast to earlier policies, the emphasis of TNC upon a collaborative management strategy with indigenous stakeholders has marked a tangible advance. However, recent confrontations with other local peoples around the park have raised questions concerning the consensus necessary to produce and sustain positive attitudes to the park on the part of all stakeholders. Harvesting of rattan and other forest products by spontaneous migrants, foremost among them Bugis from South Sulawesi, and the occupation of the core zone of parkland, known as Dongi-Dongi, by resettlers in the Palolo Valley who also claim rights as an "original ethnic group" in the region, have complicated previous contestations of authority confronting the park managers. In response, local NGOs have changed their support of contesting parties, shifting from an exclusive concern with the rights of "indigenous peoples" (*masyarakat adat*, literally "customary communities") to wider issues of agrarian social justice.

11.4 Re-orientations in resource contestations

NGO activism in Central Sulawesi in the 1990s concentrated upon supporting, and often catalysing, the claims of local "indigenous societies" to land and other resources. However, by the end of that decade these NGOs had changed their orientation in reaction to such conditions as the continuing failure of the Indonesian economy to recover after the regional economic crisis following the collapse of the Thai baht in 1997. One such re-orienting organisation is Aliansi Masyarakat Adat Sulawesi Tengah (AMASUTA), the provincial umbrella organisation established in the wake of the first national Indonesian Indigenous Peoples' Congress originally to facilitate organisation of the campaigns of "indigenous societies" in Central Sulawesi. According to its former secretary-general, AMASUTA is now focused upon more general problems of the economy concerning the capacity of farmers in general rather than just of the members of "customary societies". He now regards AMASUTA as an "organisation for the people" (*organisasi rakyat*) rather than just a forum for such local customary societies as the To Lindu, although much of the work in which it engages tends still to be in the area of facilitating the formation of "customary councils" for peoples considered to be "indigenous".

11.4.1 Indigenous and "non-indigenous" peoples

However, the wider scope of concern of such NGOs is revealed in such cases as Dongi-Dongi, on the northeastern boundary of TNLL (Figure 1). This

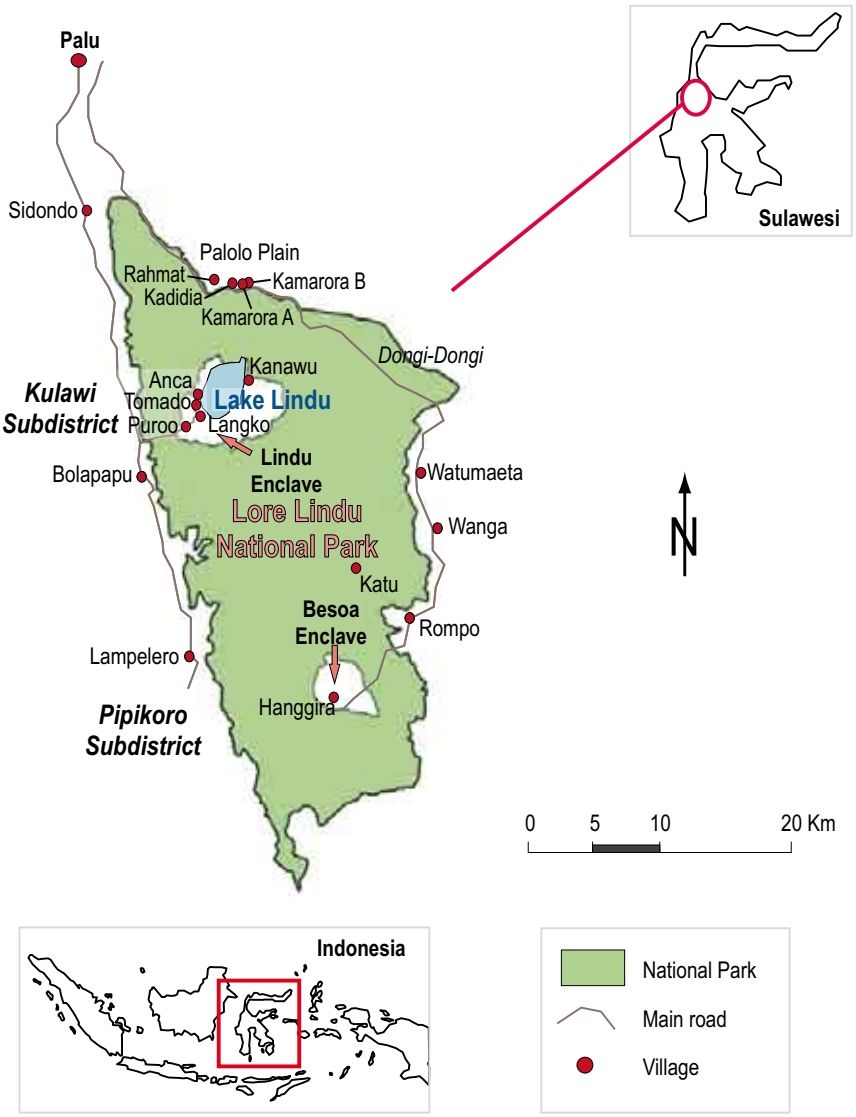

Fig. 1
Location of the Lore Lindu National Park and the main villages discussed in this paper. (Map by Corinne Furrer and Ulla Gaemperli, based on Acciaioli 1989, Bakosurtanal 1991, Heupel 2003, Pangau-Adam 2003)

controversy is distinguished from previous controversies involving peoples like the To Behoa Kakau of Katu (Sangaji 2002b) by the "non-indigenous" status of the occupiers of Dongi-Dongi. These occupiers have shifted from the four villages of Kadidia, Rahmat, Kamarora A and Kamarora B, located further to the northwest of the Dongi-Dongi site of occupation, off the road leading through the Palolo upland plain down to Biromaru in the Palu Valley

near the northern boundary of TNLL. As the designations A and B betray for two of them, these are not long-settled villages; rather they have been constructed for resettlers from various mountain ranges surrounding the Palu Valley, including Topo Da'a from the Pakawa region in Marawola subdistrict, as well as To Winatu and To Pipikoro from what has just been declared a new subdistrict, Pipikoro, formerly comprising the southernmost region of Kulawi subdistrict. These peoples were moved to Palolo as part of the programme for the Resettlement of "Isolated Peoples" (Pemukiman Kembali Masyarakat Terasing or PKMT), where a remote or "isolated people" is officially defined as a "people or a group of people whose habitats/residences are located 24 hours or more in travelling time from a provincial capital city measured by using public transportation" (Depagri 1992). Following the tradition of Dutch programmes to move montane peoples – including the To Lindu now resident in the Lindu upland plain, but formerly inhabiting the foothills surrounding this plain – in the first decades of the 20th century, this programme began in independent Indonesia in the 1950s, but only intensified in the 1970s under the direction of the Department of Social Affairs (Departemen Sosial or Depsos) after the imposition of the New Order (Haba 1999). In this period the majority of these municipal villages (*desa*) in the Palolo upland plain, formerly an area under the control of Biromaru but now a subdistrict on its own, were populated under the directives of PKMT.

Given their transposition from their homelands by this programme, such resettlers would have difficulty being classified as indigenous people with respect to the locale of their resettlement according to the criteria for Indonesian "indigenous peoples" (*masyarakat adat*, literally "customary communities") declared as a working definition by the Network for the Defence of Customary Societies in 1993:

> *... social groups that have ancestral origins (which have persisted for generations) in a specific geographical region, along with possessing a value system, ideology, economy, politics, culture, society and territory of their own...* (KMAN 1999)

The land they are now occupying in Dongi-Dongi cannot be considered as their long-held customary land, thus denying them the basis claimed by other groups for continuing control of land in and around TNLL (Sangaji 2001). In fact, they justify their occupation in part on other grounds, noting that although this land is now part of TNLL, it was formerly part of the logging concession of PT Kebun Sari, a joint venture with a Japanese logging

firm, and is now largely secondary forest. They have used this secondary forest coverage to dispute the importance of the region as a TNLL core zone. In addition, many members of the resettlement communities from which the Dongi-Dongi occupiers originate once worked for this company in order to gain an income to support themselves. This earlier circumstance leads to their other argument supporting occupation: the failure of Depsos to have fulfilled its promises to the resettlement communities. The resettlers claim not to have been accorded the 2 hectares of agricultural land promised for each family head by that department. According to a survey underwritten by NGOs, the resettlers had only received between 0.5 and 0.8 ha of land per family under the terms of resettlement; up to 200 families were without land in the surveyed village at the time of the survey (Sangaji 2002a, p 15). In addition, land that they had used for gathering rattan and for hunting to supplement their diet – as a result of their inability to subsist on the land actually allotted to them under the PKMT programme – had more recently been declared part of TNLL. Many of those who had previously worked for PT Kebun Sari had entered the concession land after the company vacated it, in order to plant coffee and chocolate; some had actually established gardens while working for the Japanese logging company. They believed that establishing these gardens gave them a claim to ownership, in accordance with the right of first clearing, as recognised widely in the customary land tenure systems of the societies of highland western Central Sulawesi (Sangaji et al 2004, p 60). The replacement land they had been promised by the government in return for abandoning gardens that were included within the boundaries of national parkland had never been granted to them (Li 2007, pp 149-191).

11.4.2 Claiming non-indigenous rights, and local reactions

NGOs in Palu, such as Yayasan Tanah Merdeka (The Foundation for Free Land, or YTM) and Wahana Lingkungan Hidup Indonesia Sulteng (Friends of the Earth Indonesia, Central Sulawesi Branch, or WALHI Sulteng), have also been facilitating the formation and activities of the Free Farmers' Forum (Forum Petani Merdeka or FPM) to fight for the settlers' claims to the Dongi-Dongi area. As the very name of that forum suggests, NGO support is no longer based on claims of the rights of *masyarakat adat* to their indigenous land, but on the politico-economic implications for impoverished farmers of government development programmes, such as the granting of forest concessions to outside firms and the forced resettlement of members of "isolated societies". FPM's demand that Dongi-Dongi be granted enclave status to parallel that accorded to such "customary societies" as the To Lindu and To Katu thus has a very different basis than earlier contestations (Abbas et al 2002).

To date the settlers' claims have gained little sympathy from either the government or the TNLL park managers, although some officials from the Department of Forestry and from the provincial government, which nominally has no authority in national park areas, have endorsed their claims. The Governor of Central Sulawesi issued an order for Dongi-Dongi to be vacated on 18 August 2001, while, not to be outdone, the Bupati of Donggala Regency gave the police three days to empty Dongi-Dongi of any "squatters", another order which failed in implementation. The park director also requested a police investigation of another Palu-based NGO working with the Free Farmers' Forum, the People's Legal Aid Society. Both TNC officials and the TNLL director expressed their strong opposition to any granting of enclave status to Dongi-Dongi during interviews I conducted in June 2002. They stressed the lack of any real settlement in the Dongi-Dongi area and condemned the unregulated cutting down of the forest by occupants, including Bugis chain-saw operators who had followed the original Da'a and Pipikoro occupants from the resettlement villages in Palolo. Yet, in order to further their claims to permanent occupation, the settlers themselves had accorded their burgeoning community the traditional name *Ngata Katupua* (Settlement of Hope or *Tanah Harapan*) and allocated land among themselves in blocks corresponding to each of the four villages in Palolo providing occupants. Nevertheless, the park management and its partner TNC have continued to reject this settlement, leading the director of one opposing NGO to label the park co-managers as embarking on a programme of "eco-fascism" (Sangaji 2002a, p 16).

11.4.3 Questioning the concept of conservation

As a result both of prior controversies and of the continuing deadlock regarding Dongi-Dongi, local NGO advocates have questioned the Western concept of conservation that they regard as the basis of such institutions as national parks. They regard national parks and similar preserves as continuing the same tendencies as development projects that have deprived customary societies of their land and rights. Instead, they see as real conservation the indigenous systems of land use that have maintained a balance with forest environments throughout the centuries preceding government impositions upon their lands by means of transmigration, the granting of concessions for logging, plantations and other development projects (Sangaji 2001, p 14; 2002a, p 16). According to the director of the Central Sulawesi WALHI office, national parks, such as TNLL, are historically from the West; they are not consistent with the divergent pattern of historical growth in Indonesia

and similar countries. Compared to the New Order's history of granting logging concessions in national parks and reserves throughout Indonesia, it was unjust to consider the cutting down of trees by people like the Dongi-Dongi occupants as illegal. Such an accusation was another instance of blaming or "scapegoating" local societies rather than the urban entrepreneurs underwriting the logging in the area.

Advocates from local NGOs such as YTM and WALHI Sulteng regard controversies like the one surrounding Dongi-Dongi not strictly as an issue of conservation, but of agrarian social justice, since they witness only the "small people" (i.e. local villagers) being blamed for deforestation and other transgressions. According to these advocates, authority to monitor resource use must be given to local societies, as they are the ones whose systems of forest use have never been sufficiently valued, despite centuries of sustainable use before the destructive impact of development projects. Human occupation and preservation of environment are not incompatible in the view of these NGO advocates, as long as that occupation is based upon traditional modes of land management, even when practised by people no longer resident in their own customary territory, such as the settlers of Dongi-Dongi.

11.5 Emergent forms of co-management: the evolution of conservation agreements

Although still viewing such arguments for the sufficiency of sustainable use on customary grounds as insufficient to carry through the project of sustaining biodiversity, such transnational conservation organisations as TNC, along with the Indonesian government, have introduced measures to increase the commitment of surrounding stakeholders to the conservation regulations of parks such as TNLL. They have particularly sought to foster local commitment to their model of zonation, requiring strict exclusion from core zones (*zona inti*), limited exploitation of materials in forest zones (*zona rimba*), and limited production in use zones (*zona pemanfaatan*). New forms of co-management agreements with local society members have sought to involve a greater number of inhabitants than only the indigenous peoples included in earlier overtures. Understanding the import of such measures requires a brief overview of the history of such agreements in the region.

Numerous NGOs of different type and scale have been involved in the setting up of conservation agreements in the region of TNLL, and each has

taken a different approach. One of the very first was the Palu-based NGO YTM, which brokered a conservation agreement between the Katu society and the TNLL management as part of the granting of enclave status to the Katu people, allowing them to maintain their stable swidden regimen within the boundaries of TNLL (Mappatoba and Birner 2004, p 26; Sangaji 2002b). Following that model, YTM has also facilitated conservation agreements with two other villages bordering the park, and in each case the emphasis was upon the recognition of indigenous rights with regard to land and other resources in return for the community carrying out such activities as patrolling for rattan theft from parkland.

In contrast, a second organisation facilitating such agreements is CARE, the North-American-based international relief and development organisation. In contrast to YTM's focus, CARE's emphasis has been upon the advancement of rural development, including agricultural extension and infrastructure provision. In the agreements brokered by CARE, regulations pertaining to conservation practices were drawn up only as part of establishing a general set of procedural rules for the village concerned as a prerequisite for the provision of development services facilitated by CARE. Given this focus on community development, CARE has tended to work with formal village governments, village heads and administrative staff, rather than following YTM's practice of dealing primarily with members of customary institutions, such as the customary councils (*lembaga adat*). However, after having overseen about a dozen such agreements, CARE ceased to be involved in such transactions, instead providing funds to a Palu-based sister organisation, Yayasan Yambata, which began the process of overseeing contracts in five villages where the protection of the maleo bird and its eggs constituted a major challenge. In contrast to CARE's focus, Yambata has followed lines more similar to YTM's in focusing upon customary institutions to oversee such contracts (Mappatoba and Birner 2004).

11.5.1 Refocusing on indigenous rights: the CSIADCP

More recent have been the efforts of the Central Sulawesi Integrated Area Development and Conservation Project (CSIADCP), a long-term plan of rural development and conservation initiatives funded by the Asian Development Bank, to oversee the drawing up of such agreements. Initially, under conditions set by the Asian Development Bank, CSIADCP had supported plans to resettle indigenous groups like the Katu out of conservation areas, but after the park director's according of enclave status to the Katu com-

munity (Sangaji 2002b) it was forced to re-orient its policies. Soon after the turn of the millennium, CSIADCP began a process of arranging conservation agreements with sixty villages in the vicinity of TNLL, though most of those agreements were not formalised until May 2004. And despite the lengthy development period, CSIADCP officials admit that these agreements constitute only an "entry point", having been based only on consultations and workshops of one day's length in each village. The agreements have a standard title – "Kesepekatan Konservasi Masyarakat Adat Desa X Kecamatan A" ("Conservation Agreement of the Customary Village X in Subdistrict A") – and follow a standard format. These agreements first list the laws and regulations that form their legal basis, then proceed to declare their aims – which in many instances are oriented primarily to ensuring the free flow of watercourses and continuous provisioning of freshwater. They also record the contracting parties – members of the customary community (*masyarakat adat*), customary functionaries (*tokoh adat*), religious functionaries (e.g. Salvation Army officials), social functionaries (including the governmental apparatus) – with perhaps a map attached showing the location of the village relative to TNLL. Only then are the specific contents of the agreement given, usually merely restating, in slightly greater detail, the aims declared earlier. The agreements end with a list of the signatories. For example, the contents of the specific agreement with the customary community of Pilimakujawa in Kulawi subdistrict are given as follows:

III The Content of the Agreement:

A. To maintain the conservation of the ecosystem of the river basin area and not to cut trees in the vicinity of the water intake or the rivers' flood plains;
B. To maintain and raise the level of sanitation near sources of clean water in the vicinity of the intake so that there does not occur any contamination of the clean water;
C. To put into effect customary sanctions against transgressions;
D. This conservation agreement is made by the people of the village in their respective capacities and is signed by a representative of *adat* functionaries, social functionaries, religious functionaries, a youth representative, a women's representative, the head of the village customary council, the head of the village representative body (BPD).

(Fasilitasi FWP-TNLL, CSIADCP [Central Sulawesi Integrated Area Development and Conservation Project] Lore Lindu. *Kesepakatan Konservasi Masyarakat Adat Desa Pilimakujawa, Kecamatan Kulawi.* Pilimakujawa, unpublished, May 2004, translation by the author)

What is most apparent from such an example, besides the conservation focus on water quality issues, is the social focus on local "indigenous peoples". This focus aligns these agreements with those facilitated by YTM and Yambata, all of which presume a relative homogeneity of the contracting community and the continuing authority of the *adat* council as adjudicator of transgressions. Yet, such a presumption is precisely what has been called into question by the Dongi-Dongi controversy and similar contestations of park authority where settlers in the region surrounding the park have been the primary agents in transgressing park regulations.

11.5.2 A different approach: The Nature Conservancy

Building upon earlier agreements, TNC has developed a different strategy in drawing up its conservation agreements with communities surrounding and within TNLL. Beginning at roughly the same time as CSIADCP's efforts, as of 2004 TNC has managed to initiate fourteen conservation agreements, though only five of them have been completed and approved by the TNLL management office (Mappatoba and Birner 2004, p 18). These first agreements were negotiated in Lore Utara on the eastern side of the park, and have already been the subject of review (Khaeruddin 2002). I focus here on a more recent (i.e. March 2005) agreement entered into with the four villages of the Lindu plain, whose surrounding lands constitute an enclave within TNLL (*Desa Puroo, Langko, Tomado dan Anca 2005 Kesepakatan Konservasi Masyarakat Dataran Lindu, Kecamatan Kulawi, Kapubaten Donggala* [hereafter "Lindu Conservation Agreement"], unpublished). As Mappatoba and Birner (2004, p 28) have noted, TNC has taken a very different track from other organisations facilitating such agreements. While still working with both customary functionaries and administrative village officials, TNC has created new village organisations to deal with the issue of local-level monitoring and enforcement of conservation regulations, especially the opening beyond enclave boundaries of gardens for coffee, chocolate and other cash crops, as well as harvesting of forest products – not only timber, but also non-timber products such as rattan. Yet there have been transitions in its orientation as well, as it has shifted from a position of broker-

ing between communities and other organisations and projects providing development services and infrastructure for community development in the periphery of the park, insisting on commitment to observing conservation rules in exchange for provision of such services as drinking water and marketing assistance for organically grown coffee. More recently, in accordance with its interpretation of Forest Act No. 41/1999 on community participation in forestry, it has made TNLL management recognition of customary rights, including accessing products from customary land (*tanah adat*) now forming part of the national park, contingent upon community enforcement of park regulations.

11.5.3 The conservation agreement for the Lindu plain

While similar in its basic format to the agreements transacted earlier by CSIADCP, the Lindu Conservation Agreement, signed only in 2005, is a more sophisticated document of greater range. It begins with a more theoretical opening section that succinctly sets forth the interdependence of all living beings as the basis of biodiversity conservation, positioning humanity as a dependent link in the great chain of life (Lindu Conservation Agreement, p 1). While asserting the necessity of national parks as a measure to combat the increasing rate of extinctions in this chain, the agreement admits that the unilateral action of determining park boundaries without consultation has not only disadvantaged local inhabitants, but also led to the failure of conservation programmes. It acknowledges the prior existence of "customary land / communal use / and living space for the societies of the area who have resided there continuously, long before the existence of the national park" (Lindu Conservation Agreement, p 1; see Laudjeng 1994). However, it also asserts the need to balance recognition of customary rights with the preservation of biodiversity in a manner acceptable to all parties to the agreement, in order to promote sustainability. The fundamental project of the agreement thus requires balancing respect for the rights of the societies in the vicinity of the park with the control and management of natural resources.

The actual chapters of the agreement seek to balance the acknowledgement of customary institutions, such as the *adat* councils of the enclave's four villages, as well as the council operating for the entire Lindu plain, with the assertion of the authority of the national park institutions. While maintaining the necessity of zonation, the agreement proclaims its commitment to a "participatory management planning" process, opening up the possibility of subsequent determination of boundaries of zones on a participatory basis that relies on both ecological and social factors.

However, the most distinctive aspect of the agreement with regard to participation is how it specifies the institutions for carrying out the agreement's aims. Even in its early specification of discussions contributing to the formation of the agreement, the agreement did not differentiate between the *adat* councils of Anca, Langko and Tomado, villages whose populations are all dominated by indigenous To Lindu, on the one hand, and the *adat* council of Puroo, which is exclusively made up of settlers from more mountainous regions elsewhere in Kulawi and Pipikoro subdistricts, on the other hand. Whereas YTM, Yaphama and CSIADCP focused in their agreements only on the indigenous groups long resident in the area, TNC's agreement encompasses settlers as well. This inclusiveness is even more evident in the specification of the "village conservation councils" (*lembaga konservasi desa* or LKD) in Chapter 6, §21 and §22, of the agreement. The LKD are labelled as "the institutions that represent society in conservation efforts in TNLL at the village level". They are designed to provide an umbrella for communication and the implementation of participatory park management planning.

The village conservation councils are formed "on the basis of the Decision of the Village Head in accordance with the results of village consultations that have been attended by the Park Management of Lore Lindu National Park, the Village Government, the Village Representative Body, the *Adat* Council and other members of society" (Lindu Conservation Agreement, p 7).[4] However, as in earlier agreements, the *adat* councils of the enclave are charged with adjudicating transgressions of park regulations and deciding upon punishments in the presence of park management staff, the village government apparatus, the "village representative body" (BPD) and the LKD. These punishments are specified in the traditional idiom of fines requiring payment of water buffalo, brass plates and traditional *ikat* cloths, though usually actually paid by means of a cash equivalent. Disputes among village members that are related to the conservation agreement are also to be settled by the customary councils. In the final paragraph devoted to "miscellaneous matters", the aim of the agreement is clearly stated as constituting an endeavour to "obtain acknowledgement of its [the local society's] management of natural resources in the customary territory that is located within the region of the Lore Lindu National Park" (Lindu Conservation Agreement, p 8) – a bold statement, at least on paper, that the notion of customary territory is to be respected. The imposition of the national park thus does not entirely supersede the local conceptualisation of customary territory.

11.5.4 Subverting the village conservation councils in operation

Like earlier conservation agreements for TNLL, the Lindu agreement still relies on the customary mechanisms of the local indigenous people in the judicial function exercised by *adat* councils of passing judgement upon transgressors of park regulations. However, this agreement is distinguished from earlier agreements by its potential encompassment of all ethnic groups within the Lindu plain with regard to the executive function of conservation enforcement. It is thus both located within and beyond the framework of indigenous custom. This dual positioning entails certain contradictions, which also characterise the operation of the village conservation councils as the main local agents of monitoring and enforcing compliance with the conservation regulations of the park. According to the terms of the conservation agreement, recruitment to the LKD is open to members of all ethnic groups in the plain. Indeed, the Puroo village conservation council is composed of Kulawi settlers, while representatives from migrant groups in Kanawu – a hamlet of the village of Tomado on the eastern side of Lake Lindu, the population of which is largely composed of Bugis settlers from South Sulawesi, Pipikoro resettlers (local transmigrants) from the mountainous regions of neighbouring Pipikoro subdistrict, as well as, more recently, Toraja farmers from the northern highlands of South Sulawesi – also may belong to the Tomado LKD. Yet, indigenous To Lindu members constitute the majority of LKD membership. Many of these To Lindu LKD representatives are also members of the *adat* councils in the Lindu plain, which are composed exclusively of indigenous To Lindu aristocrats. While promoting the LKD as an organisation to uphold conservation regulations for the whole Lindu enclave, as prescribed by park directives, these LKD members also use it as a vehicle to declare their precedential rights to land and resources as indigenous To Lindu in the Lindu plain, which they regard as their ancestral territory.

11.5.5 Local environmental governance: the village conservation councils

The contradictions in their representative functions have already become evident in the activities of the village conservation councils. The Lindu LKD were actually in operation before the formal signing of the Lindu Conservation Agreement on 30 March 2005. They undertook their initial activity as a group in early 2004, when LKD members from all four Lindu villages were escorted by TNC staff to visit the areas of the Palolo plain devastated

by massive floods in December 2003, which TNC claimed were a result of the widespread felling of trees by the occupiers in the Dongi-Dongi region. Motivated by witnessing the devastation following the transgression of conservation regulations, representatives of the LKD of three of the four Lindu villages (there was no representation from Anca, for external reasons) proceeded in the company of a TNC representative, a park ranger and the village secretary of Tomado to this village's hamlet of Kanawu, on the eastern shore of the lake, in order to investigate reported incursions into national parkland beyond the boundaries of the Lindu enclave, especially by the Toraja settlers, but also by the longer-term Pipikoro residents and others in the two most remote sub-hamlets of Kanawu. The team's activities began on the evening of 17 May 2004, as LKD team members met with selected representatives from Kanawu, setting out the motivations of the stay and planning the survey of the regions of encroachment in parkland the next day. The following morning, team members embarked on the survey to the sub-hamlet of Sangali and various gardens in parkland above the Lombosa River. The establishment of these gardens higher on the slopes outside the enclave had been blamed for the heightened flooding of the river and the shortage of water in the dry season for the wet rice fields, which had long been established by Bugis migrants and indigenous Lindu farmers in the lower reaches of Kanawu, extending down to near the shore of Lake Lindu (Figure 2). The team's visit ended with a public meeting on the evening of that second day, 18 May 2004, at which the purpose and results of the day's survey were announced and the possibility of sanctions against those whose gardens encroached on national parkland was discussed.

The ways in which the need to deal with such transgressions was framed by various team members emphasised an overt convergence of interests among all the inhabitants of the Lindu plain with the aim of constructing a unified constituency. However, in their speeches the indigenous To Lindu members of the LKD, who also belonged to the *adat* councils of the plain, covertly asserted a claim to precedence-based control over land and other resources. In his opening presentation to the assembled villagers of Kanawu on the second night of the LKD's survey, the TNC facilitator focused on the imperative to ensure the "sustainability" of the natural resources of the Lindu plain, as well as the role of the LKD in their management, as he had emphasised earlier in the day in his exhortations to transgressing farmers. Emphasising the enclave's development potential, he noted the need for assuring a constant water supply to realise this potential, explaining how this supply depended crucially on the preservation of the surrounding forest. Shortly

Fig. 2
Park ranger explaining to LKD members the increased flooding of the Lombosa River since gardens were established in watershed areas of TNLL beyond the Lindu enclave, 18 May 2004. (Photo by Greg Acciaioli)

after this opening, the government representative – the Tomado village secretary – gave his support to this position, emphasising the need to carry out all agricultural activities in an "environmentally friendly" manner.

Several speakers emphasised the policing function of the LKD within the overall management strategy, often in the context of preserving the environment for the sake of future generations:

> *We are looking out for the coming generation. We want to preserve, to conserve this environment for the coming generation, so that our coming generations will not revile us, will not blame us... Where else can we go?* (Transcript of the speech of an LKD member, 18 May 2004, translation by the author)

Such general consideration of the importance of the local society conserving the environment provided the constant refrain interspersed among the more specific discussions of the need for a coordinator of the separate village conservation councils of the four villages, for clear procedures to deal with encroachments on parkland, and other practical matters (Figure 3).

However, after being introduced as a prominent member of the *adat* council of Langko, the head of the LKD from this village began to reveal the inser-

Fig. 3
Park ranger showing residents of Kanawu at the hamlet meeting ending the LKD survey where gardens have been established in TNLL land beyond the Lindu enclave, 18 May 2004. (Photo by Greg Acciaioli)

tion of another agenda. Using the example of how the devastation in Dongi-Dongi exemplified the fate of those who opposed government regulations, he argued strongly that Kanawu should not be formalised as a separate administrative village (*desa*) – long a project of the Bugis settlers there, with considerable support from some Pipikoro local transmigrants, seeking freedom from the authority of the *adat* council in Tomado. Kanawu should be retained within Tomado administrative village so as to guard more effectively against illegal migrants, some of whom might be seeking refuge from the environmental ruin in Palolo. In making this appeal, he was quick to label in Indonesian all those present as Lindu people (*orang Lindu*), "because we are all, because Lindu, we all possess Lindu, not just the [indigenous] To Lindu, but all people at Lindu, we possess this all, because we have all lived here…" (transcript of the speech by the To Lindu LKD member, 18 May 2008, translation by the author). Yet, despite this appeal to the unity of all inhabitants at Lindu, his agenda of maintaining the dominant position of the indigenous To Lindu in the conservation project ran as a subtext throughout his speech. For example, while overtly in agreement with the assertion by the TNC facilitator of the need to align the indigenous Lindu customary "zoning" according to *suaka* with the national park zonation scheme, the head of the Langko LKD also developed this point in a direction that emphasised the prior (i.e. precedential) rights of the indigenous To Lindu to this territory:

> *So, my thoughts concerning the customs of my ancestors, this is all* adat *lands. If I speak, I have ancestors who lived here in this Olu, for Olu is its name, not Kanawu or anything else, but Olu. So, if I recite the names of all these settlements, I know them all proceeding to Kangkuro, Salumpalili, Tumawu, Tawaiki, Salu Suo, Banbaria, Boya, Lewonu, Sangali, Tae Lampanga, Tae Ropo. I know them all, because of what? Because my ancestors from time immemorial have lived here, my ancestors from time immemorial have sacrificed to extinction their livestock, because of this plain. But now the regulations are different. Gentlemen, my brothers and sisters who have come here, now we no longer think of only ourselves, we think of all of you, Bugis fathers, Toraja fathers, Kantewu fathers, we speak of all of you as Lindu people. And now once we speak of Lindu people in general, then how should we orient our thoughts to preserving this environment, how do we orient our thoughts so that we are all the same, all of us have approximately the same land, so that none of us inhabitants has too much land, that is my proposal...* (Transcript of the speech by the To Lindu LKD member, 18 May 2004, translation by the author)

In this passage, the To Lindu elder begins by asserting his prior rights (and, by extension, those of all indigenous To Lindu) to the land, since his ancestors had sacrificed the blood of their livestock upon it (later in the speech he also alluded to these sacrifices as an indigenous To Lindu conservation measure to prevent the effects of overgrazing). By reciting the original – the real – names of all the customary territories on the eastern side of the lake, he stakes a claim to precedential custodianship of this land as a commons whose use is to be regulated by the To Lindu *adat* councils. Even his declared acceptance of all those now settled in the Lindu plain, indigenous and migrant, as equally Lindu people is then used to reiterate the demand of the indigenous *adat* council of the Lindu plain that no inhabitant of Lindu may cultivate more than 2 hectares of land, a measure aimed squarely at the Bugis and Kulawi settlers, some of whom had opened 12 hectares or more, if all their plots devoted to coffee, chocolate and other cash crops were counted (Acciaioli 2001). So, even in his assertion of the contemporary equality of all Lindu inhabitants, echoing what has been proclaimed by the TNC facilitator, this To Lindu elder advances the indigenous cause of ensuring customary control of land as a regulated commons by the indigenous To Lindu *adat* councils. By further connecting erosion as a punishment from God with the exceeding of the cultivation limit declared by the *adat* council, he also

manages to supply a religious warrant to the environmental wisdom he has constructed for the indigenous customary council and the To Lindu noble ancestors: "Thus, those people of former times may not have gone to school, but they understood, and they had been given indications by the Lord so that they acted in a way to preserve Lindu." (Transcript of the speech by the To Lindu LKD member, 18 May 2004, translation by the author)

A meeting of the provincial-level indigenous people's organisation, AMASUTA, whose secretary-general's views were discussed above, held in the village of Langko some three months later to discuss the problems faced by indigenous people in the Lindu plain, revealed even more clearly the connection of such assertions to the To Lindu agenda of seeking to use the LKD to further their own ethnic group's interests (Figure 4). At that meeting many of the same To Lindu individuals who had spoken in the role of representing the LKD in Kanawu chose to speak instead in their role as To Lindu elders. Much of the discussion at this meeting emphasised the necessity for the To Lindu *adat* councils, as the official representative bodies of the indigenous people of the Lindu plain, to retain control of such subsistence activities as fishing in the lake by members of all ethnic groups resident in the plain. While considerable discussion did focus upon the problems of deciding upon the respective domains of the various *adat* councils of the Lindu villages, the ultimate authority within the Lindu plain of this type of institution to regulate use of resources in the plain as a customary commons was asserted as being unquestionable. Of utmost importance was the need to enforce the *adat* stipulation of limiting each person's land to 2 hectares. The same To Lindu elder who had spoken at length in Kanawu as the head of the Langko LKD emphasised how the national park had appropriated customary land within park boundaries, and openly speculated whether such land was not better managed by traditional means rather than by TNLL. Another participant went even further to assert that perhaps the best solution to problems encountered with the TNLL management office was simply to reclaim all the parkland as its customary owners. Even the head of the Langko *adat* council suggested that, if necessary for the council's continued functioning, the national parkland should just be reclaimed. Whereas the village conservation councils were too limited by the restrictions imposed by the park management office, the To Lindu *adat* councils might be freer to act with determination in preserving the local environment without them. Hence, when discussing the empowerment of their own indigenous institutions, the commitment that To Lindu elders had shown for the TNC-organised village conservation councils seemed rather to evaporate, revealing an enduring

Fig. 4
Meeting of AMASUTA members with To Lindu elders to discuss renewal of To Lindu *adat* institutions, 12-14 August 2004. (Photo by Niniek Toley Acciaioli)

preference for the *adat* councils as the vehicle for regulating the resource commons at Lindu as opposed to the modern regulations of a national park.

11.6 Conclusion: re-evaluating environmentality

The contestations over land and other resources in the Lore Lindu National Park (TNLL) reveal many of the problems associated with resource control in multi-ethnic regions where protected areas have been imposed. Early conservation agreements signed by park officials and representatives of villagers living along the park's boundaries focused upon indigenous peoples living in the region, including those brokered by YTM, Yayasan Yambata and CSIADCP, as well as the early agreements of TNC with the communities (To Pekurehua) of Lore Utara (Khaeruddin 2002). Non-indigenous local peoples have been subjected to very different treatment: the To Rampi migrants of Dodolo village, which had been encompassed within the park boundaries, were forced to resettle, while the To Katu, with a much stronger claim to indigeneity as an offshoot of the To Behoa, who had already been granted an enclave, resisted such efforts and were eventually granted their own enclave status (Sangaji 2002b; Sangaji et al 2004). The Dongi-Dongi case highlights even more clearly many of the ambiguities regarding the treatment of peoples living in and around national parks. The resettlers of Dongi-

Dongi, long resident in the Palolo Valley adjacent to TNLL, but originally from the upland regions of Marawola and southern Kulawi (now Pipikoro), have perhaps even less claim to indigenous status in the park region than the inhabitants of Dodolo. Yet NGOs that had earlier oriented themselves more exclusively to the rights of the indigenous peoples in the region have supported their occupation of parkland. In response to the failure of the Dongi-Dongi occupants to gain enclave status from the park authorities for their settlement, their strongest NGO supporters, WALHI Sulteng and YTM, have publicly questioned the entire project of national park imposition as a colonial enterprise, echoing the critique of Western models of conservation as continuing colonialism (Stevens 1997, p 24). They have called for a moratorium on TNLL and, by extension, of national parks in Indonesia in general. The director of YTM has called for the repeal of TNLL as a protected area so that the traditional claims of both the "authentic societies" (i.e. indigenous peoples) *and* the other peoples that inhabited the region prior to the imposition of the national park can be duly recognised. In his view, only after such official acknowledgement has been extended should a roundtable meeting be held, involving all stakeholders, to discuss an appropriate policy of community-based area management.

The Dongi-Dongi incident is not simply another instance where indigenous interests need to be accommodated by appropriate agreements stressing participatory management of a national park. It represents instead a clash of two conflicting conservation ideologies. TNC and its government partners have acknowledged the need for consultation and negotiations over appropriate management with indigenous (and, more recently, other local) stakeholders, but they remain committed to a biosphere model of biodiversity conservation that demands that some areas be maintained as core zones completely protected from human use. In contrast, such local NGOs as YTM and WALHI Sulteng are committed to a model of "sustainable use". They argue for the adequacy of local community-based resource management for all conservation purposes and regard the protected areas as a colonial imposition, a miscarriage of agrarian social justice that reproduces the poverty of local farmers, both indigenes and settlers. Despite past accommodations of indigenous interests through such strategies as conservation agreements and declaration of enclave areas, the present impasse precipitated by the resettlers' occupation of Dongi-Dongi presents a different type of scenario that challenges the adequacy of the conjunction of conservation ideology with indigenous interests that has previously supported the park's existence.

Yet, TNC has more recently attempted to initiate measures that can begin to accommodate the non-indigenous interests so salient in the Dongi-Dongi case. While still privileging indigenous interests in the allocation of judicial functions to indigenous *adat* councils, the conservation agreement TNC has brokered for the Lindu plain does attempt also to accommodate the interests of non-indigenous settlers through the formation of village conservation councils (LKD), whose membership is recruited from all the peoples settled in the enclave. Yet, although Bugis, Pipikoro and Kulawi settlers work together with indigenous To Lindu representatives on these councils, the indigenous representatives still feel conflicted. They accept the wider ambit of participation in the conservation project and the acknowledgement of settler rights of habitation it implies, but also manoeuvre to advance the agenda of according precedence to their own indigenous rights in the rationales they invoke to justify their pre-eminent position in the multi-ethnic project of conservation.

11.6.1 Challenging environmentality

Analysing the use of the village conservation councils by the indigenous To Lindu members to advance their agenda of reasserting control over all the migrant ethnic groups in the Lindu plain provides a potential challenge to Arun Agrawal's (2005) theory of environmentality. Agrawal's own analysis emphasises how local participation by Kumaon villagers in the village forest councils imposed by the Indian state constructs a new subjectivity, a nascent orientation of concern for the environment. What he labels "practice", the theoretical term in his model covering various sorts of participation in forest councils and monitoring of forests to ensure compliance with council-endorsed regulations, is the crucial factor that leads to change in subjectivity. Innovative social action precedes transformation of belief. Although local villagers may feel at first compelled to participate in state-mandated councils, eventually through participation in village forest councils – a medium of "intimate government" – they begin to espouse the cause underlying this governmental regulatory strategy of council creation: concern for forest conservation. Agrawal accords the label "environmentality" to this process of forming a new subjectivity in line with government aims through regulated participation. The very morphology of the term, with its "–ity" suffix, reveals its genealogy from Foucault's conceptualisation of "governmentality", a source which Agrawal himself acknowledges. Environmentality is that form of governmentality that constructs concern for the environment. In accordance with this Foucauldian model, village forest councils operate as

both a "technology of power", imposed through the institutions of governmentality, and a "technology of self", effecting a transformation of subjectivity. In Agrawal's conceptualisation the practice of participation is a more important factor in accounting for villagers' emergent attitude of care for the environment than any ascriptive constituent – gender, caste, etc.

Agrawal views the formation of villagers' subjectivity as an internalisation of the orientations and constraints of a disciplinary regime originating from outside (i.e. governmental regulations) yet mediated through participatory practice. However, although he invokes the term "practice", his Foucauldian model leaves little room for the exercise of agency on the part of villagers, as most versions of practice theory would demand. The state, as the ultimate manipulator of subjectivity, achieves its aim of constructing environmental concern through institutionalising intimate government, specifically the imposition of forest councils whose aims villagers eventually internalise through their very participation in these institutions. A Foucauldian model leaves little room for the choice of villagers to participate in councils on the basis of other interests, that is, as strategising agents rather than only as subjects. Announced concern for the environment may be an instance of what Bourdieu calls a "second order strategy" (Bourdieu 1977, pp 42ff.), an official pronouncement that makes action that may derive from quite other, "first-order strategies" appear as mere compliance with a valued norm or prescription (e.g. parents in the Kabyle region of North Africa choosing a particular spouse for their child in accordance with a "rule" of prescriptive patrilateral parallel-cousin marriage, although the wealth of that spouse's father and thus the dowry to be bestowed may be a more weighty "first-order" factor in assessing marriage prospects (Bourdieu 1990, pp 162-166).

11.6.2 Aiming to control settlers: environmentality as strategic action

In fact, the participation of indigenous To Lindu elders in the village conservation councils (LKD) established by the Lindu Conservation Agreement brokered by TNC in cooperation with the government management authority can be fruitfully interpreted in just such terms. The pronouncements of To Lindu elders when in meetings convened by the village conservation councils reveal great care for the environment, an environmentalist subjectivity that, at the very least, was not as publicly evident prior to the formation of these councils. However, these utterances require contextualisation with regard to the concrete proposals these To Lindu elders put forth as members

of the *adat* councils – limitation of land cultivation by all inhabitants of the Lindu plain to 2 hectares (to be enforced by the indigenous Lindu *adat* councils), continuing incorporation of migrant-populated hamlets within To Lindu-dominated administrative villages, recasting of all previous land transactions considered by their new settler owners as instances of buying land as only temporary grants of use rights, even when settlers have obtained official certificates of land ownership from the government land board, etc. (Acciaioli 2001, 2002).

Such contextualisation reveals that To Lindu use of the idiom of environmentalist concern and enduring stewardship under the aegis of their indigenous local custom (*adat*) may operate as a second-order strategy by which they justify and officialise their attempts to re-assert and maintain control of the migrants who now occupy the Lindu plain as well. Environmentalism is part of the agenda of strengthening the claims of indigenous Lindu customary institutions to regulate the Lindu plain as a commons. In this context, indigeneity as a categorical ascription appears more important in determining their mode of participation and their enunciation of environmentalist orientation than the circumstance of participation in the LKD itself. What the case of the realisation of a cooperative management agreement and operation of village conservation councils in the Lindu plain reveals is that such institutions of intimate government may very well be accepted by some villagers because they serve as vehicles to advance non-governmental agendas originating from the participants themselves. In following a Foucauldian model of state-imposed subjectivity, Agrawal may exemplify the same analytical shortcoming that he notes in others, as in his critique of Benedict Anderson's failure to analyse the politics of how official nationalism is imposed on populaces to the detriment of popular nationalism. Agrawal too may neglect the latent political dimensions of participation. The strategic actions of To Lindu elders reveal how the practice of environmentality may be less an instantiation of a subjectivity desired and imposed by the Indonesian government and its transnational conservation partners than an overt idiom of officialised allegiance used by local agents in order to further their own political agendas of reclaiming the Lindu plain as a commons under indigenous customary control.

Endnotes

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[2] This contribution is based on a paper presented at the 10th Biennal Conference of the International Association for the Study of Common Property (IASCP) in Bali, in June 2006. The author kindly agreed to inclusion of the paper in this volume in 2007. The editors added an abstract and key-words, in order to make the paper fit into the overall design of the present publication. Apart from these additions and some cuts by the editors and the author, the original structure was left intact; the paper therefore follows a somewhat different structure than the other articles in this book. It was selected by the editors for inclusion in the present volume because of its unique theoretical approach, which is of great help for the process of conceptualising the comparison between the case studies. The author corrected the final version prepared for this volume and provided photo-graphs. (Tobias Haller, May 2008)

[3] A subsequent governmental declaration in 1999 redefined the borders of the park. In its current form, TNLL extends over 217,991.l8 hectares (TNC 2001, p 2; Lindu Conservation Agreement, p 2), stretching from 1° 8′ to 1° 20′ southern latitude and from 119° 58′ to 120° 15′ eastern longitude (Sangadji et al 2004, p 16).

[4] The immediately succeeding paragraphs set out in analogous terms the composition and function of the "Buffer Zone Forum" (Forum Wilayah Penyangga or FWP), an institution originally set up under the auspices of the Central Sulawesi Integrated Area Development and Conservation Project (CSIADCP) to deal with more widely relevant issues at the subdistrict level, such as disputes regarding conservation between villages. As the Lindu participants do not wish to be subject to this subdistrict-level institution, these paragraphs are likely to be deleted or amended in subsequent deliberations over revisions to the agreement.

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12 Linking Livelihoods and Protected Area Conservation in Vietnam: Phong Nha Kẻ Bàng World Heritage, Local Futures?

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Abstract

This article studies the case of Phong Nha Kẻ Bàng National Park, an area of high biological diversity in Central Vietnam. The focus is on the evolution of livelihood issues and their role in a protected area process. Phong Nha Kẻ Bàng National Park (PNKB) was designated a National Park in 2000. It is located in the globally significant Northern Truong Son range eco-region in Quang Binh province, 500 km south of Hanoi on the Laotian border. The area is an important locus of cultural diversity in Southeast Asia, encompassing customary use and settlement areas of Vietnam's smallest ethnic minority communities. However, their livelihood concerns have not become an integral part of the management of the protected area. Benefit-sharing mechanisms are highly inadequate. In most discussions, communities are described as "problems" rather than as rightful actors in conservation decision-making; they therefore underline the need to address their current concerns. Despite an increase in conservation and development funding, livelihood concerns and community participation in the management of PNKB are far from resolved. Food security and livelihood vulnerability remain key challenges, in particular for the area's ethnic minorities. A recently approved multi-million dollar project brings both challenges and opportunities in this respect. The article presents a series of specific issues and recommendations related to protected area planning, management institutions and benefit-sharing.

Keywords: Protected area governance, indigenous people, benefit-sharing mechanisms, conservation policy, participation, livelihoods, forest, Vietnam.

12.1 Introduction

> *"Phong Nha-Ke Bang forest used to be a haven for illegal loggers, but with tourism in the region on the rise, those who used to illegally cut down the trees are now protecting them."*[2]

Narratives of this sort conveyed by Vietnamese media during the years when I did not go to the Phong Nha Kẻ Bàng National Park (PNKB) area in Central Vietnam, portrayed a radically different picture compared to the late 1990s. While a few articles now and again pointed to problems,[3] the official message was celebratory, emphasising World Heritage recognition, discovery of new species, improved protection and positive livelihood impacts. This article seeks to present and situate how livelihoods have been addressed in protected area governance.

As in many other countries, terrestrial forest protected areas grew significantly in Vietnam during the 1980s and the 1990s. By 2006, Vietnam harboured some 128 forest protected areas covering 2.4 million ha or some 7% of Vietnam's land area (PARC-Project 2006b). Many conservation areas, such as PNKB, lie within the globally significant Annamite range, which straddles the border with Laos. This transboundary area represents one of the most significant hotspots in mainland Southeast Asia in terms of both cultural and biological diversity, yet also faces some of the highest poverty rates in the respective countries.

How had the expansive Vietnamese economy, World Heritage recognition and government investments in infrastructure and development transformed these livelihood and conservation dynamics? How had communities previously affected by high levels of food insecurity, dwindling natural resources and high levels of forest dependence fared? How and to what extent are cultural diversity concerns, community participation and benefit-sharing being addressed in current protected area expansion and consolidation?

Vietnam, located in mainland Southeast Asia, is generally recognised as one of the 25 most 'mega-diverse' countries in terms of its biodiversity accounting for some 10% of global species. This diversity has within the last couple of decades attracted considerable attention from international conservation organisations, as the Socialist Republic of Vietnam increasingly liberalised its economy and gradually opened its doors to foreign investments and non-governmental organisation (NGO) activity. Conservation NGOs have been

very active within the last couple of decades, often playing instrumental roles in the formulation of conservation strategies, action plans and field-level activities. Socialist Vietnam, while having transformed its economy, retains highly centralised decision-making processes notably with regard to natural resource and natural forest management. Today Vietnam is signatory to several Multilateral Environmental Agreements and maintains high levels of participation in international environmental policy processes. Protected area policy and practice in Vietnam has made the widely described shift from 'fortress' approaches to more participatory approaches only in a very limited manner. This is not insignificant in a country with one of the highest population and cultural diversity densities in the world, and yet a strong emphasis on no-use in its policy. It is further significant in the context of global protected area policy standards, notably the Convention of Biological Diversity (CBD) Programme of Work on protected areas, requiring participation, equitable benefit-sharing and rights of indigenous and local communities.

This article reflects the cumulative knowledge of having worked in the Phong Nha Kẻ Bàng region as a field-advisor for the World Wide Fund for Nature (WWF) in the late 1990s, and a recent return to the region as part of a broader research effort[4] on conservation, poverty and the social dimension of wildlife trade (Larsen and Trần 2008). This article explores how livelihoods have been dealt with in the evolving protected area governance of Phong Nha Kẻ Bàng.

It is meant not only as a discussion document for this volume, but equally as feedback to Vietnamese colleagues and friends at a time when the park is expanding and receiving unprecedented attention from the international community.

12.2 The setting

PNKB is now a well-established stopover on the Vietnamese tourism trail. Thousands of tourists each year take boat trips to the Phong Nha caves, a tiny part of the much larger Phong Nha Kẻ Bàng National Park. The caves are not only the flagship attraction of the park, but for the wider public represent the major value of the area. The ecological, livelihood and cultural values of the wider forest karst system comprising the park are far less understood.

Located in Quảng Bình province some 500 km south of Hanoi, Phong Nha Kẻ Bàng National Park is situated along the Laotian border in the globally significant Northern Trường Sơn range eco-region (Figure 1). It covers a unique karst forest system that differs substantially both geologically and habitat-wise from the adjacent rice plains and the nearby coastal villages. The area is highly fragmented including rivers, riverine cave systems and tropical limestone forest. The unique karst system, considered the oldest in Asia (some 400 million years old), in 2003 led to UNESCO World Heritage Site designation on the basis of geological criteria.

Already covering some 85,754 ha and with a planned extension covering some additional 33,000 ha, PNKB represents one of the largest protected areas in Vietnam. In addition some 188,865 ha are covered in the buffer zone (the future buffer zone is planned to extend to some 225,000 ha). Forest cover is estimated to be at more than 90%, yet quality differs considerably.

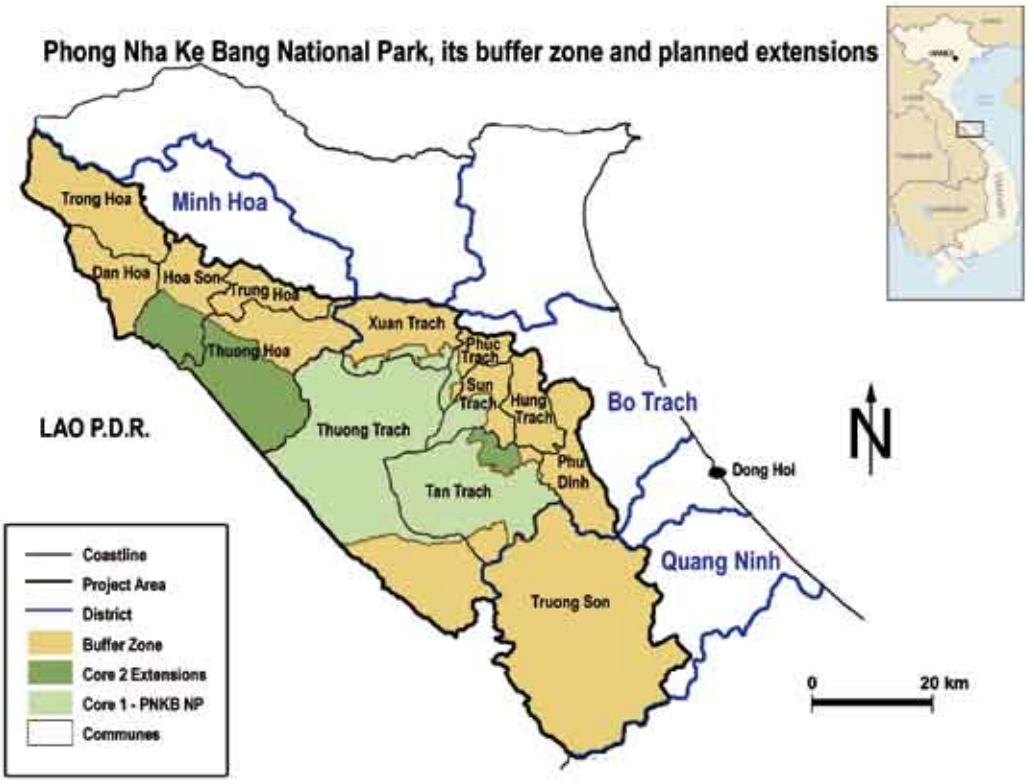

Fig. 1
Phong Nha Kẻ Bàng National Park, its buffer zone and planned extensions. (Map courtesy of GFA/ FFI, redrawn by Corine Furrer)

Together with the neighbouring Hin Nam No National Biodiversity Conservation Area in Laos, the region makes up the largest protected karst area in mainland Southeast Asia. It is highly important in terms of both flora (1,762 species) and fauna diversity (1,074 species) including one of the highest orchid and primate diversity densities in the country. It also harbours some of the highest concentrations of cultural diversity in mainland Southeast Asia.

12.3 Ethnographic and demographic information

Although the provincial capital Đồng Hới has experienced considerable growth within recent years, Quảng Bình remains a predominantly rural province with a total population of some 850,000, listed among the poorest in the country. Agricultural land remains scarce, particularly in the PNKB area. The majority (81%) of the approximately 56,000 people or more than 11,500 households in the future expanded area (including the buffer zone) are ethnic Vietnamese or Kinh people. These communities have traditionally engaged in various forms of forest use as an integral part of their mixed economies. Forest use has ranged from firewood collection to highly specialised hunting, trapping and collection geared towards lowland and international market demands.

PNKB together with areas in neighbouring Laos (Khammouane province) harbours some of the highest concentrations of cultural diversity in mainland Southeast Asia. In a wider survey of the cultural diversity in Laos, Chamberlain thus identified 17 different languages (1997). In both Vietnam and Laos this includes some of the (population-wise) smallest hunter/gatherer and shifting-cultivation communities, which over the last 40 years have sought to make do despite resettlement, restrictions on customary practices, heavy bombing during the war and more often than not ineffective development efforts (Chamberlain 1997; Vo 1998).

Several ethnic minority communities live in the PNKB area, encompassing several socio-linguistic groups. The Arem community, Vietnam's smallest ethnic minority group, lives within the core zone of the national park, numbering some 230 individuals and thus making up the smallest commune (Tân Trạch) as well as one of the smallest ethnic minority groups in the country. A hunter/gatherer and shifting-cultivation community, it was "discovered" in the late 1950s and 1960s and often described as coming out of the "caves". Simultaneously with the protected area creation the Arem were resettled in a

new area (still within the protected area) in line with wider national policies to "settle" and "stabilise" ethnic minority communities. The Rục, a hunter/gatherer and swidden cultivation-practicing community only numbering 322 individuals in neighbouring Minh Hoá district (currently part of the buffer zone, but likely to become part of a future expanded core zone) were similarly "discovered" in the early 1960s, also being resettled and "concentrated" in a number of villages (Vo 1998).

Apart from these communities living "within" the future core zone area, a number of other ethnic minority communities live in the periphery or buffer zone and have customary relationships with the forestlands of the PNKB area, making the total ethnic minority population some 11,000 or around 19% of the total future buffer zone population (GFA 2006). These also include Vân Kiều, Tri, Mã(ng) Coong and Khùa communities classified linguistically as Mon-Khmer (Katuic branch), and Mày, Rục and Sách classified asViet-Muong. The former are sometimes "bundled" as Bru-Vân Kiều and the latter as Chứt (Nguyen et al 1984).

This cultural diversity is even greater if neighbouring Laos is taken into account (Chamberlain 1997, 2003; SIDA 2003). In the Laotian context, many of these people are often bundled as Vietic peoples, and have received somewhat more attention in the context of the Nakai Nam Theun dam project. Table 1 provides an overview of population figures in the PNKB area, although with some imprecision. Tân Trach, for example, is mainly an Arem ethnic minority village (not Kinh as indicated). In addition, although not recognised and "counted" as ethnic minorities, the Nguồn people, officially categorised as Kinh,[5] make up a significant proportion of the population of the buffer zone in Minh Hoá district.

These communities have long-standing customary resource use and management relationships within the PNKB area. Whereas communities such as the Rục, Mày and Arem have historically had predominantly subsistence hunter/gatherer economies coupled with some itinerant swiddens, the Sách, Khùa, Nguồn and Mã(ng) Coong have longer traditions for more sedentarised settlements and swidden cultivation. Initial research into indigenous knowledge systems and practices has revealed intricate forms of traditional use and knowledge (e.g. among the Arem and the Rục), customary management practices (e.g. shifting cultivation among the Khùa, fishing management practices among the Mã(ng) Coong, sacred forests among the Mày).

Table 1

Demographic information

Commune/ district	Commune/ district	No. of house-holds	Population		
Quang Ninh			**Total**	**Kinh**	**Ethnic m.**
Truong Son	22	737	3,530	1,485	2,045
Bo Trach					
Hung Trach	17	2,284	10,537	10,537	0
Phuc Trach	12	2,027	9,904	9,904	0
Xuan Trach	10	1,076	5,133	5,133	0
Son Trach	10	2,001	9,286	9,286	131
Tan Trach	1	44	202	202	1
Thuong Trach	18	350	1,809	3	1,806
Phu Dinh/Viet Trung (only 3 villages selected: Dung Cam, Khe Ngat & Ba Ren, located in Phu Dinh administrative district but under management of Viet Trung Town)	3	215	842	564	278
Minh Hoa					
Dan Hoa	12	523	2,803	69	2,734
Trong Hoa	16	415	2,522	0	2,522
Hoa Son	5	286	1,501	881	620
Trung Hoa	10	994	5,162	5,121	41
Thuong Hoa	10	598	2,925	2,234	691
Total	**146**	**11,550**	**56,288**	**45,419**	**10,869**

Source: KFW Project, GFA 2006

Sparse evidence available points to long-standing trade relationships and interaction between communities and evolving state formations. Under the Lê dynasty in the 18th century, for example, young Nguồn men collected bat excrements in caves and mountains to provide saltpetre as part of their tribute (Cadière 1905). Forest-related subsistence and cash-related activities continue to form the backbone of local economies, particularly of ethnic minority communities. Shifting-cultivation practices, hunting and gathering form the basis of food security, although hunting, trapping and participation in selective logging of high-value timber species have become a source of cash.

12.4 History of the protected area

The creation of PNKB was in many ways a post-colonial construction in contrast to colonial reserve creation seen, for example, under British rule in South Asia and Africa. While the French forestry categories in Indochinese colonial times included "*domaine protégé*" (BAVH 1931), these were oriented towards controlling and economically benefiting from production and extraction, not towards conservation *per se*. While foresters used language not unlike that used in current sustainable forestry management (Guibier 1923), it was rather part of a wider colonial attempt to secure control over and sustain (colonial, not local) income from forestry.

The PNKB area was far from pristine, but had already been formed by centuries of harvest, use and nomadic shifting cultivation. Communities had paid taxes (typically forest products) under varying regimes, often reserving or claiming particular rights to certain forest products such as oils and essences. These practices were dismantled under the French. During the early 20th century, French missionary activity existed in certain parts of the PNKB area.[6]

While little information is available regarding forestry operations in these remote areas under the French, it is clear that French forestry operations by 1940 included extraction activities and reserves in the province (Cleary 2005), although I was not able to obtain more specific data on the PNKB area. According to local informants, however, some selective logging and plantation activity did take place in easily accessible parts of the region. It is, however, obvious that large parts of PNKB do not offer larger-scale extraction value due to the karst complex. Colonial forestry management, however, gave birth to policy discourses against shifting cultivation.

In the protectorate there was a general consciousness of indigenous land claims to traditional swiddens and local questioning of French forest administration (Guibier 1923). Yet, it was also clear that French colonial legal forestry practice chose to consider this as temporary forest use rather than actual occupation and possession providing long-term tenure rights. This was, for example, expressed in a 1929 article by the Forestry Inspector, F. Brillet, who justified this as a continuation of "Annamite" tenure practice under Emperor Ming Mang (1791-1841). The French colonial forestry practice simply continued what was already in place. He ends by noting how "based on this principle … it is evident that the forestry service has justifiably considered itself as the manager of all timber and forests within the Protectorate, where taxes aren't paid and which are not regularly exploited or used by

the *indigènes*" (Brillet 1929). Whether true or not, such legal interpretations essentially consolidated the *de jure* disruption of ethnic minorities' customary tenure and shifting-cultivation practices, which have continued to this day under various forms. The 1930/31 *Code Forestier* aimed to control and eliminate shifting cultivation particularly in reserved areas and "intact forest," although tolerated where no other means to make a living were present (Cleary 2005). To what extent such policies had a direct impact, apart from the *de jure* illegalisation, is difficult to judge due to lack of documentation.[7] Phong Nha was already exploited for some tourism activities in the 1920s, and parts of the wider area were targeted for selective resource extraction (the exact boundaries are yet to be researched). Plans in the early 1940s to set up national parks were disrupted by the Japanese invasion, and did anyway not include PNKB (McElwee 2000, 2006).

Protected areas in Northern Vietnam emerged during the war with the creation of institutions, and the first protected area in the early 1960s reflected national priorities and ideologies, not least a personal emphasis by Hồ Chí Minh regarding the value of forests. Yet, protected area expansion particularly accelerated starting in the 1980s. Naturally, as the region was heavily affected, protected area creation in the PNKB area was not a priority concern during and in the immediate years after the war.

Phong Nha was initially declared a small reserve (5,000 ha) in 1986, followed by a major extension (41,132 ha) and management planning process in 1991/1992 consolidating the area as the Phong Nha Nature Reserve (*khu bảo tồn* PN). In 1998, the site was nominated as a World Heritage Site (WHS). The World Heritage Bureau in 1999 deferred its decision on the site:

> *... pending review of the possibility of expanding the boundaries of the site as proposed. It is also strongly recommended that there be discussions with the Lao PDR State Party with a view to further expanding the boundaries of the site, at a later stage, to include the Hin Namno Karst reserve of Lao PDR and any other relevant areas.* (IUCN 2002)

In effect, a prolonged expansion process had been underway, opting for a much larger area (147,945 ha). The expansion plans received renewed international impetus following the UNESCO recommendation, and the area was in 2000 expanded to its current size of 85,754 ha as well as becoming a national park. The park is divided into 3 zones: a strictly protected "core" zone (64,894 ha), an ecological recovery zone comprising 17,449 ha and a

3,411 ha service/administrative unit). Whereas the latter provides for working, living and use facilities, the former two comprise the major areas in which local use and settlements existed.

The total area was, however, markedly smaller than the original proposal in part due to some questioning and resistance from district-level officials. In 2003, after prolonged negotiations in Paris the park was awarded World Heritage status based on its geological values. The province is now in the process of expanding once again towards initial plans, in part in response to the World Conservation Union (IUCN)/World Heritage technical evaluation recommendation "to review the boundaries of the nomination … so as to provide more complete coverage of natural values and karst geomorphological processes" (IUCN 2002), as well as responding to one of the core requirements for German signature of an upcoming multi-million dollar project supported by the German Financial Cooperation (KfW) and the German Agency for Technical Development (GTZ). A renomination process to get the site and the neighbouring Hin Nam No listed as a transboundary site including the biodiversity criterion is now underway (see Table 2 for a summary of the history of PNKB).

Table 2

Selected chronology of PNKB National Park.

Dates	Important events
1884/1887	Annam becomes French Protectorate, part of French Indochina, yet resource policies initiatedonly in early 1900s
1930/1931	Forestry Code (shifting cultivation illegalised in natural forest)
1946-1954	First Indochina War (area under Viet Minh control)
1960-1975	Second Indochina War
1963	Law on Sedentarisation and Cooperative Organisation
1962	First protected area established in Vietnam (Cuc Phuong)
1967-1973	Heavy bombing of the area (part of Ho Chi Minh trail), high levels of food insecurity, fields abandoned
1975	War ends, recovery begins
Mid-1980s and onwards	Gradual economic liberalisation
1986	Phong Nha Reserve established (5,000 ha)
1992	Protected area extension (41,132 ha)
2000	Phong Nha Kẻ Bàng National Park (85,754 ha)
2003	Phong Nha Kẻ Bàng awarded World Heritage status
2006/7	KfW EUR 15 million project approved

Source: literature review

Throughout the process, protected area design and designation have mostly been a top-down process involving mainly central-level and provincial-level officials, scientific and conservation communities. Although some local-level influence has been observed, e.g. from district-level officials, such influence has mainly been of a tactical nature rather than one of explicit strategic planning involvement.

The standard Vietnamese process, also observed in PNKB, involved the ministerial Forestry Inventory and Planning Institute (FIPI) developing management and investment plans that were then shared and nominally discussed with local authorities. While such a top-down management planning process secures some level of system-wide coordination on forestry issues (at least on paper), the downside has been a highly prescriptive top-down management planning and implementation process. This is to some extent planned to be reworked in the recently initiated KfW and GTZ-supported EUR 15 million[8] "Nature Conservation and Sustainable Management of Natural Resources in the Phong Nha-Kẻ Bàng National Park Region", which for an 8-year period presents critical opportunities but also challenges in terms of reworking the livelihood and conservation equation in PNKB.

For one, the track record of international organisations to support more inclusive design and management planning processes shows only limited success compared to many other countries. While a series of projects increasingly interlink forestland allocation, local management and protected area design, these tend to concern relatively small areas, or in the end have little impact. When recently assessing the outcome of community-based resource use mapping in the late 1990s in PNKB,[9] it turned out that neither management authorities nor community representatives had copies left of the maps produced. The results had not directly informed park expansion plans, and many of the community elders involved in previous work had passed away.

12.5 Protected area governance

Protected area governance in Vietnam is currently not governed under one umbrella legal framework, although non-binding efforts are made in this respect,[10] but under the several different ministries and regulatory frameworks. The Ministry of Agriculture and Rural Development (MARD) is responsible for the management of the "Special Use Forest System" (essentially terrestrial forest protected areas such as PNKB), whereas responsibili-

ties for marine protected areas and wetlands are under the Ministry of Fisheries and the Ministry of Natural Resources and the Environment. Yet, there is some institutional confusion with overlapping sites involving different ecosystems or overlapping categories (such as PNKB being both a national park and a WHS).

Central-level responsibilities of MARD include policy formulation and systems management, and the central level currently only finances 7 out of Vietnam's current 128 forest protected areas. The others, including PNKB, rely on other financing and support, reflecting a wider process of economic decentralisation and some level of devolution of protected area matters (namely management responsibilities). The majority rely on provincial-level financing either from the Provincial People's Committees (as in the case of PNKB) or other line agencies (namely provincial forest protection departments).

The main legal instruments have been a 1986 ministerial decision, which established the 3 basic protected area categories ("national park", "nature reserve" and "cultural, historical and environment area"), the 2001 decision (see Table 3) on "special-use forest, protection forest and production forest"[11] and the 2004 Law on Forest Protection and Development.

Terrestrial protected areas in Vietnam are generally considered as and managed under the special-use forest (SUF) regime, which in turn includes the following categories, zonation and management implications (based on SRV 2001; SRV 2004). While landscape protection areas are included as a national category, these do not correspond to IUCN Category V (Protected

Table 3

Forest categories and main objectives (according to SRV 2004).

Forest type	Objectives
Protection Forests	Protect water sources and land, prevent erosion and desertification, restrict natural calamities and regulate climate, thus contributing to environmental protection.
Special-Use Forests	Conservation of nature and specimens of the national forest ecosystems and forest biological gene sources: for scientific research. Protection of historical and cultural relics and landscapes; in service of recreation and tourism in combination with protection, contributing to environmental protection.
Production Forests	Production and trading of timber and non-timber forest products in combination with protection, contributing to environmental protection.

Landscapes/Seascapes), nor is IUCN Category VI applied in the Vietnamese context (Managed Resource Use Areas). As portrayed below (Table 4), current protected area policy has a strong no-use orientation particularly in the first two categories, which include the largest land area as well as the main livelihood issues and conflicts.

All protected areas are required to divide the area into strictly protected, ecological restoration and service/administration zones. The main use and livelihood issues are generally encountered in the core and ecological restoration zones of nature reserves and national parks, which in turn only allow some limited use in the service and administration zone. The 2004 Law on Forest Protection and Development (SRV 2004) addresses forest user and ownership rights in an unprecedented manner. However, these are mainly

Table 4

Vietnamese context of Managed Resource Use Areas.

Category of special-use forests (terrestrial PAs)	Description	Zonation	Use	Management
National parks (IUCN Category II)	Natural land areas established to permanently protect one or several ecological systems	All special-use forests should have clearly defined zones (strictly protected zones, ecological restoration zones, service/administration zones and buffer zones (the latter outside PA jurisdiction)	Exploiting dead or fallen trees and non-timber forest products permitted, except for endangered, precious and rare forest plant species in the service and administration zone	Management boards set-up by provincial- or central-level state bodies
Nature conservation zones, including nature reserves and species/habitat conservation zones (IUCN categories I and IV)	a) Nature reserves: natural land areas with natural resource reserves and high bio-diversity, established, managed and protected in order to ensure natural succession in service of conservation and scientific research b) Species/habitat: natural land areas managed and protected in order to ensure habitats			
Landscape protection areas, including forests of historical or cultural relics as well as scenic landscapes (IUCN Category III)	a) Areas with beautiful landscapes in the mainland, coastal areas or islands: b) Areas with classified historical and cultural relics or with scenic views like waterfalls, caves, rocks, marine views, archaeological sites or separate zones characterised by historical traditions of local inhabitants		Exploiting dead or fallen trees and non-timber forest products permitted, except for endangered, precious and rare forest plant species	Management boards set-up by provincial- or central-level state bodies / economic organisations
Scientific research and experiment forests	Areas reserved for experimental research		Law not clear	Scientific research organisations for direct management

introduced for production and protection forests[12] (and not protected areas). The law introduces "the assignment of forest to village population communities" and spells out the "rights and obligations of village population communities with assigned forests",[13] which, however, mainly relate to buffer zones – not the protected area itself.

Articles regarding special-use forests, under which protected areas fall, essentially reiterate previous restrictive regulations. Some exploitation of forest products is allowed in "landscape protection areas and service/administrative zones" (dead trees and non-timber forest products [NTFPs] except for rare species), while hunting and trapping is forbidden. These areas are generally small, and furthermore not the main areas inhabited and used by local communities. In the core zone, regulations prohibit any forest use and human presence, although it has been estimated that up to 80% of Vietnam's protected areas are inhabited (PARC-Project 2006a). PNKB is certainly a case where current and future core zones overlap with settlement and use areas, particularly of ethnic minority communities. Article 54 deals with such situations through the following 5 principles:

1. It is forbidden to relocate a population from other areas to settle in special-use forests.
2. *Special-use forest management boards must elaborate projects on population relocation and resettlement and submit them to competent state agencies for ratification so as to relocate a population from strictly protected zones of special-use forests.*
3. With regard to strictly protected zones where conditions do not permit the relocation of a population, the special-use forest management boards shall assign special-use forests to organisations or individuals on the basis of short-term package contracts for forest protection.
4. For ecological restoration zones, the special-use forest management boards shall assign special-use forests to local households and individuals on the basis of package contracts for protection and development.
5. With regard to buffer zones of special-use forests, the People's Committees of all levels shall assign or lease forests of such buffer zones to organisations, households or individuals for use according to the forest management regulations (emphasis added).

These principles state that actual "assignment" of special-use forest rights can only take place in the buffer zone or through contractual arrangements in the ecological restoration zone. They furthermore put a strong emphasis on

the elaboration of relocation projects, which stands in contrast to the CBD Programme of Work.[14] In the PNKB case, for example, this would likely have dire consequences for the communities concerned.

12.5.1 PNKB management structure

PNKB is officially under the responsibility of the Provincial People's Committee of Quảng Bình, which has set up a Park Management Board, whose members consist of representatives from key provincial departments. The board appoints directors and approves budgets and work plans (GFA 2006). The management approach is formally outlined in the investment plan approved by the province in 2001. This includes main park objectives and activities, the management structure, yet as with most investment plans the greatest emphasis is on infrastructural aspects. The investment plan does address livelihoods in the park objectives, yet mainly in terms of contributing to livelihoods in the buffer zone (formally outside the park) to reduce pressure on the park through additional development projects. Since then, no new management plan has been developed (GFA 2006) or is being planned in the new project.

PNKB management is administratively split up into 4 major units: a management office with associated administrative and finance offices, a Centre for Science, Research and Rescue Activities, a Centre for Culture and Eco-tourism and the Forest Protection unit. The latter employs the majority of staff (292 out of a total of 468 staff), covering both permanent forest protection staff and approximately 200 "unofficial" forest guards hired through the forest protection system. The Culture and Eco-tourism unit comes in second with some 122 staff members, which basically includes staff running tourism services for the Phong Nha caves. Beyond some staff posts under the Science, Research and Rescue Activities and forest protection contract system, there are no dedicated staff resources and budgets for livelihood activities.

In terms of community involvement, the overarching approach is encouraging local participation in the overall protection scheme through increasing "awareness" and in some areas through forest protection contracts. Tourism revenues are mainly used to cover salary and operational costs in the tourism sector. Only very limited resources are channelled to forest protection and scientific activities, whose operational costs, mainly limited to salaries and basic costs, are covered by the general budget.

As a result, for example, not only livelihood, but also scientific and research activities generally depend on external financing. Despite repeated efforts to initiate biological and socio-economic monitoring under various international projects, there is currently no working system in place. Data are only generated through particular project and species-specific surveys, leaving a very patchy understanding of biological and socio-economic trends for the area.

12.6 Resources, livelihoods and institutional change

12.6.1 Economic activities, livelihood strategies and local institutions

Communities living within and around PNKB have traditionally been and continue to be highly "forest-use dependent" communities. This is true both for the Kinh people forming the vast majority of the population in the buffer zone as well as for the ethnic minority communities, some of whom live within the core zone of the national park, and the majority in the periphery. Yet, several research efforts have documented the highly diverse character of livelihood practices, and thus the diversity of "forest dependence". Understanding such differences is just as critical as "hard" data on ecosystem health and species population dynamics. Such a differentiated picture of livelihoods is particularly important in the context of a project seeking to reduce forest dependence.

It is also important to situate livelihood strategies in a wider historical and socio-economic context. Temporality in a protected area context, particularly in applied research, tends to focus narrowly on a time–space continuum defined by the "before-and-after" of protected area presence and intervention. While this is of obvious importance, it may easily neglect wider socio-economic transformations of equal importance. Future scenarios are also dealt with in this section, given that the protected area is currently in an expansion phase with significant livelihood implications.

12.6.2 Livelihoods before and during colonialism

Information regarding livelihoods in the area before and during French colonialism is extremely sparse. However, there is little doubt about high forest dependence and livelihood diversity involving both semi-nomadic hunter-gatherer groups and more settled forestry and agricultural practice. Cadière,

based on imperial annals, thus mentions yearly taxation practice under the Gia Long dynasty in 1819, which included wax, honey and elephant tusks (1905).What is clear is that for centuries the province has been an arena for changing political regimes representing northern boundaries of the Champa kingdom, in-migration from Nghệ-An during the Lê dynasty (Cadière 1905), an arena for major battles between the Trinh and Nguyen dynasties till more recent resistance activity during the French period.

As described above, colonial policy did not recognise rights to shifting cultivation and customary forest use, which, if not directly opposed on the ground, then at least indirectly affected through neglect. According to some oral testimonies and general historical analysis, parts of the PNKB area were the locus and transit for in-migration particularly in the first half of the 20th century, with selective forestry activities (high-value species) and missionary activity testifying to increasing state presence of the French in the upland hinterlands of the area. One local early-20th-century *milicien indigène*, M. Fort, thus notes how fallows abandoned by Sách people were often taken over by "Annamites" from the plains under more "rational" cultivation techniques (Cadière 1905). Colonial policy stances nullified the importance of local resource management institutions and practices, which was justified through the introduction of more "rational" forest management and property institutions. While unlikely to have touched all of the core areas of PNKB, this certainly consolidated images of wilderness, savages and uncontrolled forest use in dire need for the colonial (and subsequent) *mission civilisatrice* as well as favouring lowland forms of agriculture and land tenure.

12.6.3 Post-independence Northern Vietnam, war times and social engineering

While the protected area was only established much later, it is equally critical to understand forest use and livelihood dynamics in the context of socialist socio-economic organisation and development thinking (post-independence), post-war reconstruction (post 1975) and practice. Although somewhat particular, the fate of the Rục is a case in point. In 1960, the provincial administration "discovered" the Rục, described as isolated and backwards forest people,[15] while undertaking a census in the area. The government initially resettled some 34 households in the Cu Nhai area ("closer to civilisation"), which sparked off a series of relocation, work organisation and settlement attempts all framed in developmentalist discourse. Successive resettlement efforts encountered significant problems, and many aban-

donned their villages to return to the forest due to disease, lack of food and bombing during the war (Vo 1998). Today, many households continue to leave government-constructed houses behind in order to pursue shifting cultivation elsewhere.

Where implemented,[16] efforts to socialise the economy through the set-up of cooperatives and production groups had not only impacts on economic organisation and activities, but equally significant social and natural resource management implications. Movement was limited, labour was collectively organised and many informants pointed to the "tough" forest protection practice during the socialist economy. Forestlands belonged to the state, and although socialising the economy was rarely applied as strictly in ethnic minority communities, the underlying development discourse, consolidated in various laws starting in the 1960s, was already then about bringing ethnic minority communities out of "backwards" forest economies into civilisation. Yet, in practice, forest subsistence economies retained continuous importance with the occasional input or transformation by state development interventions.

12.6.4 Post-war recovery and social engineering

The PNKB area served as a major entry-point to the Hồ Chí Minh trail during the second Indochinese war.[17] As a result, the area was heavily bombed for several years (roughly 1961-1973, (Phan 1998)) in a Southern attempt to disrupt the movement of material and people to the Southern battlefields. This had profound impacts on local lives and livelihoods. Many communities were driven away from their homes and fields. Ethnic minority communities such as the Arem and the Rục found refuge in the cave systems of the areas, and many were unable to continue shifting cultivation and other subsistence activities. During this period, forest resources such as tubers and trapped game were even more critical for survival.

As life returned to "normal", many communities returned or were relocated to settlements with houses built with support from the government. For numerous ethnic minority communities in the area, this involved not only recovering livelihood practices in terms of forest use, land management, seed recuperation and rebuilding homes, but also the greater presence and involvement of the government. Such reconstruction efforts were guided by national policies, consolidated in the 1960s (but with strong origins in French colonial practice), seeking to "settle" ethnic minority communities and their cultivation practice (*định canh định cư*).

Such efforts relied on a developmentalist, often evolutionist discourse to bring these communities into the mainstream (for similar practices in neighbouring Laos, see SIDA 2003). Whereas *định canh định cư* in most parts of Vietnam mainly has entailed reducing shifting cultivation, Quảng Bình is one of the few areas where it involved resettlement of predominantly hunter/gatherer communities (e.g. the Rục). Given the status of Quảng Bình as a border area, the border military played an instrumental role in these resettlement and reconstruction efforts, and continues to play a key role in resource management decisions and development planning. My point here is that such social engineering, even without implementing the full socialist bundle of socio-economic measures, profoundly reconfigured communities, landscapes and relationships to the natural environment not least by *de jure* disregarding customary use and management practices.

12.6.5 Free market, dynamics, movement and protected area establishment

To fully understand current forest livelihood dynamics requires looking beyond the realm of forest management structures. The economic reform period starting in the 1980s, and gradually implemented throughout the 1990s, not only transformed the agricultural and industrial economies of Vietnam, as has been amply described by Vietnamologists, but equally transformed the types and intensity of forest use. As the economy went from being a planned socialist economy towards a market economy, forest use went from being mainly a subsistence or low-scale commercial activity towards an increasingly commercial activity, particularly among Kinh people. Movement of people was eased, and market demands for high-value timber species and resins (e.g. eaglewood) and wildlife triggered the arrival of commercially-oriented forest use and extraction typically sparked off by traders, loggers and hunters from other parts of Vietnam. Although in principle the state acted as steward, a largely open-access situation persisted, occasionally blocked by forest guards' activities.

12.6.6 Protected area design, management planning and livelihoods

The initial protected area design and designation in the 1990s was undertaken in a top-down manner based on surveys and zoning by expert scientific institutions. This essentially withdrew opportunities[18] for community forestry use and management under existing protected area (PA) legislation,

where all use is prohibited, thus further illegalising all forms of livelihood practices and use within the protected area, whether harmful or not for the respective ecosystem. It also disregarded opportunities to build on local management and use practices, which were rather defined as problematic.

Resource use restrictions generated considerable friction and conflict between forest guards and communities, but did not necessarily stop all forest use. "Illegal" forest use continued and increased. In the years following protected area designation, strengthened market mechanisms, freer flows of goods and people as well as the growing appetite of urban markets and neighbouring China led to an explosion in the demand for – and trade of – all sorts of forest products. Demand for wildlife, timber and non-timber forest products grew, creating or strengthening market values, and as a consequence, income sources previously inexistent or negligible turned into assets. Numerous informants during recent research explained, for example, how communities used to consume wildlife now worth hundreds, even thousands of dollars (in the case of golden turtles). Thus as the protected area was created, so did the external appetite – initially mainly from buffer zone Kinh communities – for increasing access to its resources. In the 1990s, hunting, trapping of wildlife, timber extraction and other activities exploded in an unprecedented forest rush. Whereas people had previously collected unexploded ordinance metal scrap for reselling, young Kinh men increasingly became specialised hunters, trappers and loggers only occasionally returning to take part in a liberalised rice economy. Ethnic minority communities, where accessible to traders, also increasingly engaged in commercially oriented hunting and trapping.

In short, protected area creation was accompanied, and in part triggered, by a simultaneous growth in forest use. Forest use and livelihoods were defined in the protected area process as external problems posing a threat[19] to the integrity of the protected area. This was also clear in zoning as well as national protected area legislation essentially outlawing any community use except for the buffer zone (which to a large extent existed only on paper, and, as in many other countries, falls under the responsibility of other institutions such as State Forestry Enterprises). However, in practice, a number of practices were *de facto* often accepted at different levels of the protected area administration such as subsistence gathering activities by ethnic minorities, firewood collection, etc.

Finally, it is important to distinguish between the tacit acceptance of certain subsistence activities and the informal dynamics, bribes and trade networks between forest guards, other administrative authorities, traders and forest users. These, in practice, have often reinforced continuous trapping, illegal selective logging of high-value timber species and trade. For certain forest users or traders, the major impact on livelihoods may not have been prohibition, but rather an increase in associated transaction costs. Rather than instigating an impenetrable formal barrier, forest guards, in some cases, became gate-keepers and "providers" of "permits" to the very resources they were supposed to protect. The impact on the livelihoods of ethnic minority communities has been more dramatic, notably in relation to the prohibition[20] of subsistence swidden-cultivation activities. The Arem community, living within the core zone, almost halted such activities and now mainly lives on rice subsidies provided as part of forest protection contracts and hunter/gatherer activities.

The forest protection contract system, together with "awareness raising" activities, has been the main avenue to create social incentives for protected area compliance. This has involved the dual practice of hiring unofficial forest guards to beef up the number of forest guards as well as concluding forest protection contracts with selected communities. In both cases, forestland for protection is assigned and payments are provided based on protection performance. In the case of forest guards hired under protection contracts, this has created second-class forest guards who are not only paid less than formal forest guards, but due to the payment system, do not receive salaries on a monthly basis, and have no operational budget either. As a consequence, some informants argued that these forest guards often simply generated "more mouths to feed" rather than actually strengthening protection. Furthermore, there is much confusion regarding designated forest lots. In the case of forest protection contracts for communities, the efficacy also remained somewhat questionable. Communities or villages are supposed to set up forest protection groups, which easily risk being hijacked by local elites or remain relatively ineffective when faced with organised illegal use and trade.

12.6.7 National park creation, World Heritage Site and livelihoods

Market-drivers remained as important after the 2001 "upgrading" from protected area to national park with expanded coverage, increased forest protection staff, strengthened structure and new office headquarters. Demand

for key wildlife and timber species increased, and forest use and trade was increasingly organised. The 2003 World Heritage recognition, based on geological criteria, had impacts on local livelihoods in a number of ways. For one, both domestic and international tourism, which was already well underway, exploded in the years preceding and following World Heritage status.

Official discourse, in line with other government investments and decisions (such as infrastructure improvements) emphasised the positive spin-offs mainly in terms of improved protection, employment creation and breaking the "poverty–forest livelihoods" relationship. New opportunities in the tourism sector would (and according to official discourse often did) allow for forest users to shift to more stable forms of employment and income-generating activities. This employment narrative was reiterated by a number of official documents and official media showcasing individuals who quit illegal logging to become photographers, tourist boat operators and vendors. While to some extent true, the narrative is to a large extent a myth.

First, opportunities linked to boat operations are limited, and supply very quickly far outstripped actual demand. Although it has been noted that some "300 households in Son Trach community now gain very high income (approximately US$ 300,000 per year) through tourism boat services related to river cave tourism", the KfW project development report also notes how "their extended families remain among the highest extractors of illegal resources" (GFA 2006). Furthermore, these boat operators form only a small fraction of the buffer zone population.

Second, the World Heritage process led to the influx of both governmental and private operators buying up land for speculation, investments in hotels and other tourism-related services. Within a short period, land prices exploded in the core tourist area, and many households either sold land to private investors or government agencies for development projects (many yet to be implemented). For the households concerned, with limited or no rice fields, this made available more labourers for forest activities.

Third, the absorption capacity of the tourism sector has proven to be very limited. Whereas the national park employs some 122 people in its tourism centre, only a small fraction are local people, and even young people with appropriate education and skills have found it difficult to enter without a clear-cut hiring policy prioritising staff from the local community. As a consequence, most employment opportunities created have involved small-

scale vendor activities, mainly undertaken by women and children. Many men, if physically able, have continued to engage in forest-related activities in the PNKB area and elsewhere.[21]

Fourth, only around 1% of tourism revenues is currently directed to one local commune (out of 13 buffer zone communes) mainly as payment for basic services. The bulk of tourism revenues[22] (approximately US$ 800,000 or some VND 13 billion) is thus yet to deliver tangible benefits – and even those generated mainly reach only a small fraction of the PNKB area.

Fifth, while living conditions and housing standards have indeed improved in the last 10 years for this small fraction, this can equally be ascribed to people selling off land, or to forest income and labour migration rather than simply as a result of tourism development. Living costs have certainly gone up in the area.

Interestingly, PNKB today holds one of Vietnam's largest forest protection staff forces, in part beefed up by an increasing management emphasis on hiring forest guards under protection contracts at the expense of increasing forest protection contracts with local communities. Although the latter have not exactly proved to be effective conservation tools either, they nevertheless represented the sole government-funded activity for the protected area authority to re-establish some level of social incentives and benefits.

Finally, it is laudable that provincial authorities in recent years have considerably increased development support to ethnic minorities, among the poorest in the country, within the PNKB area. While not directly linked to the protected area process, such development support could indeed be perceived as a redistributive effort of the increasing wealth being generated by the Vietnamese economy. Yet, such development assistance, while colossal in monetary terms (several million US dollars), has been less impressive in terms of strengthening sustainable livelihoods and income impacts. Much support has involved poorly designed and expensive road and house construction, increase of basic electricity, water and education services as well as some agricultural and home-gardening activities with mixed results. Basic livelihood activities, however, remain extremely vulnerable and constrained by lack of tenure security, inability to exclude outside pressures on customary resources, limited rights to practise subsistence activities. A few communities continue to depend on the dole-out of occasional rice subsidies for survival.

12.6.8 Park expansion and the KfW project

The KfW-supported project (hereafter the "Project") sets out an ambitious plan to strengthen conservation, alternative livelihoods and increase tangible benefits for buffer zone communities. It proposes a "package" of "village development and land use/land allocation plans, allocation of forest area, reforestation, joint patrols, training and technical know-how transfer, improved sustainable land uses (e.g. firewood, rattan), and financial incentives" (GFA 2006).

The Project involves an expansion of the core area for strict protection, the largest chunk lying in Minh Hoá district (30,000 ha), initially as a separate nature reserve and later to be incorporated in the park. This area overlaps considerably with traditional use areas of ethnic minority communities, and the Project will facilitate "a participatory nature reserve gazettement process to ensure that boundaries exclude any agricultural lands or important community managed natural resources" (GFA 2006). This remains a challenge given that most areas within and around PNKB have been among the latest to initiate forestland allocation and that most forest up till now has remained in the hands of either protected area authorities, border military or State Forest Enterprises. The Project provides a good basis to address some of these issues by placing a strong emphasis on forestland allocation for "community forest management and ownership". It prioritises forestland allocation for "traditional communities with high dependency on forest resources for livelihood development" (GFA 2006), and simultaneously involves rezoning as part of the Park management planning process. Although forestland allocation will be considerably beefed up by the Project, challenges remain in terms of old fallow areas, customary use areas in high-quality forest and -areas already under the authority of other agencies. Forestland allocation is mainly applied to "production forest", the buffer zone and agricultural lands, and authorities remain hesitant[23] to include good-quality forest, old fallows and areas for hunting and gathering. In addition, existing forestland allocation experiences in the region reveal a lack of clarity regarding boundaries, rights and obligations, in part addressed by a Project emphasis on land-use planning. The Project also harbours some level of ambiguity in both seeking to reduce forest dependence and consolidating sustainable use.

Finally, the Project faces the challenge of dealing with customary resource use *within* – as well as community involvement in the management of – the planned extension zone.[24] While multiple use areas and co-management

approaches are being proposed at the policy level (PARC-Project 2006a, 2006b), such approaches are yet to be consolidated and tested in practice. As the Project will involve participatory management planning, setting up "community-based forest protection regulations" combined with small grants for community groups for forest protection, this probably represents one of the best large-scale test-case opportunities in Vietnam if local institutions, both protection groups and representatives, are integrated early on into the actual management structure of the protected area.

This could involve moving beyond the consultants' conclusion of simply extending the existing system,[25] and using the participatory process for *both* zoning and testing alternative management modalities such as multiple-use protected areas currently under consideration at the policy level. For this purpose, a stronger emphasis on active involvement in the design of the management plan rather than merely consultation in its finalisation would seem critical. Unless this is done, it is unlikely that existing management weaknesses will be fully addressed. Currently many forest guards and forest protection groups are incapable of or lack the incentives for stopping major logging and trapping operations. The Project sensibly puts an emphasis on improving systems of checks and balances, strengthening incentives and the role of communities in management and enforcement. Yet, ambiguities related to reducing forest dependence, the scope of forestland allocation as well as weaknesses in current policy and management systems remain major stumbling blocks for effective implementation and effective livelihood impact.

12.7 Incentives, costs and benefits

As discussed above, formal incentive structures, and the reshuffling of conservation costs and benefits, have remained limited. Not only did local communities see their access restricted following protected area creation, they often further discovered additional "transaction" costs when continuing forest use. Ethnic minority communities, such as the Arem, not only saw restrictions on hunting and gathering, but equally faced the prohibition of shifting cultivation, the vicissitudes of relocation and the lack of tenure security regarding customary use areas. Protected area authorities recognised this difficulty, and have throughout the years sought to mobilise government budgets for forest protection contract to provide rice to this community.

The forest protection contract system, remaining one of the few budgeted compensatory benefits for local communities, has remained limited in scope and value. First of all, it is perceived more as a protection tool than a benefit-redistribution tool (contracted people or communities are paid US$ 6.3/ ha), covering some 15,000 ha in 2007. A significant proportion has been used to beef up the forest guard staff numbers (170 people hired to protect some 12,700 ha), whereas community contracts have been reduced to 2,300 ha, or some 15% of the allocated funds. Only some 87 households currently benefit from the programme; in return, they have to protect designated forest areas. The amounts are fairly limited and do indeed involve extra work. The underlying scenario has been one of local communities bearing the costs of conservation with only limited benefits in return – even for those involved in the forest protection contract system.

The considerable revenues generated from tourism activities to the Phong Nha caves have mainly gone back to provincial authorities (60%), and remaining funds have mainly served to finance tourism administration and services (39%). Approximately 1% of tourism revenues go to one local commune, apparently in return for basic services. Whereas employment has been created in the service sector, supply far outstrips demand and only very few local people have found employment in the formal tourist sector. Benefits trickling down from tourism activity mainly involve small-scale activities, and are almost entirely concentrated in one commune.

However, it could be argued that part of this tourism income returns to communities in the form of other development projects. Some of these, including funding from national development programmes targeting ethnic minority communities, involve amounts well above the revenues generated by tourism. Yet, including such investments in the protected area equation is also questionable, as they themselves reflect a wider governmental effort to catalyse development in mountainous regions and address the inequities at stake. What remains is a basic policy and management framework that is in dire need of reform, in order to strengthen community participation and rework the costs and benefits of protected areas.

12.8 Main actors

Within the protected area, local community representatives such as village heads and even commune leaders have until now had virtually no or very limited influence on conservation and livelihood decisions notably in terms of protected area design, zoning and management planning. This may now – to some extent at least – evolve as part of planned participation and stakeholder involvement activities. To what extent this will address the considerable differences of influence of different local groupings remains to be seen, however.

Beyond the formal PA management structures, the wider make-up of actors in the PNKB area in part reflects national institutional dynamics in terms of a tiered political/economic system involving the Communist Party, People's Committees, line agencies both with and without direct management responsibilities and finally mass organisations, district, commune and village-level authorities. Behind the formal roles of responsibilities of such actors forming one system, is a complex set of power relationships and vested interests often cutting across formal roles and responsibilities.

At the provincial level, a few key players and "green" officials in the Provincial People's Committee were instrumental in pushing for initial protected area establishment. Since then, provincial interest has increased markedly, notably after World Heritage recognition and the exponential growth in visitor numbers to the Phong Nha caves. Although certain observers thus describe the province as "difficult" in terms of conservation work, and although there is a continued emphasis on prioritising infrastructure, it is also clear that there is a relatively strong provincial political and financial commitment to the World Heritage Site.

At the district level, interest has varied from a general acceptance of national and provincial plans, interest in opportunities associated with park establishment to some levels of questioning. The latter included one previous district chairman questioning park expansion plans on the basis of potential impacts on lost economic opportunity costs, and a forestry board member seeking to promote and maintain control over reforestation activities. It is relatively clear that despite years of expansion discussion, interim measures to strengthen conservation management in future expansion areas remain weak. Small-scale illegal logging operations in the future expanded core zone have, for example, been taking place, confirming the current weaknesses of current "buffer zone" policies and implementation modalities (PARC-Project 2006b).

Formal private-sector interest has increased significantly mainly in relation to the tourism sector. There is, however, limited involvement in the area from a natural resource perspective, while there are significant *informal* "private-sector" activities in terms of forest use (e.g. selective logging of high-value species) and trade. Such operations, although quite fragmented, have over the years proven to be relatively organised and connected to various levels of the official management system, and currently play a critical role in on-going threats to the area. This is compounded by overlapping mandates of different agencies. The common practice by certain border police stations to issue temporary permits for forest users entering forest "border areas"[26] and awareness of ongoing illegal operations is a case in point. While the enforcement capacity of border police stations is substantial, their involvement in conservation enforcement still remains limited.

While forest protection capacity of the park has been beefed up considerably, individual guards and groups within and outside the park are sometimes described as not just a solution, but "part of the problem" due to practices such as "law enforcers not respecting the law themselves", as the KfW report notes (GFA 2006). There is a fairly distinct national-level conservation community comprised of the Forest Protection Department, governmental and semi-governmental scientific institutions, which mainly play a role at the policy, overall systems and planning levels. Various international conservation NGOs such as WWF, Fauna & Flora International (FFI) and German zoological societies have undertaken project activities in the area, yet have only in a very limited way touched directly upon livelihood activities. This is now about to change with the arrival of the KfW and GTZ project. Other development activities, such as Asian Development Bank (ADB) and International Fund for Agricultural Development (IFAD) efforts, have had only limited conservation and livelihoods linkages. This is also true for the governmental Committee for Ethnic Minorities in Mountainous Areas, which has been undertaking a number of infrastructure development activities such as road access, house building as well as the provision of electricity and water. Development and conservation activities tend to work in parallel without much interaction.

12.9 External factors leading to changes in PA management

A number of external factors are of critical importance to understand the management dynamics and difficulties at stake. The complex interlinkages between informal economic activity and the formal management system reflect an important external factor that continues to influence not just protected area management, but wider administrative practice in Vietnam. As outlined above, market and wildlife trade dynamics are pervasive factors driving forest use trends in the area (Larsen and Trần 2008), which, in turn, has led to technological changes. Chainsaws have within the last few years been increasingly employed for selective logging, and the quantities and types of traps used have also changed. Infrastructure developments within the last few years have exacerbated this pressure. Under the headlines of national development, road construction and upgrading have created roads running through the core areas of the protected area, connected remote villages as well as eased transportation to and from Laos – now a major source area and route for wildlife trade (Larsen and Trân 2008).

Road building has on several occasions been criticised by the environmental NGO community and even been raised in the World Heritage context. While some degree of environmental impact assessment has been undertaken, it has only had limited impact on actual decision-making.[27] Participatory planning and management approaches have equally been promoted within international efforts with some impact (the upcoming KfW project being a case in point). In the latter case, protected area expansion and the reinforcement of forestland allocation practices were, for example, considered critical "conditions" for German support to the initiative.

12.10 Discourses, narratives and debate

Dominant discourses informing decision-making and planning have sometimes dangerously little grounding in reality, or provide only very partial perspectives on the challenges at stake in linking conservation and livelihoods. This does not make up for the absence of data. In effect, the Vietnamese administrative system on a regular basis generates impressive amounts of data on population figures, household income and socio-economic issues as part of the wider planning and reporting system. Yet data are often constrained and limited, and only reveal a partial picture. Whether speaking

of the number of wildlife confiscations or the amount of Vietnamese Dông spent on building houses and roads for ethnic minority communities, such data reveal little about actual impacts and dynamics. They are rather used to present, and indeed report on, activities. This reporting dimension thus tends to reinforce the success narratives of people enjoying new houses, people finding new forms of employment and forest guards fighting to preserve World Heritage.

The identification of "problems" and "threats" is an explicit protected area management process, often framed in scientifically neutral terms, yet it is also a highly discursive process involving the construction of causal relationships, "drivers" and ultimately solutions and responses. Such work has intensified within the conservation community, as protected area theory and practice has moved from common good justification *per se* towards the development of specific objectives and management responses.

In the case of PNKB, local theories of threats and problems generally involve a triangle of resource depletion, poverty-driven pressures coupled with inadequate resource for management. Problem analysis as a key ingredient of "logical" project formulation has most recently been undertaken as part of the KfW project development process. This identified "the depletion of natural resources and heritage values" as the "key problem". The report also identifies a "specific mix of local attitudes … of particular concern … not easy to change ... and accompanied by vested interests of major stakeholders":

> *i) villagers are well aware of the extent and character of illegal activities and theoretically applicable sanctions but they do not understand why PNKB is so special and conserved as a Park and WHS, ii) law enforcement is not only weak but there are also too many law enforcers who do not respect conservation themselves as eyed by the villagers, iii) on the other hand villagers are often regarded by officials as lazy and incapable, especially if it comes to forest management, and iv) if viewing the NP as a provincial business enterprise and local income generator boosted by a domestic park tourism just concentrated on two adjacent caves it is little surprising that some officials have little concern for biodiversity and habitat conservation: the Park seems to 'function' also very well without protected fauna and flora. However, ongoing depletion and blind development of mass tourism could well 'kill or at least sicken the goose that lays the golden eggs'.* (GFA 2006)

The analysis proceeds with a more standard set of threats such as severe levels of poaching, unsustainable harvesting of plants, illegal timber exploitation, firewood extraction, grazing and invasive species. Flawed tourism development and poorly managed buffer zone forests are also listed. In addition, the report notes "lack of ownership or legal access to forest resources for local villages", poor rural development efforts and the "lack or minor participation of local population in job and incomes created from the Park and forestry sector" (ibid.). Finally, in another set of threats identified by the consultant team, "improper NTFP extraction" and "shifting cultivation" are also listed along with the appearance of "road development". The analysis concludes that the "widespread and severe threats (are) animal trapping, illegal logging and wildlife trade/consumption … less intense and less alarming (than) shifting cultivation and improper NTFP extraction." A number of aspects deserve to be highlighted in this threats scenario.

Firstly, the report admirably seeks to raise a number of core concerns framed in the language of "attitudes" and "vested interests", which are nevertheless presented in isolation from the actual list of threats identified afterwards. The latter list, taken on its own, generates the picture of a public interest management authority struggling with a series of external threats, whereas the "attitudes" description, quoted above, highlights how parts of current management practice also form part of the problem. Secondly, it is noteworthy how the threats analysis, on the one hand, highlights lack of ownership, access and tenure security, yet on the other hand, points to improper extraction and shifting cultivation as "threats". The heterogeneous threats assessment, particularly in relation to community-related activities, begs for a more integral analysis of these issues, perhaps indicating a certain lack of participatory problems and threats analysis with communities in the formulation process. Thirdly, it is noteworthy how the report in a later section questions the strong government emphasis on road construction and upgrading, yet does not elaborate on it in the threats scenario despite the pivotal role of road access and construction in transforming the socio-ecological dynamics at stake. Finally, the threats analysis keeps a strong focus on direct and *external* "threats", symptoms or pressures, and places limited emphasis on underlying causes and drivers, which could have included current protected area policy deficiencies (PARC-Project 2006a), wildlife trade dynamics, the lack of social incentives and internal deficiencies of current management and provincial development discourse and practice.

Main core problems

The PNKB case reveals the relevance of a holistic approach to identify interlinked clusters of core problems (see research by the NCCR programme).[28] It exemplifies the close inter-linkages between high poverty rates, ethnic minority communities and high-value forest areas. At the national level, 61% of ethnic minority people, compared to only 14% of Kinh people, were still poor in 2004 (Swinkels and Carrie 2006). In the ethnic minority communes of Quảng Bình such as Dân Hoá, poverty statistics include over 80% of the population as poor. It is clear that wider issues and concerns need to be clustered and built into problem identification and analysis, since otherwise fundamental challenges may be neglected or silenced. Addressing institutional and social equity questions will be critical in this respect.

A second discourse helps "poor" people depending on natural resources find other means of livelihoods, justifying the blanket prohibition of shifting cultivation and neglecting the role of sustainable use from both a livelihood and conservation incentive perspective. While Vietnam within the last two decades has moved towards a free market economy increasingly recognising property rights and the role of individual producers and entrepreneurs, the development discourse, practice and investments with regard to ethnic minorities and mountain communities remain profoundly anchored in an evolutionary planned economy perspective, where infrastructure, housing and development projects of all sorts are "injected" to catalyse "progress".

Yet, such discourses and narratives are rarely effective in terms of addressing actual issues and challenges. However, international conservation organisations are not necessarily much better. While discourses differ, a great deal of funding and project support activities are generated on often simplistic assumptions, evolving discourses about interlinkages between use and conservation (not to mention donor priorities). The line of relatively big, yet relatively low-impact, Integrated Conservation and Development (ICD) projects in Vietnam testifies to this.

Unfortunately, local counter-narratives remain weak or absent. Occasional articles point to illegal forest use, reveal contradictory developments or, in response to government crackdowns, point to administrative irregularities and even corruption. Yet, the voices of local communities, particularly remote ethnic minorities, and local organisations remain weak, poorly informed, hardly organised and rarely in a position to convey their perspective – or to influence choices being made. This indeed does not lead to their absence, however. Local people, village leaders and many officials are the first to recognise the limitations of dominant discourses in terms of livelihoods and conservation value and to question them, yet current policy and management systems leave little room for adaptive management. Local

officials, village heads and "ordinary" individuals will in private highlight lack of confidence in official management, power abuses, etc. Such counter-discourses, however, only occasionally reach the public sphere, and often in highly codified manners. Thus major conservation and development narratives are retold again and again, emphasising the need for "more of the same" protection and enforcement without revisiting the internal logics or *modus operandi* of existing efforts.

Whereas policy reform in the Vietnamese agricultural sector, now often presented as a global success story, was characterised by local experimentation, pilot efforts and "fence-breaking" often driven by forward-thinking provincial leaders, similar efforts are now needed in the protected area field. The recent national protected area policy review points to significant gaps and opportunities for reform, yet actual pilot experiences, implementation and learning-by-doing at the provincial level are now critical to bridge the gap between policy directives and the reality on the ground. International technical and financial support, while still around, can provide a conducive environment for such efforts, unless caught up in the often inevitable symptoms of *projectitis*.

12.11 Concluding remarks

Will the recently initiated multi-million dollar project contribute to achieving the goal of maintaining "ecological integrity" and "enhancing local living standards" in the PNKB area (GFA 2006)? Conservation and development efforts in Vietnam are at an important turning-point. Not only is its rich biodiversity being severely degraded, while the economy is booming. A couple of decades of massive Official Development Assistance (ODA) support to conservation and development may soon come to an end or be reduced significantly. An era of PA expansion and growth, in part fuelled by international support, is likely to slow down. This should not be interpreted as a shift from an internationally driven system towards a more national process. While international categories, approaches and financial support have certainly played an instrumental role in Vietnamese conservation efforts, the protected area field is firmly grounded in Vietnamese conservation discourse and practice. The livelihood angle is a case in point. Protected area regulations generally rule out livelihood activities, multiple use and local tenure. With an estimated 80% of protected area inhabited, and virtually all forest protected areas subject to some kind of use, how to engage more pro-actively with local use, tenure and stewardship is a critical avenue for action.

Such efforts are, however, still considered by some as good theory, but not feasible in the Vietnamese context. The explosion of efforts to recognise, and build up conservation initiatives around, the rights and practices of indigenous and local communities experienced elsewhere in the world, is yet to become Vietnamese practice. It is clear from current national and provincial forestry development plans and protected area system strategies that efforts to increase local incentives and involvement in target production forests and degraded buffer zone forests are much more prevalent than efforts to strengthen actual involvement and equitable benefit-sharing within protected areas (SRV 2003, 2004). Progress is, in part, hampered by policy obstacles, somewhat biased descriptions of community concerns, but also political sensitivities particularly when it comes to ethnic minority questions. This is, however, increasingly being replaced by more down-to-earth descriptions of the serious livelihood concerns symptomatic of the core protected area policy challenges Vietnam continues to face despite reform efforts (Dinh 2005; McElwee 2006; PARC-Project 2006a). As the PNKB case reveals, despite an increase in conservation and development funding, livelihood concerns and community participation issues in the management of PNKB are far from resolved. Despite discourses about improvement, food security and livelihood vulnerability and interlinked conservation issues remain key challenges, in particular for the area's ethnic minorities.

Since protected area creation, communities and their livelihood concerns have been categorised as external to rather than an integral part of its management. Yet, even before the natural heritage became a national and now global domain of interest, communities within and around the area had been confronted by forest and development policy measures that increasingly sought to dissociate them from the forest and from management decisions. Both colonial and post-colonial socialist policies not only disregarded customary use and management practices, but worked actively to stop (in practice: reduce) individual or community forest use and shifting cultivation. Benefit-sharing mechanisms are highly inadequate, and discourses about communities as problems remain far more frequent and dominant than discourses taking up current needs and emphasising communities as rightful actors in conservation decision-making. The tendency towards highly centralised decision-making practices has provided few opportunities to articulate and influence conservation and development solutions, not only for community representatives, but also for local-level authorities and government officials.

In recent years, the Vietnamese conservation community has been pointing to the urgent need for protected area policy reform not only to redress livelihood and community participation, but equally to respond to the absence of management boards, unclear boundaries and poor staffing in less attractive areas (PARC-Project 2006b). The recent forest protection strategy also places a stronger emphasis on local involvement in, benefits from and management of protection forests (SRV 2007). Such thinking is very timely not just from a conservation angle, but equally to address the cultural and livelihood concerns of ethnic minority and other communities living in proximity to areas such as PNKB. Communities, however, remain weakly organised, hardly listened to and rarely have the technical, financial and human resource capacity to engage more pro-actively in decision-making spaces offered.

PNKB and its future project activities have significant opportunities, and certainly the financing, to improve both livelihoods and ecosystem integrity. It is, indeed, also one of Vietnam's best opportunities to try out new conservation and livelihood approaches on a large scale, where existing approaches have revealed their limits. Yet, to succeed will require de-bunking stereotypical discourses and conservation and poverty, and engaging more directly with the communities concerned.

"Rừng là vàng" ("Forest is gold"), Hồ Chí Minh is reported to have said at the creation of the first protected area in Vietnam. PNKB has certainly been a golden egg for tourism operators, and less known as a source of livelihoods of communities for centuries. The challenge is now to sustain such values for future generations, not just for the tourists and the global community, but indeed for the very people who live in the area.

Endnotes

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[2] Vietnam News Agency, 14 September 2004, http://vietnamnews.vnanet.vn/2004-09/15/Stories/15.htm; accessed in July 2007.

[3] Media, particularly some newspapers, play an increasingly vocal role in providing alternative descriptions. See e.g. http://english.vietnamnet.vn/features/2005/10/503609/

[4] This research is part of the Graduate Institute's NCCR North-South activities.

[5] According to several informants, various government and research institutions have over the years sought to determine whether the Nguon would qualify for ethnic minority status. Despite their separate their language/dialect (Viet-Muong), this has not been granted.

[6] One annual missionary report from 1912 notes how "le mouvement de conversion est à peine sensible dans les hameaux païens: l'heure fixée par la Providence ne semble pas encore arrivée." http://archivesmep.mepasie.org/annuaire/vietnam/rapports-eveques/1900-1999/1912-03.htm

[7] There had, however, been a strong geopolitical emphasis on expanding the French presence into neighbouring Laos through infrastructure development and Vietnamese in-migration (Stuart-Fox 1995).

[8] This includes the KfW contribution of EUR 12.64 million (the amount consists of EUR 8 million grant and EUR 4.64 million loan) as well as a GTZ complementary project in the range of EUR 2 million.

[9] This initially involved on-site work with Rục villages to map out traditional use areas including both swiddens and forest areas (WWF LINC project).

[10] This is for example being recommended in protected area Master Plans and a recent major policy review (PARC-Project 2006b).

[11] Interestingly these categories, while based nominally on the 1978 IUCN Protected Area Categories, were adapted to the Vietnamese context and were not based on the IUCN management objectives (Stolton 2004).

[12] "Protection forests are used mainly to protect water sources and land, prevent erosion and desertification, restrict natural calamities and regulate climate, thus contributing to environmental protection." This is distinguished from special-use forests established for conservation purposes (Article 4).

[13] The law specifically identifies a number of conditions for such assignments, such as same customs, close association with forests, management capability and being in line with approved forest and development plans. It covers forests, which i) "village populations" are managing or using efficiently; ii) hold water sources in direct service of the communities or other common communal interests and cannot be assigned to organisations, households or individuals; iii) lie in the areas adjoining villages, communes or districts and cannot be assigned to organisations, households or individuals and must be assigned to village population communities for the sake of the communal interests. Yet, as mentioned this policy does not (yet) fully target protected areas (SRV 2004).

[14] Art. 2.2.5. ensures that any resettlement of indigenous communities as a consequence of the establishment or management of protected areas will only take place with their prior informed consent, which may be given according to national legislation and applicable international obligations. http://www.cbd.int/decisions/default.shtml?dec=VII/28

[15] While historically often described as a nomadic hunter/gatherer, cave-residing community, oral history research by Vo Xuan Trang indicates how communities had been pushed out of ancestral agricultural lands in the Trung Hoa area and further into the forest due to shifting cultivation by Nguon people (Vo 1998).

[16] State-driven cooperative organisation and production followed various trajectories and histories depending on the communities and areas concerned. While particularly strong among the Kinh communities, efforts were weaker in the more distant ethnic minority communities.

[17] It is likely that a century earlier the area had also provided refuge for mandarins opposed to the French (Goscha 1999).

[18] It is noteworthy that most areas within and around PNKB have been among the latest to initiate forestland allocation in part due to distances and the border situation. Forests up till now have remained in the hands of either protected area authorities, district authorities, border military or State Forest Enterprises.

[19] Yet, to what extent protected area establishment alleviated these pressures remains questionable or at least difficult to determine. Many key species populations, charismatic or simply valuable, have either been decimated or been significantly reduced. While certain advances may have been made in terms of reducing forest clearance, selective logging, intensive trapping and hunting have been detrimental for the flora and fauna of PNKB.

[20] As with many other policies, implementation of this policy has been uneven, in many cases mainly reducing swidden agriculture, shortening fallow periods and increasing distance to fields.

[21] Logging, trapping and hunting activities have increasingly involved travelling further and further to other provinces in Vietnam, Laos and even Myanmar, as valuable resources within PNKB have been depleted.

[22] According to park authorities, the remaining 60% of tourism revenues are returned to the province and 39% go to the park (mainly to cover the operational costs of the tourism centre).

[23] The KfW Project Report further noted the "lack of clear commitment by local authorities to some crucial issues (*conditio sine qua non*) such as red-book allocation of forest land and extension of the Park" (GFA 2006).

[24] This also relates to the challenge of dealing with customary use areas already within the national park.

[25] "Park extension involves only a minor increase in work. Simply placement is necessary of some of the existing large guard force in Minh Hoá district and establishment of a small liaison office beside the District PC" (GFA 2006, p 37).

[26] As PNKB borders Laos, significant proportions of the park and buffer zone areas lie under the authority of the border police, which is responsible for managing all movement of people within these areas. Access by both foreigners and Vietnamese nationals is highly restricted, and the enforcement capacity significant compared to that of park authorities.

[27] It was not possible to consult the Environmental Impact Assessment (EIA) undertaken in connection with the Ho Chi Minh highway. However, there is general agreement that Vietnamese EIA practice, compulsory since the 1994 Law on Environmental Protection, is still in its infancy both when it comes to identifying social and environmental impacts, appropriate procedures and capacity.

[28] See www.north-south.unibe.ch

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13 Protection: A Means for Sustainable Development? The Case of the Jungfrau-Aletsch-Bietschhorn World Heritage Site in Switzerland

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Abstract

The Jungfrau-Aletsch-Bietschhorn World Heritage Site (WHS) comprises mainly natural high-mountain landscapes. The High Alps and impressive natural landscapes are not the only feature making the region so attractive; its uniqueness also lies in the adjoining landscapes shaped by centuries of traditional agricultural use. Given the dramatic changes in the agricultural sector, the risk faced by cultural landscapes in the World Heritage Region is possibly greater than that faced by the natural landscape inside the perimeter of the WHS. Inclusion on the World Heritage List was therefore an opportunity to contribute not only to the preservation of the 'natural' WHS: the protected part of the natural landscape is understood as the centrepiece of a strategy to enhance sustainable development in the entire region, *including* cultural landscapes. Maintaining the right balance between preservation of the WHS and promotion of sustainable regional development constitutes a key challenge for management of the WHS. Local actors were heavily involved in the planning process in which the goals and objectives of the WHS were defined. This participatory process allowed examination of ongoing problems and current opportunities, even though present ecological standards were a 'non-negotiable' feature. Therefore the basic patterns of valuation of the landscape by the different actors could not be modified. Nevertheless, the process made it possible to jointly define the present situation and thus create a basis for legitimising future action. From this participatory process, a link between the concepts of 'protected area' and sustainable development in the region emerged.

Keywords: World Heritage Site, participation, natural landscape, cultural landscape, negotiation, sustainable regional development, values, Switzerland.

13.1 Introduction

The Jungfrau-Aletsch-Bietschhorn World Heritage Site (WHS), designated by the United Nations Educational, Scientific and Cultural Organisation (UNESCO) in 2001, is not only the first World Natural Heritage Site in Switzerland, but also the first such site in the Alps. The site covers an area of 824 km^2. This area is formed by portions of the territory of 26 communes. The overall area covered by these communes is 1,629 km^2, nearly double the size of the WHS itself. The uniqueness of this WHS lies in its heavy glaciation and its extraordinary topography. Consequently, it is among the areas least marked by human influence anywhere in the Alps. This pristine character in the midst of a region containing settlements and small-scale cultural landscapes is one of the outstanding features of the Jungfrau-Aletsch-Bietschhorn WHS.

The site itself is situated in an area of transition between the northern and the central Alps. This results in different climatic and topographical conditions and consequently different ecosystems and land-use systems, influenced by both human beings and nature. Yet neither the natural landscape that comprises the WHS as such, nor the cultural landscape surrounding it, are in themselves static. Both are subject to dynamic processes that bring about constant change, with the result that there is interaction between the natural and cultural landscapes. Hence the interplay between the natural area designated as the WHS and the surrounding cultural landscape undoubtedly constitutes the greatest challenge in managing the site. It is the declared aim of the associated communes to preserve this area in all its diversity for future generations and to strive to promote its sustainable development as an economic, living, recreational and natural space.

The Swiss political, administrative, legal and planning environments play an important role in achieving the objectives of the Jungfrau-Aletsch-Bietschhorn WHS and with respect to the concept of landscape protection in Switzerland generally (see also Jungfrau-Aletsch-Bietschhorn World Heritage Site Association 2005; for further information see Hammer 2007). The political and administrative environment is shaped by a federal system comprised of communal, cantonal and federal levels, which share official responsibilities in accordance with cantonal constitutions and the federal constitution.

According to UNESCO guidelines, the national government must send a request for nomination to the World Heritage Committee. However, in the

Swiss political system, the federal government cannot submit such a candidature without the formal consent of the communes concerned (the communes are the smallest government division in Switzerland). Therefore, intense discussions with the population and the administration of the 26 communes concerned took place. It was up to each commune to decide whether it wanted to participate in the proposed WHS. Such a decision could be taken either by the communal council or by the general assembly (compromised of all adult Swiss inhabitants of the commune). This process provided a basis for discussion of the boundaries and the goals of the WHS and its relation to sustainable regional development.

This paper explores the diversity of the region's ecological, economic and socio-cultural features as well as the diversity and fundamental features of actors' perspectives linked to the WHS.

13.2 The setting of the Jungfrau-Aletsch-Bietschhorn World Heritage Site

13.2.1 Natural characteristics

The Jungfrau-Aletsch-Bietschhorn WHS primarily incorporates the uninhabited High-Alpine zone, which is mainly natural landscapes, with 80% of the area covered by glaciers and non-vegetated rocks (see Figure 1). It represents the most glaciated part of the Alps, containing Europe's largest glacier, the Great Aletsch Glacier, and a range of classic glacial features such as U-shaped valleys, cirques, horn peaks and moraines. This area provides an outstanding geological record of the uplift and compression that formed the High Alps (see also Labhart 2007). The northern part is characterised by steep mountain slopes and includes the famous Eiger, Mönch and Jungfrau (4,148 m) peaks as well as the Jungfraujoch with the highest railway station in Europe (3,471 m). The southern part is less steep and mainly dominated by extended glaciers and remote valleys.

The climate in the WHS region is characterised by a marked north–south contrast. The northern front of the Bernese Alps, which is part of the main Alpine drainage divide, acts as a weather divide where a barrier effect occurs along a north–south axis (see also Weingartner 2007). A moist, cool, suboceanic climate prevails in the north (mean annual precipitation in Grindelwald, 1966-1989: 1,390 mm), while the Canton of Valais constitutes a

dry island with the characteristics of a sub-continental climate, owing to its inner-Alpine location between the major chains of the Valaisian and Bernese Alps (mean annual precipitation in Visp, 1961-1990: 600 mm). Precipitation values in the northern Alpine area are considerably higher than those in the inner-Alpine area. There is also great seasonal variation between the northern and inner-Alpine locations. There is more precipitation in summer (April to September) than in winter in the northern Alps. The inner-Alpine area, by contrast, has more winter precipitation than summer precipitation. Thanks to the water resources of the Alps, there is no problem with water supply in the World Heritage communes on the northern side of the Alps. On the south-facing slopes of the Great Aletsch Glacier and the Bietschhorn, on the other hand, water supply has always been a problem, owing to the aridity of the inner-Alpine valleys. Water has had to be diverted with enormous effort from glacial streams, or tapped at remote sources and conducted over distances of many kilometres to southern slopes. Innovative construction of historic channels to collect water, known as *suonen* (in French: *bisses*), which were sometimes built even on overhanging cliffs, bear impressive witness to the centuries-old struggle over 'sacred water' (Weingartner 2007).

Great differences in altitude and climate within the World Heritage Region have given rise to the formation of many alpine and sub-alpine habitats (Küttel 2007). These can be distinguished by exposition, gradient and altitude. The following habitats are found in the World Heritage Region: glaciers, firn fields and snowfields, moraines and glacier forelands, rocky and stony areas, boulders, surface water and humid areas, alpine grass, forests, and agricultural habitats such as orchards, vineyards, and croplands, as well as alpine meadows and pastureland (see Figure 1). Rocky steppe habitats are found on the dry southern slopes in the Canton of Valais – the Lötschberg south ramp. Thanks to its sub-continental climate, this habitat is home to a great diversity of flora and fauna. Sheep grazing and fire have both contributed heavily to the expansion of rocky steppes. Today, sheep grazing has declined as a result of the abandonment of agriculture in many areas. Consequently, invasion by shrubs poses a threat to the rocky steppe habitat (Küttel 2007).

Even though a total of 80% of the area of the WHS has no vegetation, more than 500 flowering plants and ferns have been identified to date, while there are more than 3,500 species of flora and fauna found above the tree line in the associated communes of the WHS. A study of the World Heritage Region delineated the areas containing particularly high numbers of endangered species or species for which Switzerland has a particular responsibility, based on the current state of knowledge (Capt 2005).

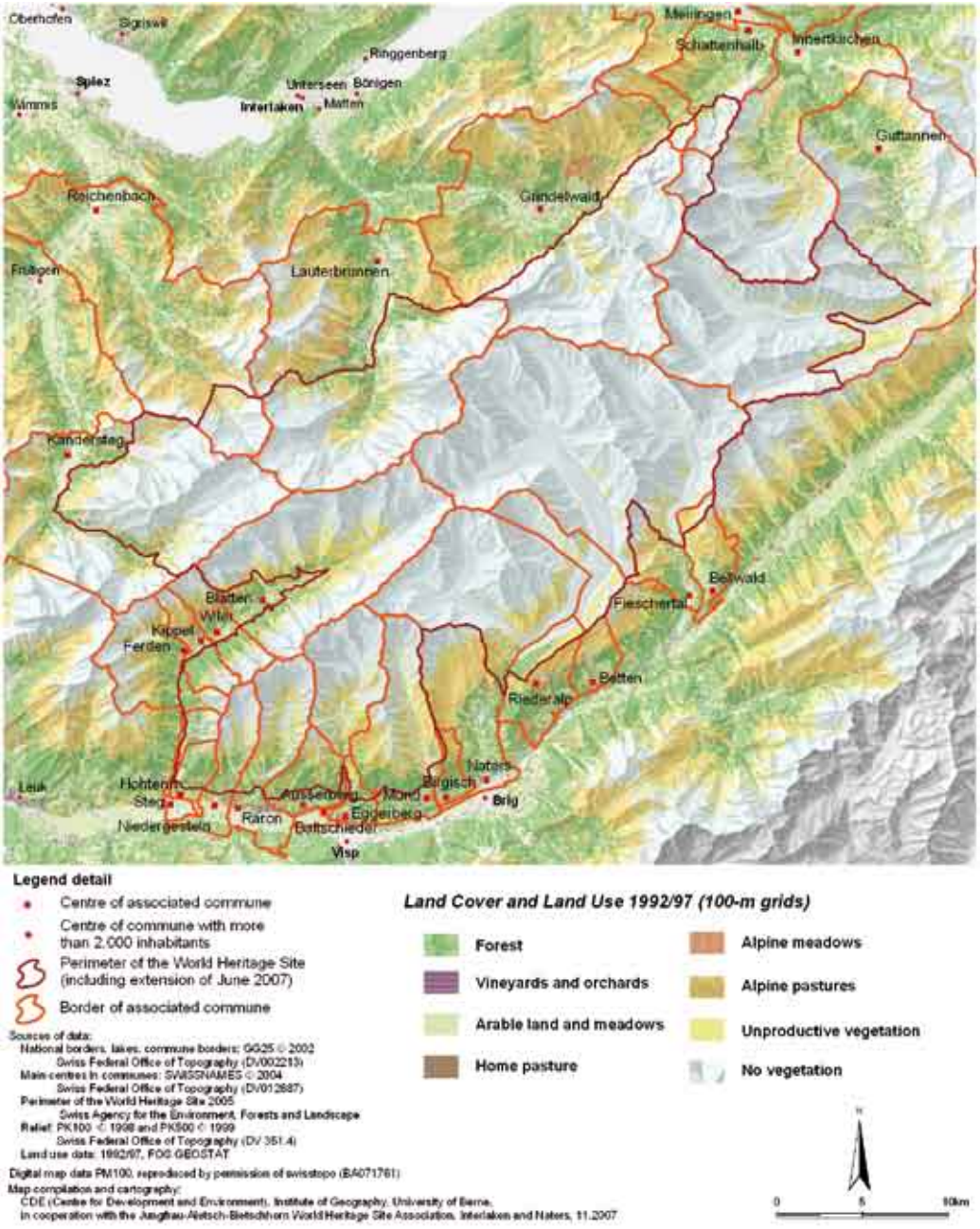


Fig. 1
Land cover and land use in the Jungfrau-Aletsch-Bietschhorn World Heritage Site 1992/97 (100-m grids), including the borders of the associated communes.

It is not only this pristine landscape that makes the WHS so outstanding. Its attractiveness clearly stems from the rich contrast of the wilderness of the high mountains and glaciers and the traditional cultural landscape surrounding it. However, given the ongoing dramatic changes in the agricultural sector, the risk faced by the cultural landscapes in the World Heritage Region must be assessed as greater than that faced by the natural landscapes inside the perimeter of the WHS (Wiesmann and Liechti 2004). This was recognised early on by the communes involved. Inscription on the World Heritage List was therefore leveraged not only as an opportunity to contribute to the preservation of the World Heritage Site in the narrower sense, but also as a commitment to sustainable development in the entire region covered by the associated communes.

13.2.2 History of the World Heritage Site

The glaciers (mainly the Unteraar and Great Aletsch glaciers) are amongst the areas where the foundations of modern glaciology were laid, while the impressive vista of the north wall of the High Alps has played an important role in European tourism, literature and art. Discussions concerning a candidature of this area as a WHS began in the 1970s. Within the framework of UNESCO's Man and the Biosphere (MAB) programme, Grindelwald and Aletsch represented 2 out of 4 test areas in the "Socio-economic development and ecological capacity in mountain regions" project funded by the Swiss National Science Foundation. This research integrated natural and social sciences. Guiding questions were the carrying capacity of a region and the balance between the ecosystem and human activities (Messerli and Messerli 1978). This integrated view of the region as an area of protection, production and recreation led to first ideas about creating a WHS. The discussion was mainly held within the research community, including consultations with the authorities at commune level. However, conflicts over construction of a water pipe and an access road along the Great Aletsch Glacier put a halt to further discussions. The main argument of the researchers was the "protection of unspoiled nature" while local authorities argued for "utility and communal sovereignty" (Liechti et al, submitted).

In the 1980s, a large part of today's WHS was included in the Federal Inventory of Landscapes and Natural Monuments of National Importance (BLN; object 1507/1706), which demands that the objects listed be entirely preserved or conserved as far as possible. This discussion remained at the administrative level (federal, cantonal, communal). The borders in the BLN were

drawn according to actual or intended land use and therefore mainly covered natural landscapes. At this time, discussions about a WHS were dormant.

A new initiative for promoting a WHS in the Jungfrau-Aletsch-Bietschhorn region was launched by different actors at the federal, communal and individual levels in the 1990s. A hotel owner from the Bernese Oberland , an expert on World Heritage Sites, was primarily responsible for renewing the discussions. A controversial debate at the local level developed, focusing mainly on arguments about the fear of restrictions in land use. Discussions between protagonists of the WHS idea and political representatives, as well as the general public, helped to turn scepticism into acceptance and enthusiasm. This was the result both of broad campaigns involving strong personalities, and of a formal democratic decision-making process at the level of the communes involved (Wiesmann et al 2005). On 13 December 2001, at the request of the Swiss Federal Council, the UNESCO World Heritage Committee inscribed the Jungfrau-Aletsch-Bietschhorn region on its World Heritage List. This inscription was awarded on the basis of three out of four criteria: (1) The importance of the high-mountain region and its glaciation as a source of geological data and a witness to climate change; (2) The importance of the region's dynamics (due to glacier fluctuations) and the rich diversity of its alpine and sub-alpine habitats; (3) The extraordinary scenic and aesthetic appeal of the region, which has frequently been attested to throughout cultural history (Jungfrau-Aletsch-Bietschhorn World Heritage Site Association 2005).

The communes involved in the Jungfrau-Aletsch-Bietschhorn region (represented by their mayors) signed the WHS "Charter of Konkordiaplatz". One of the main purposes of this Charter, which is not legally binding but advisory to the signatories, is to preserve the aesthetic beauty of the landscape in the vicinity of the Jungfrau, the Aletschhorn and the Bietschhorn for future generations. Furthermore, by signing the Charter, the associated communes committed themselves to practise sustainable land use beyond the perimeter of the WHS, i.e. to observe the principle of sustainable development in the remaining area of their commune. In 2002 the member communes founded the Jungfrau-Aletsch-Bietschhorn World Heritage Site Association as the legal authority of the WHS. The Management Centre of the WHS is the operational division of the Association and was set up in 2003. The two project managers immediately started to work on a Management Strategy and Plan for the WHS based on the ideas of sustainable regional development contained in the Charter of Konkordiaplatz.

In order to actively involve the local population, as well as various organisations, a multi-actor participatory process was launched (see Wiesmann et al 2005). The central purpose of this process was to develop a common vision with the aim of assuming responsibility for sustainable development in the region and promoting it successfully. Furthermore, it was designed to create a notion of ownership among the population and its organisations, and also to expose the potential for conflict and points of contention. Needs, project ideas and synergies could thus be ascertained and compared. This process was divided into three rounds of discussion forums and involved a total of 256 persons representing agriculture, forestry, hunting, game warding, tourism, hotel management, mountain railways, transport, commerce, trade, nature preservation, culture, education, social services, administration, planning, and local development. The participants came from various areas of the World Heritage Region. Some were selected after a preparatory workshop, while others joined as a result of several announcements in the media or face-to-face communication. The three forum rounds proceeded as follows:

– The first round involved an exchange of visions and expectations. Following this – based on the Charter and the Guidelines – objectives for the World Heritage Site and the surrounding region were defined. The objectives formulated in the cantons of Berne and Valais were then compiled by a group of experts and made available to the participants for assessment (agree/disagree) and ranking.

– In the second round, these objectives were discussed and clarified. They were then used as a basis for determining the need for action and corresponding measures. The group of experts compiled the proposed measures following the forums and forwarded them to participants for evaluation and ranking.

– The third round was devoted to discussion and clarification of the compendium of objectives and measures, and to definition of appropriate project lines.

This process resulted in the formulation of 69 objectives and 226 corresponding measures regarding the WHS (Jungfrau-Aletsch-Bietschhorn World Heritage Site Association 2005). The three rounds of forums concluded with a general forum, in which fields of action were defined based on the objectives and corresponding measures. These were prioritised by participants in terms

of importance and urgency and are the basis for the development of concrete projects that aim to implement the objectives today. The definition of these concrete projects is done by so called WHS core groups. These are composed of representatives from various local actor groups. Continued involvement of the local population and ongoing discussion is thus guaranteed.

At the same time, intense discussions took place regarding the extension of the WHS, in order to integrate several adjoining areas with high associated natural values. Following intense negotiations and subsequent broad acceptance by other communes, a proposal to extend the perimeter was submitted to UNESCO in January 2006, together with the Management Strategy and Plan. After an evaluation of the proposed extension by IUCN (World Conservation Union), the decision to extend was taken by the World Heritage Committee in summer 2007 (see Table 1).

13.2.3 Political setting

There are 26 communes participating in the WHS. Eight of these belong to the Canton of Berne and 18 to the Canton of Valais. The 8 communes in the Canton of Berne belong to two different regional planning associations, while the 18 communes in the Canton of Valais belong to three such associations, each of which has between 5 (Kander Valley region) and 32 (Visp/western Raron region) member communes (see Table 2). The regional planning associations are a result of the Federal Decree on Investment Assistance in Mountainous Regions (Bundesgesetz über Investitionshilfe für Berggebiete). With this decree the Federal Government intended to foster investment in infrastructure and thereby enhance living conditions in mountainous areas (Hoppler and Strässle 2007). The regional planning associations are composed of communes and develop and steer regional planning strategies. They aim to bridge the institutional gap between the local and cantonal levels and serve as a platform where largely sectorally organised entities of public administration and representatives of civil society can coordinate actions in a more inclusive and trans-sectoral way.

Furthermore, there are ten tourist destinations present in the World Heritage Region. And as mentioned before, the political and administrative environment is shaped by the federal system comprised of three levels: communes, cantons, and the national government. Considered altogether, the World Heritage Region is neither a political, nor an administrative, nor a cultural unit.

Table 1

Chronology of the Jungfrau-Aletsch-Bietschhorn World Heritage Site.

Time	Major events
1970s	First discussions about the establishment of a WHS within the research community of the MAB program, including consultations with the authorities at commune level.
1980s	Inclusion of most of today's WHS territory into the Federal Inventory of Landscapes and Natural Monuments of National Importance (BLN; object 1507/1706).
1990s	Launching of a new initiative on a WHS.
2000	Petition of the Swiss Federal Council to UNESCO World Heritage Committee on 28 June 2000 to inscribe the Jungfrau-Aletsch-Bietschhorn area on the World Heritage List.
2001	Signing of the Charter of Konkordiaplatz by the associated communes. Inscription into the World Heritage List based on the evaluation of the site by IUCN.
2002	Establishment of the Jungfrau-Aletsch-Bietschhorn WHS Association as the legal authority of the WHS.
2003	Opening of the Management Centre of the WHS.
2004	Launching of a multi-actor participatory process in order to develop a common vision with the aim of assuming responsibility for sustainable development in the region and promoting it successfully. Discussions on the extension of the WHS start.
2005	Implementation activities of the objectives are initiated by so called core groups, working on specific objectives. Submission of the Management Strategy and the Nomination for Extension of the WHS to UNESCO World Heritage Committee.
2006	Evaluation of the areas proposed for extension by IUCN.
2007	UNESCO World Heritage Committee agrees the extension.

Source: Compiled by authors

Given this situation, it is all the more important that the associated communes think of themselves as belonging to a World Heritage Region. Adopting such a perspective will strengthen the feeling of ownership as well as identity vis-à-vis other regions (e.g. in marketing), allowing the communes to achieve together the objectives they formulated themselves in the Charter of Konkordiaplatz.

The system of nature and landscape protection in the World Heritage Region is quite complex, owing to the three-level federal system of communes, cantons and the Confederation. Nature and landscape protection is based, among other things, on international agreements, as well as on national and cantonal constitutions and laws. The cantons are responsible for nature and landscape protection, while the Confederation makes laws and regulations and supports efforts to protect nature and the landscape. Execution is a mat-

Table 2

Membership of associated communes in regional planning associations.

Name of regional planning association	Associated communes	Canton	Number of communes in perimeter / Total member communes
Oberland East Regional Planning Association	Grindelwald, Guttannen, Innertkirchen, Lauterbrunnen, Meiringen, Schattenhalb	Berne	6 / 29
Kander Valley Region	Kandersteg, Reichenbach i.K.	Berne	2 / 5
Goms Region	Bellwald, Fieschertal	Valais	2 / 21
Brig-Aletsch Region (previously Brig/Eastern Raron Region)	Betten, Mund, Birgisch, Naters, Riederalp	Valais	5 / 15
Visp/Western Raron Region	Ausserberg, Baltschieder, Blatten, Eggerberg, Ferden, Hohtenn, Kippel, Niedergesteln, Raron, Steg, Wiler	Valais	11 / 32

Source: Jungfrau-Aletsch-Bietschhorn World Heritage Site Association 2005

ter for the cantons, which in turn may delegate responsibility to the communes (which can also take action on their own). The Confederation, the cantons of Valais and Berne, and the 26 associated communes participate in nature and landscape protection in the World Heritage Region. Furthermore, private nature protection organisations often take on the important function of advocating nature and landscape conservation and making sure that conservationist arguments are taken into consideration in spatially relevant decision-making processes (Jungfrau-Aletsch-Bietschhorn World Heritage Site Association 2005).

Most of the area of the WHS consists of the property of municipalities or local cooperatives, and some areas are privately owned, for example Alp Understeinberg, which is owned by the nature protection organisation, Pro Natura. The area outside the perimeter is predominantly privately owned. In terms of nature and landscape protection, this means that numerous owners have to be involved in the implementation of projects.

13.2.4 Social context, economy and livelihoods

The perimeter of the WHS is, with a few exceptions, uninhabited. 35,314 people live in the remaining area of the associated communes; this rises to 69,627 if the regional centres of Interlaken, Brig and Visp, which are in close proximity of the WHS, are included (Federal Statistical Office 2002). Pop-

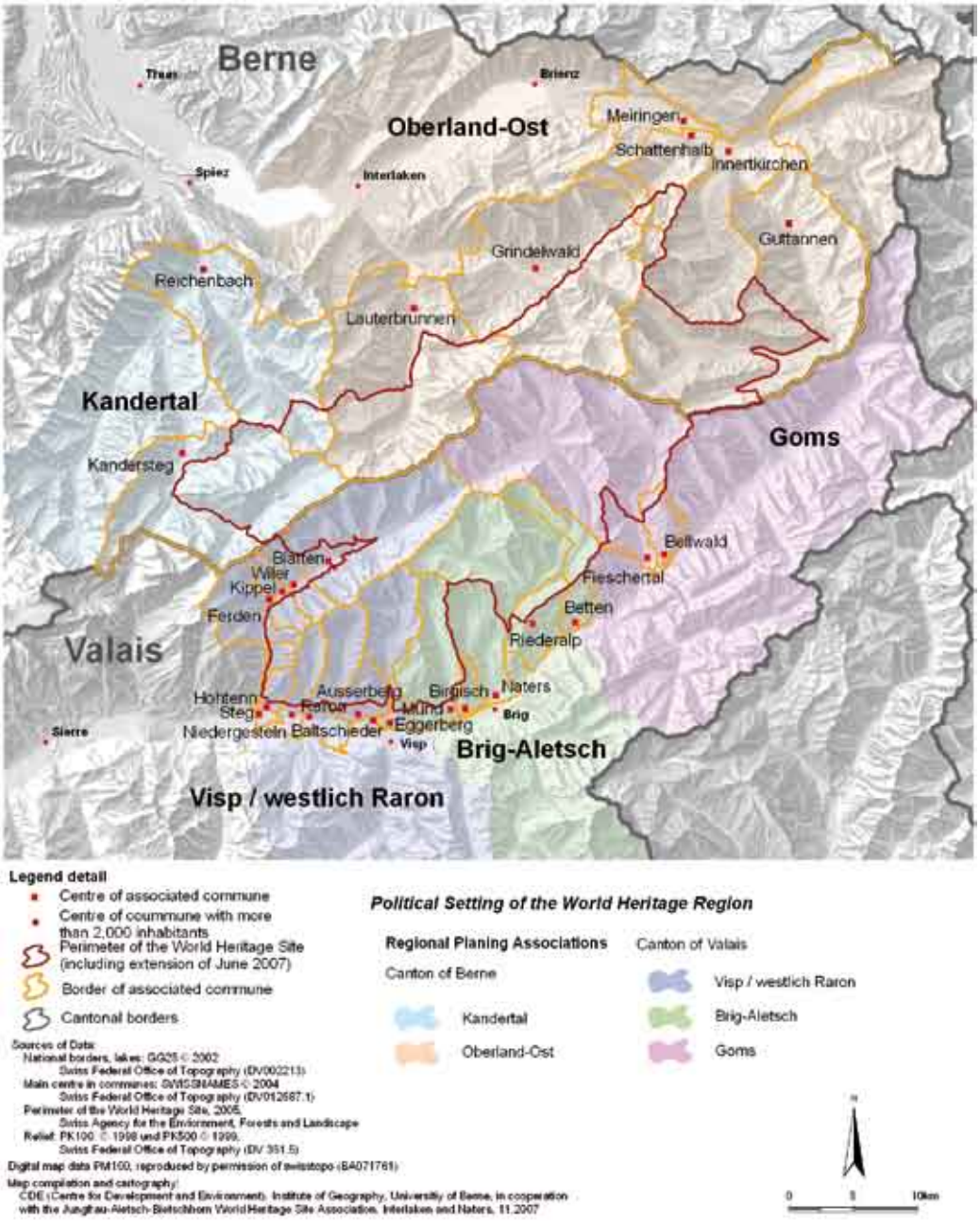


Fig. 2
The political setting of the World Heritage Region, including cantons, communes and regional planning associations.

ulation distribution focuses on inner-Alpine centres such as Grindelwald, Meiringen, Reichenbach and Lauterbrunnen as well as in the proximity of Visp and Brig (see Figure 3). Population development was generally positive in the period 1970-2000. The number of inhabitants in communes close to the regional centres has grown while the number of inhabitants in communes on the periphery has declined. This shows a process of concentration in the centres and their proximity and a process of decline on the periphery (Färber and Stettler 2006). The same is true for population development in small settlements in the communes. Today, more people are living close to valley floors, while settlements at higher elevations are declining. This process of concentration and decline can be observed at the regional as well as village levels and expresses the changing relevance of settlements (Aerni et al 2007).

The WHS is related to two major hubs of regional economic development: to the north lies the highly developed tourist region of the eastern Bernese Oberland, with the internationally famous tourist resorts of Grindelwald, Wengen and Mürren, and to the south lies the upper part of the main valley of the Valais, where remote traditional agriculture was superseded by industrial and tourist development in the second half of the 20th century (Wiesmann et al 2005).

The economy is clearly dominated by the tertiary sector, which accounts for 62% of all employment (see Table 3). The focus of this sector is on the hotel and restaurant industry and on retail, two branches important in relation to tourism. Table 3 shows that the economic structure of the World Heritage Region, together with the regional centres, reflects the national economic structure. However, if we exclude the regional centres, the relevance of the primary sector in rural areas is considerably greater (for further information see Aerni et al 2007).

Table 3

Percentage of employment in the three economic sectors.

Source: Federal Statistical Office, 2006

	WHS Region	WHS Region including regional centres Interlaken, Visp and Brig	Switzerland
Primary sector	16%	7%	6%
Secondary sector	22%	26%	27%
Tertiary sector	62%	67%	67%

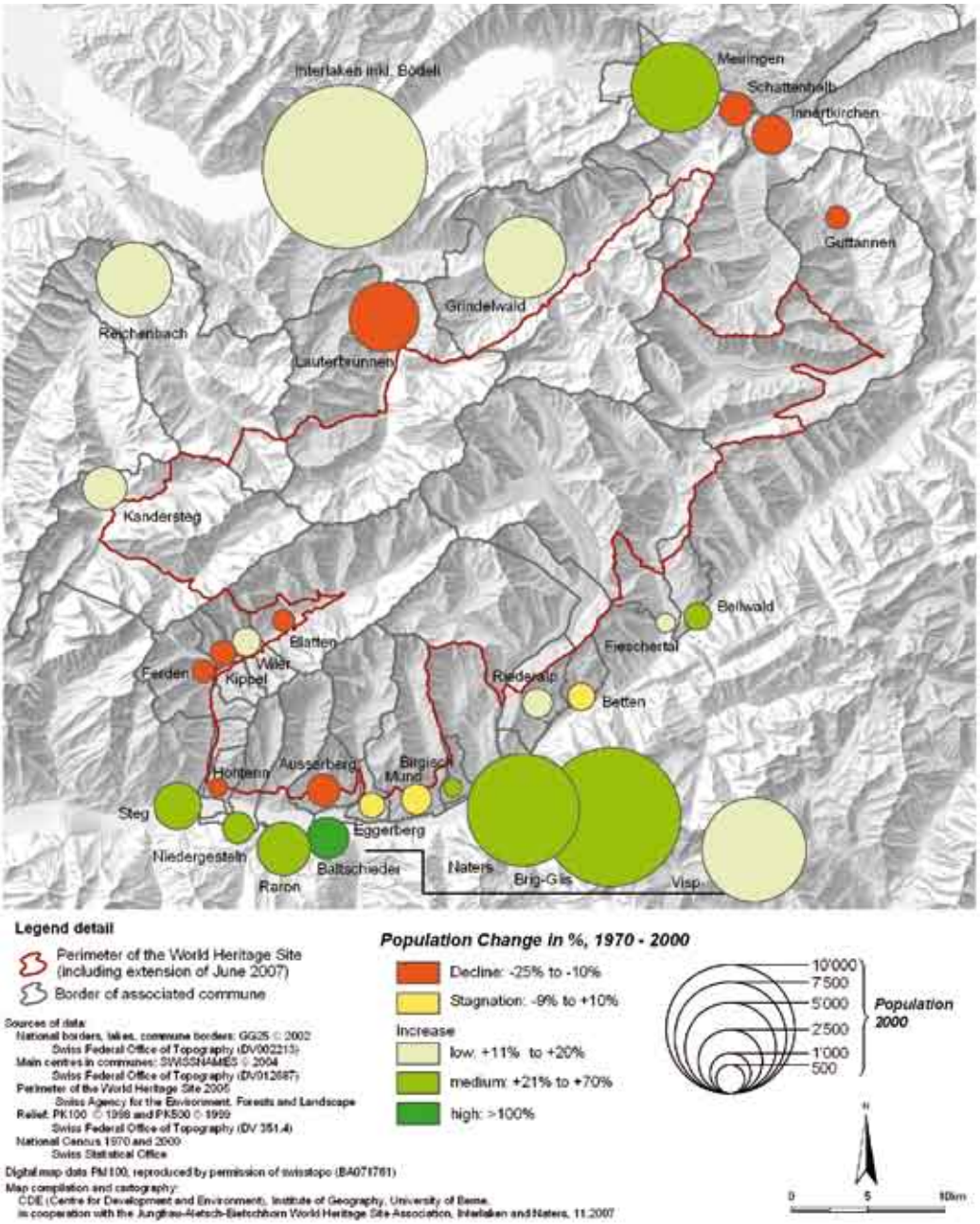


Fig. 3
Population in 2000 and population development 1970-2000.

As shown in Table 3, the employment rate in the primary sector is relatively high in the World Heritage Region compared to the national level. However, there was a significant increase in the number of part-time farms between 1955 and 1965, at the expense of full-time farms, which declined slightly in number until 1990. In 1990, 70% of all farms in the World Heritage Region were operated as part-time farms (for further information see Egli 2007).

Figure 4 shows the economic structure of the associated communes and the regional centres. In the regional centres, the difference between the industrial site of Visp (mainly chemical industry) and the two service sites of Interlaken (mainly tourism) and Brig (tourism and other services) is clearly evident. In the communes of Steg and Raron (mainly construction) the secondary sector is dominant, whereas the other smaller communes of the area around Visp are dominated by the primary sector (mainly small-scale part-time farming). The secondary sector is also dominant in the Bernese communes of Innertkirchen and Guttannen, where the Kraftwerke Oberhasli (KWO) Grimsel-power's hydroelectric plants are located. Tourism governs the economy in the communes of Riederalp, Betten, Grindelwald, Kandersteg and Lauterbrunnen. The range of offerings is highly diversified. Large ski resorts as well as more family-oriented activities can be found. Adventure tourism is also important (hiking, climbing, canyoning, paragliding, mountain biking) and there are plenty of opportunities for wellness tourism. While winter tourism prevails in the Valais part of the World Heritage Region, summer and winter tourism are about even in the Bernese part (for further information see Wiesmann et al 2007a).

Even though the general economic situation of the World Heritage Region is manifold, economic activities are concentrated in the best-developed sites such as the regional and tourist centres, as well as a few communes in the area of Visp with its strong industrial orientation. That means that the processes of concentration and decline can be observed not only in the population but also in the economic structure of the World Heritage Region (Aerni et al 2007).

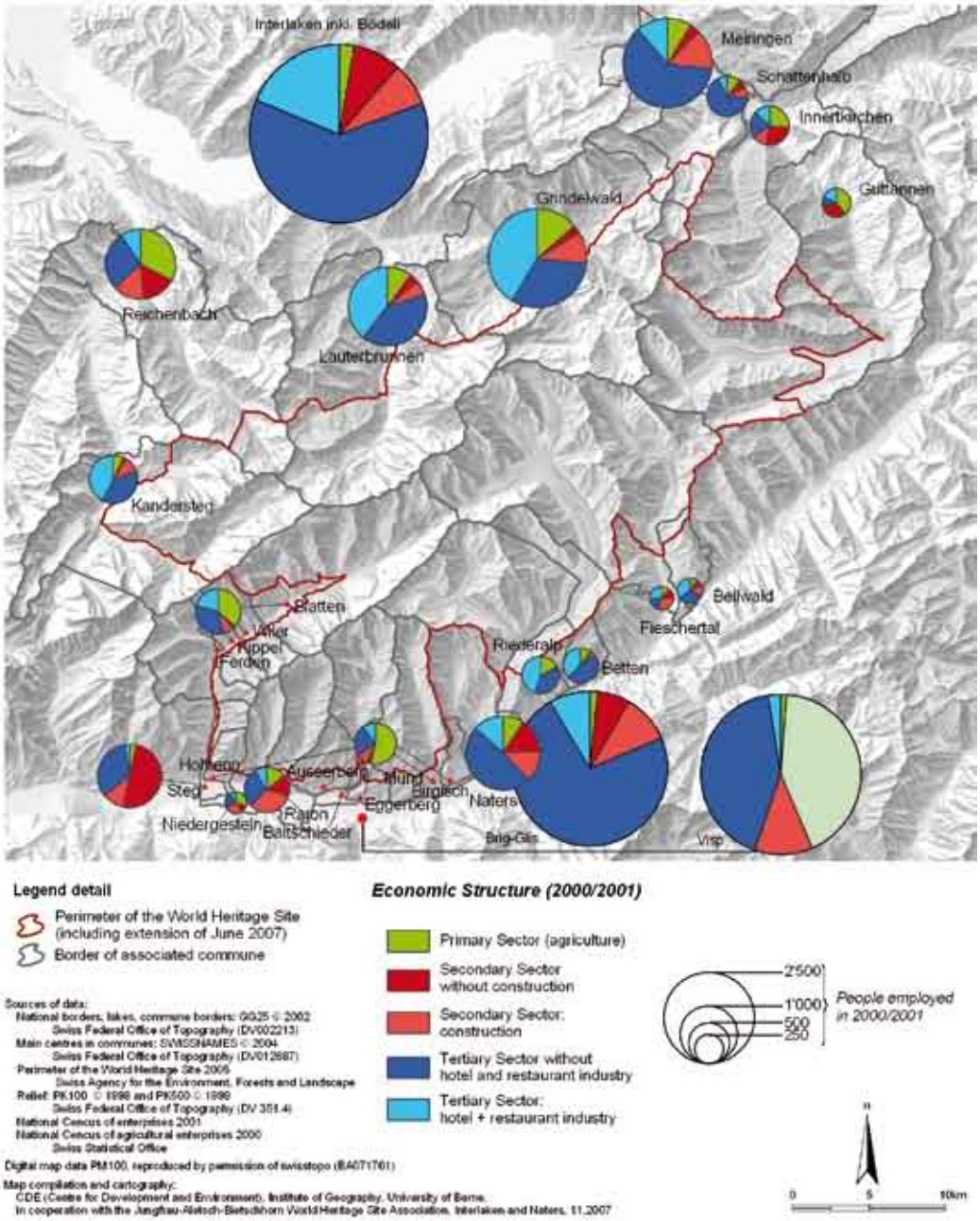


Fig. 4
Economic structure of the World Heritage Region including surrounding regional centres, in 2000/2001.

13.3 Governance

13.3.1 Organisational structure

The WHS is organised as a foundation in which all the communes as well as various private organisations and non-governmental organisations (NGOs) are represented in the Assembly of Delegates, which consists of 48 members (for further information see Jungfrau-Aletsch-Bietschhorn World Heritage Site Association 2005).

In order to tackle the main challenge in management of the WHS – combining conservation with regional development – the organisational structure is intended to integrate administrative units of the Confederation, the cantons and the communes with the local population, local businesses, and interested local and regional organisations. They are internally differentiated in the following organisational units (Wiesmann et al 2007b):

1. The Jungfrau-Aletsch-Bietschhorn UNESCO WHS Association (including the Management Centre), which comprises the main public and private representatives and steers the implementation process in its entirety;

2. WHS core groups (working groups), which are involved in the implementation of specific prioritised project lines and consequently consist of interested, competent individuals in the relevant segments of the population and organisations;

3. An extensive cooperation network of administrative and research bodies and other interested organisations, which can be leveraged for specific project needs.

13.3.2 Protection status

Based on the provisions in the UNESCO Convention Concerning the Protection of the World Cultural and Natural Heritage, inscription of a site on the World Heritage List does not override national legislation. Accordingly, in legal terms, inscription on the World Heritage List does not entail any changes in the previous protection status of an area. Inscription only confirms that the site deserves protection and recognition at the international level, and that as part of a World Natural Heritage it must be preserved for future generations. However, in accordance with the relevant UNESCO

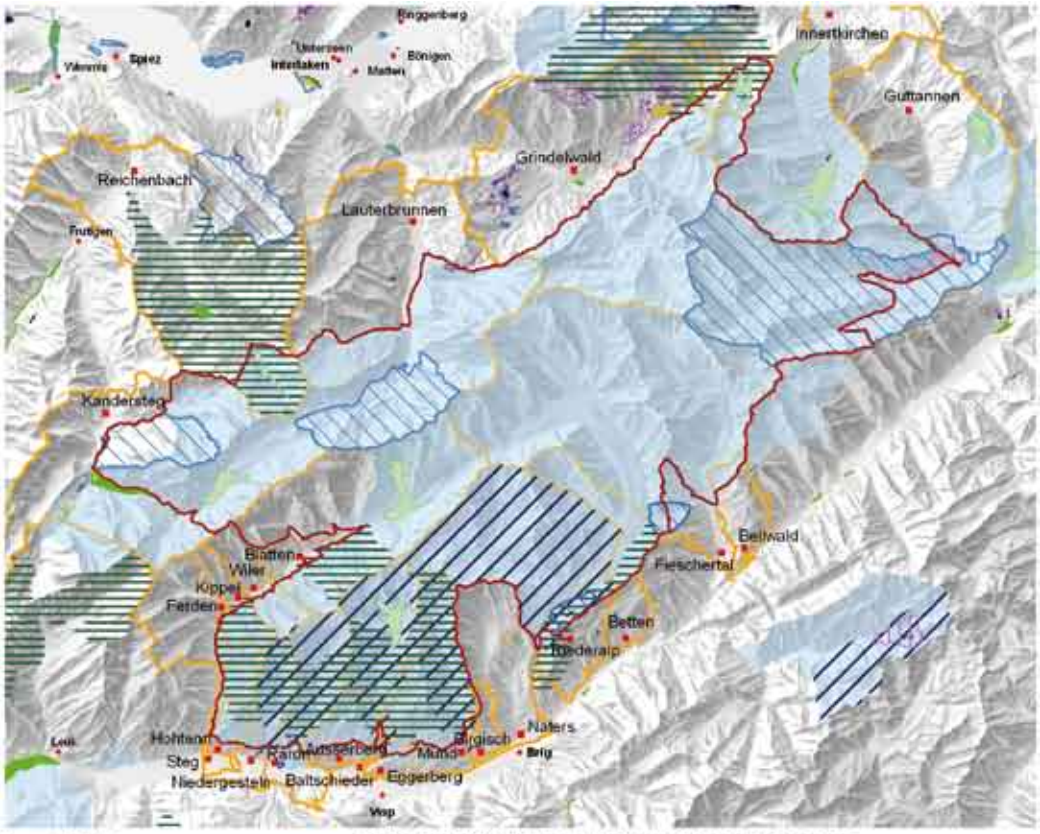
Convention, the UNESCO WHS label commits the Swiss Confederation to maintain existing protection of the area and to set up a management scheme for the site (Jungfrau-Aletsch-Bietschhorn World Heritage Site Association 2005).

The WHS is listed in category V "Protected Landscape" as defined by the World Conservation Union (IUCN). The area inside the perimeter of the WHS is almost congruent with objects 1507 and 1710 of the Federal Inventory of Landscapes and Natural Monuments of National Importance (BLN), corresponding, respectively, to the northern and southern parts of the "Bernese High Alps and Aletsch-Bietschhorn Area". These two objects cover around 94.4% of the WHS. Therefore, they are the most important instrument of protection in terms of area. Moreover, 41% of the area is accorded additional overriding protection status in terms of biotopes of national importance, cantonal and communal nature reserves, federal hunting reserves, etc. Of the 5.6% of the surface not under BLN protection, a further 2% is protected by other measures. This situation means that protection in the legal sense of the term is sufficient to preserve the World Heritage (in total, 96.4% of the surface area is accorded at least one protection status). However, a need for action exists in terms of implementing and controlling the various existing protective regulations (see Figure 5).

By determining the protection status, the fact is once more highlighted that implementation of the WHS goals and objectives is not primarily a question of administration and legal status, but requires a broadly based process which must involve as many segments of the population, the business community and interested organisations as possible.

13.4 Problems and opportunities

The World Heritage Region is torn between the competing demands of protection and use. From the beginning it was clear that a socially, economically and ecologically acceptable balance can be achieved only through a negotiation and learning process involving all actors affected by the project. The region has accepted this challenge – made manifest by the fact that all the associated communes have signed the Charter of Konkordiaplatz. The Charter declares that sustainable development must take place throughout the entire World Heritage Region and not only in the WHS itself.



Legend detail

- Centre of associated commune
- Centre of coummune with more than 2,000 inhabitants
- Perimeter of the World Heritage Site (including extension of June 2007)
- Border of associated commune

Sources of data:
National borders, lakes, communes borders: GG25 © 2003
Swiss Federal Office of Topography (BVO022103)
Main centres in communes: SWISSNAMES © 2004
Swiss Federal Office of Topography (DV012697)
Perimeter of the World Heritage Site 2005
Swiss Agency for the Environment, Forests and Landscape
Relief: PK100: © 1999 and PK500 © 1999
Swiss Federal Office of Topography (DV 351.4)
BLN, 2001, FOS GEOSTAT/SAEFL
Inventory of Mire Landscapes, 2004,
FOS GEOSTAT/SAEFL
Areas covered by VAEW, 2004, SAEFL
ISOS, 1994, SAEFL
NSG, 2004, Canton of Bern
NSG, 2005, Canton of Valais
Raised bog inventory, 2003, FOS GEOSTAT/SAEFL
Fenland inventory, 2004, FOS GEOSTAT/SAEFL
Alluvial Zone inventory, 2003, FOS GEOSTAT/SAEFL
Amphibian inventory, 2003, FOS GEOSTAT/SAEFL
Reserves for Waterbirds and Migrants, 2001,
FOS GEOSTAT/SAEFL
Hunting Reserves, 2004, FOS GEOSTAT/SAEFL

Overview of all National and Cantonal Nature Reserves

Biotopes of National Importance

- Federal hunting reserve*
- Raised bogs or transitional mires*
- Fenlands*
- Glacier foreland (alluvial zone*)
- Alpine alluvial zones*
- Watercourses (alluvial zone*)
- Delta (alluvial zone*)
- Amphibian spawning areas* (permanent)
- Amphibian spawning areas* (migratory)
- Reserves for waterbirds and migratory birds**

Landscape Protection

- Landscapes and natural monuments (BLN*)
- Ordinance concerning compensation for losses in hydropower generation (VAEW)
- Mire landscapes of particular beauty*
- Cantonal nature reserves (NSG)

* Federal Inventory of National Importance
** Federal Inventory of International and National Importance

N

0 5 10km

Digital map data Pk100 reproduced by permission of swisstopo (BA071701)
Map compilation and cartography:
CDE (Centre for Development and Environment), Institute of Geography, University of Berne,
in cooperation with the Jungfrau-Aletsch-Bietschhorn World Heritage Site Association, Interlaken and Naters, 11.2007

Fig. 5
Overview of national and cantonal nature reserves.

13.4.1 Natural dynamics and their consequences for the World Heritage Site

The unique glacial and High-Alpine landscape of the WHS has an aesthetic potential that has contributed significantly to economic development in the World Heritage Region for centuries. But the dynamics of this unique landscape pose a major challenge. These dynamics are apparent above all in the changes affecting glaciers. This can be seen as both a gain and a loss with respect to opportunities for sustainable development within the World Heritage Region. Changes in the landscape resulting from glacial retreat can be beneficial to the extent that new habitats develop, thereby increasing ecological and hence scientific potential. At the same time, however, glacial retreat could make the landscape less attractive to tourists, thus impairing the economic potential of the World Heritage Region. Furthermore, it is also important to remember that glacial retreat brings many natural hazards in its wake (ice avalanches, mudslides following heavy precipitation, rockslides triggered by melting of permafrost) that can pose a threat to the security of tourists and local residents (danger on hiking trails and hazards affecting Alpine huts and settlements). Such developments could endanger the function of the World Heritage Region as an economic space.

The availability of water is an additional challenge posed by glacial retreat. Water in the form of snow is a valuable resource in the World Heritage Region (Weingartner 2007). Snow security plays an important role for skiers in the choice of a ski area. Scientists assume that due to climate change the snow level is likely to rise by 200-300 m, which implies a possible intensification of pressure on areas of snow security and at the same time a loss of income due to shortage of snow in ski areas situated at lower elevations, and growing demand for snow-making equipment, which in turn means greater consumption of water. High demand for water presents a problem in many places in the World Heritage Region, as levels in watercourses are low during the winter and spring discharge is at a minimum. Moreover, warming is linked with a change in the climate regime: precipitation in a warmer environment will be in the form of rain rather than snow, even at high altitudes. As a result, water will not be stored but lost to runoff. This will alter the runoff regime, making the region much more susceptible to summer aridity. Warming will thus have a major influence on water supply in the World Heritage Region, with negative impacts on tourism, agriculture and energy production (Jungfrau-Aletsch-Bietschhorn World Heritage Site Association 2005; Weingartner 2007).

13.4.2 Social dynamics and their consequences for the World Heritage Region

The World Heritage Region faces a problem relating to the process of population concentration on the one hand and to the process of out-migration on the other hand (Aerni et al 2007). The population is continuously growing in settlements, where concentrations of economic activities are taking place and which therefore function as centres. Population decline in the peripheral regions leads to a reduction of basic services (public administration, transport, stores, health, education, bank and insurance services), which in turn lowers attractiveness for potential newcomers. The segregation of economic functions, which is often associated with the aforementioned tendencies, implies a vulnerability to global shifts in demand (e.g. in the tourism industry or for agricultural products) and therefore a risk of uncontrolled regional development and loss of self-determination. Tourism and agriculture are the two economic branches which seem to be the focal driving forces in the economic, ecological and social development of the World Heritage Region. Tourism pervades all parts of economy in most of the areas and can therefore be seen as the main engine of regional development. But there is a prerequisite connected to this powerful position: tourism relies to a great extent on the richness, diversity and aesthetics of the landscape. Here agriculture plays an essential role: it is central to the maintenance of the cultural landscape, which has attracted tourists from all over the world to this region since the middle of the 18th century by virtue of the visual contrast it poses to the gorgeous natural landscape of the WHS. In summary, tourism plays the dominant economic role, whereas agriculture plays a key role in sociocultural and environmental terms (Wiesmann and Liechti 2004). Thus both economic branches need to cooperate. The potential negative dynamics of this interplay between tourism, agriculture and landscape can be seen in the development of infrastructure. The construction of vacation homes, access roads, ski lifts, etc. is creating income for local inhabitants, especially for small-scale part-time farmers and those in the construction industry. On the other hand, it is leading to the destruction or splintering of valuable land resources (often high-quality agricultural land). This leads to an aesthetic devaluation of the region (Wiesmann 1999).

Forested areas are continually expanding and a central element of the traditional cultural landscape is diminishing due to the decline in the amount of land used for agriculture. While some people regard this as undermining the attractiveness of the area for tourism, others see it as desirable in terms of the growth

of wilderness. These divergent positions indicate a considerable potential for conflict but also for finding new avenues to transform competitive claims on landscapes and development into new patterns of cooperation between the different actors. The process of defining goals and the resulting project implementation for the WHS play a paramount role in eliciting the required shift from competition towards collaboration (see also section 13.2.2).

13.5 Discourses and narratives

The basic discourses and narratives of the main actor categories of the Jungfrau-Aletsch-Bietschhorn WHS are summarised below (Table 4). This synthesis of the basic features of these discourses and narratives is the result of participatory observation during the three multi-actor forums and a series of 42 semi-structured interviews with 21 representatives of the main actor categories (Aerni 2005). The discourses and narratives displayed here represent the dominant discourses and narratives of the actors. Existing internal differentiations of discourses within the diverse actor categories are not considered in this analysis. An exception is the category of "tourism". This group is clearly differentiated by those advocating global mass tourism and those in favour of 'soft tourism' oriented towards the regional and national levels.

In general terms it can be concluded from Table 4 that all actor categories agree – within limits – that the cultural and natural landscapes are the main capital in the region. So public debates on development issues do not have to address the basic question of development as opposed to protection, the way this often happens in other protected areas. The different discourses and narratives of the actors vary in the *emphasis* that each actor category puts on development or protection.

For example, farmers and forest managers argue for a multifunctional landscape which serves them, as well as the other actors in the region. They advocate maintaining public support for the environmental and cultural services they provide to the other actors. In relation to tourism they are rather favourable in principle. However, by supporting arguments for tourism they also aim to improve their share in the distribution of the resulting profits. They welcome tourism as it presents better opportunities for the sale of locally produced food, e.g. to hotels, or becoming engaged in showing tourists specific aspects related to farming and life in rural areas.

The tourism sector is clearly divided into two groups. While the more pow-

Table 4

Actor categories and the key features of discourses and narratives. (Complied by authors)

Actor category	Key features of discourse and main narratives
Agriculture / forestry	**"Cultural landscape is at the root of our history, identity and present economic development."** Tourism is the main economic driver in the region, but it strongly depends on the cultural landscapes maintained only through traditional, mainly small-scale, part-time agricultural farming and forestry. Farmers can only survive if public subsidies are maintained, the erosion of public services (post, physical infrastructure, public administration) is stopped and greater shares in the value chains of income through tourism are assured. But we have to watch out that regulations and bureaucracy do not prevent us adapting to global changes.
Tourism	**Global tourism: "We can only survive as a global tourist destination if we offer clearly shaped packages that consider the specific demands of international, higher-income tourists."** Due to its cultural landscape the region has a great potential for high quality-oriented tourism, but it is increasingly challenged by global competition. It is difficult to meet the Swiss regulatory constraints and still compete with tourist sites all over the world, where regulations are often less strict. Those in tourism need more freedom from regulations, because they know best what their clients really want. **Soft tourism: "In the long run our future will depend on a continuous flow of regional or national tourists because we don't know how long it will be possible to come from India, China, Russia or the USA to our region."** The particularity of our cultural and natural landscape is attractive for people of regional, national and global origins. Although this might be a good opportunity for diversification, we have to be aware that in the long run, this represents a dilemma: Not all tourists share the same preferences. While global tourists give greater preference to infrastructures of high standard, 'soft tourists' prefer more unobtrusive infrastructures which make them feel closer to nature. This means that orienting tourism towards one sector makes our region less attractive to the other and vice versa.
Transport / crafts / trade	**"Whatever we do, we will be increasingly dependent on people, goods and finances coming from beyond our region – we have to adapt to changing conditions."** In order to keep the cultural landscape productive, adaptation to habits and preferences of tourists coming mainly from abroad is most important in the long run. This is not possible without making concessions with regard to exaggerated environmental norms. Overly tough legislation of economic activities impedes survival of the sector, which due to the processes of marginalisation has to operate with increasingly lower returns for work and capital invested. Our 'room for manoeuvre' is too limited by all kinds of regulations, especially those related to environmental issues.

Nature conservation	**"We need much more stringent protection within and outside the WHS."** It is vital to protect the whole cultural landscape. However, the inner perimeter of the WHS should be protected even more: existing tourism in the WHS (helicopter skiing, climbing) and military flights are preventing the development of a real 'wilderness', which is the key demand of tourists interested in 'soft' tourism.
Education / culture	**"In the long run it is the attachment of the people to this historically grown region that decides whether they stay or move away."** The historical and cultural heritage of the region is expressed in its landscape. In the long run, this is the deciding factor that keeps people in the region. The loss of interest of young people in the historical and cultural patrimony should be reversed by improving education and social interaction between them and older generations. The challenge is to find a balance between maintaining one's own cultural roots and accepting new outside innovations.
Public administration	**"The region's future cannot rely on public services. Private initiatives must be increased in order to find the WHS's place in an increasingly globalised tourist destinations market."** The main role of public administration is to find a good mix of private and public investment in the area – this alone makes it economically, ecologically and socially sustainable in the long run. We have to consider and improve, where necessary, the manifold legal regulations that are designed to foster the development of the region. Existing regulations already assure a high level of protection of the landscape with or without the WHS.

erful actors clearly want to keep future options open to further increase mass tourism, more locally-oriented tourist operators prioritise tourists from Switzerland and neighbouring countries. Integration of these two groups is difficult, because proponents of soft tourism oppose a landscape shaped according to the requirements of mass tourists.

The discourses and narratives of the actors representing transport, crafts and trade are quite similar: They stress the increasing dependence of their vital economic activities on external factors. In view of these factors emerging from global trends, a strategy of adaptation, with more freedom for private initiatives (via further deregulation), seems to be the most rational solution.

Increasing external dependency was also at the core of public administration discourse voiced partly by affected (communes) and partly by co-responsible actors regarding the erosion of public services in marginal areas (administrators based at cantonal and national levels). Those involved in this discourse see decreased public sector support, with the long-term result

of increased external dependency. They point out that this does not mean the public sector will lose importance; instead the role of the communes will be much more important in creating conditions for maintaining or increasing income opportunities in the regions. As a consequence, they see a redistribution of responsibilities away from the national and cantonal levels to the communes.

The nature conservationists took the most dissenting positions. While stressing the need to further regulate the flow of tourism and the construction of related infrastructure, they opposed the narratives of those actors who advocated opening or broadening opportunities for international 'high-class mass tourism'. They are a rather critical element in the arena of discourse. Although they question currently existing power relations and inequalities with regard to benefit-sharing of tourism, it was interesting to observe that their discourses were not rejected outright. Other actors tried to show through their narratives that giving high priority to their interests would also assure the achievement of the goals that underlie the conservationists' discourses.

In this sense it became clear that the main lines of tension or conflict are emerging from the narratives in which different actors valorise the cultural and natural landscapes. Narratives that make explicit the ways in which the cultural landscape should be used and reproduced are the elements that discursively link the natural and cultural landscapes – as the main assets – with the specific socio-economic and environmental interests of different actors. Tourism is a major issue in these narratives. Although tourism is recognised by all actors as a basic economic dimension of development in the World Heritage Region, the definition of what tourism is and what its role should be in future development varies according to the actor categories involved.

A closer analysis of the discourses showed that the fact that all actors consider the cultural and natural landscapes as the main assets of their region means that in the long run, all actors recognise at least implicitly the 'limits of growth' of tourism which is explicitly stated by conservationists. The point of view of the dominant regional alliance constituted by tourism and hotel operators, infrastructure constructors and hegemonic political parties could be potentially threatened by an alliance of conservationists and farmers or forest managers and the culture and education sectors, which have a lower stake in the value chains of tourism. As a consequence, the dominant actors introduced an additional discourse that attempts to increase the dis-

cursive distance between conservationists and the community of local actors by stressing the fact that local actors – unlike urban-based conservationists – are living directly within and are dependent on the resources of the World Heritage Region. This further accentuates the distinction between local and external actors. Consequently, the debate about the recognised 'limits of growth of tourism' was further complicated by this distinction between 'we the local people' as opposed to the 'green outsiders'.

Subsequently, the debates about tourism were also linked to the collective memory of people for whom the struggle for recognition of their own identity and the resulting need for high levels of socio-cultural and political autonomy have always been – and still are – an important reference for evaluating current and future pathways of development. However, by averting the risk of an alliance between conservationists, farmers and cultural groups, by implicitly appealing to the collective attitude of suspecting that outsiders will possibly undermine local self-determination, the unequal power relationships between regional elites and other subordinated actors – which is also part of the collective memory – were also brought into play.

This became very evident when the actors from agriculture/forestry argued for better access to hotels in order to offer their local food and handicraft products. They argued that the prices offered by national retailers (supermarkets) simply do not cover production costs. So they need cooperation with hotels that will allow them to sell their products as local specialities at prices which reward them for the services they provide in maintaining the cultural landscape that makes the region attractive for tourism. The rather arrogant response from some representatives of the tourism sector that such aspirations were "dreams" triggered support for the agriculture/forestry sector from all other groups hoping for a better deal (regarding construction, transport, labour recruitment, conservation, etc). As a consequence, the power of the tourism sector was challenged by broadening the scope of the deliberative process. Indirectly, the process began to address asymmetries in the social distribution of power determining the actor-specific shares in the tourism value chain. To what degree the resulting development projects really achieve this ambitious objective is unclear, because the local power elites mostly involved in tourism can try to exploit those projects for their own purposes.

13.6 Conflicting issues in participatory planning

All objectives and measures that were elaborated in the multi-actor participatory planning process were constantly assessed by the actors involved, who accepted or rejected them by means of a questionnaire (Wiesmann et al 2005). This made it possible to identify objectives and measures that generated consensus or divergence and contradiction, and to further elaborate on these issues in the participatory process. At the level of objectives, and based on selected actor categories, the following examples outline some conflicting issues (Tables 5 and 6).

The first group of conflicting objectives are related to landscape changes (Table 5). The contested meanings that nature and landscape dynamics can have for different actor categories are clearly pointed out.

All three actor categories greatly value the labour of farmers for conservation of cultural landscapes. Nevertheless, the valuation of natural and cultural landscapes differs to a certain extent according to the actor category. Whereas farmers and people in the tourism sector see the abandonment and shrub invasion of former agricultural/pasture land as undesirable, these aspects are not seen as a major problem by conservationists. Greater degrees of 'wilderness' resulting from the advancement of shrub and forest vegetation on agricultural land constitutes added value in their view. However, half of the representatives of the tourist sector oppose this position and believe that enlargement of the forest area should be stopped. The valuation of forests as recreational sites compared to shrubs and bushes might thereby play a certain role. People in the tourism sector are well aware of the attraction of the cultural landscapes to tourists. Therefore, they even take direct financial contributions to the maintenance of cultural landscapes into consideration.

For farmers, cultural landscapes are generally very highly valued compared to 'wild' nature. They stated that landscape was the result of their own manual labour. Expansion of wilderness would be a result of their retreat from the landscape and thus it also relates to existential fears. Great support among farmers for the objective of compensating for the managing effects of agricultural use with adequate landscape conservation measures indicates that they see themselves not only as producers, but also as conservators of the land they live on. To a certain extent the issue of subsidies could also play a role in this context: landscape conservation is a task that has to be paid for and is therefore a source of income.

Table 5

Objectives in the thematic realm of landscape development assessed by selected actor categories during the participatory process.

Objectives	Actor category	Votes AGAINST objective
Agriculture ensures the sustainable use of the cultural landscape and helps protect against erosion.	Agriculture	3%
	Tourism	4%
	Nature protection	38%
Undesirable abandonment, shrub invasion and wild growth on areas previously under agricultural use are to be prevented.	Agriculture	0%
	Tourism	33%
	Nature protection	75%
If agricultural use ceases, it must be compensated for with adequate landscape conservation measures.	Agriculture	17%
	Tourism	22%
	Nature protection	63%
The forest area should be conserved in size and not become larger.	Agriculture	17%
	Tourism	48%
	Nature protection	88%
Tourism will contribute financially to the maintenance of the cultural landscape.	Agriculture	14%
	Tourism	33%
	Nature protection	0%

Other issues of conflict arising during the negotiation and participatory planning process relate to themes of infrastructure expansion versus protection of flora and fauna against human disturbance and the expansion of economic activities versus the quest for quiet, undisturbed natural environments. The examples in Table 6 give an impression of actor-specific valuations of objectives made for tourism and related infrastructure development.

Table 6 shows that most differing views exist between actors representing tourism or transport and actors representing nature conservation. The latter claim that optimal use of the natural capital of the WHS means preventing any kind of human disturbance. Visitors should only leave footprints (if at all) in this highly sensitive environment. From the tourism or transport perspective, potential economic gain played a central role in their stand against restrictions on the expansion of infrastructure. Nevertheless, Table 6 also shows that a majority of the tourism actors are not in favour of expanding tourist infrastructure. This might be an indication that many tourism representatives favour soft tourism development. They are obviously aware that the natural values sought by tourists might be degraded. Broad acceptance

Table 6

Objectives in the thematic realm of tourism and infrastructure assessed by selected actor categories during the participatory process.

Objectives	Actor category	Votes AGAINST objective
The responsible people in tourism should contribute more actively to the reduction of game disturbances by tourists.	Agriculture	16%
	Tourism	43%
	Nature protection	20%
	Transport	13%
The construction of new infrastructure, above all new transport facilities, should be avoided inside the perimeter.	Agriculture	34%
	Tourism	43%
	Nature protection	0%
	Transport	63%
No mountain airfields inside the WHS perimeter.	Agriculture	27%
	Tourism	70%
	Nature protection	0%
	Transport	75%
Noise disturbances from army and civil aeroplanes be reduced and canalised in time and space.	Agriculture	10%
	Tourism	17%
	Nature protection	0%
	Transport	22%

of channelling aircraft movements also indicates the direction of further discussions about the above-mentioned issues.

Although the actors took different positions regarding infrastructure and air traffic in the area, they were also aware that some aspects are the responsibility of the federal and cantonal governments. As a consequence, these rather political foundations of development were stated in the negotiation process but were not considered solvable at regional or local levels of negotiation. A clear sign of this was the protest occupation of helicopter landing sites in the WHS high mountains by conservationists in the winter of 2007. The objective of this protest was to increase pressure on the federal government to revise current policies that allow the elite pastime of heli-skiing.

The data presented in the Tables 5 and 6 also show that the degree of acceptance of various objectives varies. This variation in acceptance reveals that within a specific actor category dominant positions co-exist with other more or less dissenting views. The degree to which a position is dominant deter-

mines the room for negotiation available for alliances beyond what would be possible if only dominant views existed. Hence conflicting positions in the context of the multi-actor participatory process led not only to debates between but also within the actor categories involved.

13.7 Conclusions

Based on analysis of the history of the Jungfrau-Aletsch-Bietschhorn World Heritage Site and the participatory process implemented after its approval as a World Heritage Site, we can draw the following conclusions regarding the interrelation of protection and sustainable regional development:

1. The WHS, together with the surrounding area of 26 participating communes, possesses a fascinating landscape and at the same time presents an important economic space and living space. The constellation of protection and regional development creates an interplay that poses a great challenge for management of the WHS. However, due to the complex political setting, the World Heritage Region cannot operate as a political or an economic unit. Furthermore, due to the ongoing dramatic changes in the agricultural sector and the tertiarisation of the economic structure, the challenge of managing the World Heritage Region is even greater. The risk faced by the cultural landscapes in the World Heritage Region must be assessed as greater than that facing the natural landscapes inside the perimeter of the WHS. At the same time, classification as a WHS offers a unique chance for the region to work towards sustainable development. The participatory process chosen is a chance to address problems and opportunities and thereby enhance a sense of ownership of the World Heritage Site among the local population.

2. In analysing the way in which negotiations between the actors took place, it was surprising to find that the discourses – understood here as the ways in which references to actor-specific worldviews legitimise strategic positions in relation to the development of the WHS – were not made explicit in the participatory planning process. Instead, evaluation and elaboration of narratives was at the centre of the deliberations – understood here as the actor-specific ways of explaining the present situation of the actors with respect to the development of the WHS. The conflicting narratives of different actors framed a set of partly converging and partly contradictory explanations of the present situation. Through this joint definition of the

situation they created a framework for debate about solutions and a basis for legitimising specific future action.

3. Particularly within the perimeter of the WHS, existing national and regional laws assure a high level of protection of the natural landscape. In the surrounding cultural landscape, present legal norms, together with relatively high amounts of direct payments remunerating the ecological services provided by farmers, assure a relatively high level of biodiversity conservation. Ecological standards thus represented a kind of 'non-negotiable' feature in the process. This meant that the basic patterns of valuation of the landscape by the different actors could not be modified. As a consequence, negotiation between different actors focused on struggling to increase the farmers' share of benefits from tourism.

4. This recursive effect of conflicting narratives in the forums leading to a set of shared narratives was identified as the main element facilitating a gradual shift from strategic action – which according to Habermas (1984) is defined as action oriented towards ego-centric self-interests – to communicative action that was oriented towards the inter-subjective construction of elements aiming at a collective explanation of the present situation of the WHS. This constituted the basis for coordinating actions related to regional development beyond the exclusive consideration of ego-centric interests or utility calculations. The emerging social learning processes that allowed a partial shift from strategic to communicative action became an important element of interaction among actors participating in the forum processes in the WHS. This confirmed the results of an analysis of similar participatory planning processes in Bolivia, Peru, India and Mali (Rist et al 2006) where social learning was shown to be closely related to the creation of appropriate social spaces in which actors can transform strategic into communicative action.

Endnotes

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Part IV
Conclusion

14 Participation, Ideologies and Strategies: A Comparative New Institutionalist Analysis of Community Conservation

Tobias Haller[1] and Marc Galvin[2]

14.1 Introduction

After the widespread paradigm shift in protected area (PA) debate from fortress to community conservation (Hulme and Murphree 2001) or collaborative conservation (Borrini-Feyerabend et al 2004), it is worth asking how and to what extent approaches that seek to integrate grassroots collaboration and development considerations have been working in practice. Numerous authors have emphasised that if biodiversity conservation is to work, it is necessary to have the right combination of participatory approaches and clear protection agendas. One of the first concepts to link conservation and communities arose from the realisation that when communities are fully excluded, the costs of nature protection are too high (see Gibson 1999; Hulme and Murphree 2001). Some scholars of PA governance also came to realise this, arguing that conservation could be achieved via cultural survival programmes for so-called indigenous peoples in the Americas, Asia and Australia (Stevens 1997). Borrini-Feyerabend et al. later expanded this idea to groups using the political notion of indigenousness, as well as to other local communities, convincingly stating that conservation could be made more sustainable by generally sharing power with local people (Borrini-Feyerabend et al 2004). This again calls for an active political process of decentralisation, making local-level actors and groups able to define what is to be conserved. However, this is unfortunately not always how implementation of conservation projects is perceived around the globe, and specifically not in most of the case studies we collected in this volume and compare in the present chapter, in an attempt to answer the question how PA governance approaches have been working in the regions where NCCR North-South research is conducted.

There are three lines of argument concerning the new conservation structures: the first favours bottom-up or stakeholder-driven political participation. Actors within a community must be able to decide on actions to be taken. In practice, however, the question remains how much control powerful state actors actually give local interest groups. A second line of argument favours projects integrating conservation and development schemes. In this vision, poverty is the cause of pressure on conserved areas. This pressure can be reduced through projects that increase livelihood options and raise standards of living (see the volume edited by McShane and Wells [2004] on the Integrated Conservation and Development [ICD] approach). Moreover, these projects create incentives for local people to participate in conservation. Here, the question is whether conservation goals can still be met while pursuing development goals (see Brockington et al 2006). The third line reflects political economy/ecology and discursive approaches looking at the historical formation of protected areas to identify actors and aims. It examines the cost of eviction and of damage and attacks from wild animals for local people. Therefore issues of social justice come up. As a result, the debate emerges about whether we are conserving natural or cultural landscapes (Neumann 1998; Brockington et al 2006; West et al 2006; Brockington et al 2008; Haller 2007a, b; Haller and Merten 2008). Seeking such insight is important because local people's historical perception of PA implementation affects their trust in government agencies. In this approach, historically, people are seen to evaluate costs and benefits, and to react only to reliable incentive structures.

The present collection of papers also seeks to differentiate between the ideology of local involvement as a fund-raising tool and the actual implementation of this ideology in a way that benefits local people. The ideology of local involvement is an effective tool in the hands of powerful agencies that can evidently be used to access significant funding. It allows the pursuit of a particular vision of conservation under the guise of local involvement. As Blaikie puts it, community conservation approaches in the context of participatory projects, such as the Community-Based Natural Resource Management (CBNRM) concept, are like Trojan horses for powerful actors: for example, government actors and conservation NGOs are able to extend their goals into local people's territory via participatory approaches, while simultaneously collecting additional donor income (Blaikie 2006).

14.1.1 Design of the comparison and hypothesis

The comparative work presented in this volume was based on New Institutionalist as well as governance and livelihood approaches (see Introduction, pp 13-34). This means that we linked external and internal factors that lead to PAs, and debated related ideologies, discourses and narratives. Linking these aspects was important. We wanted to examine how protected areas have evolved from historical situations, and asked what strategies and arguments actors have adopted to justify the conservation of a specific area.

The outline we chose for the comparative study included the question how and why PAs have been implemented. All the authors provided general information on the PA they researched, its history, current core problems and the major actors involved. They investigated the institutional setting and the driving forces (internal, external, local) of the respective conservation approach adopted. One of the major challenges was the notion of a cost–benefit analysis (see Emerton 2001), to analyse what kind of incentives or disincentives local people face in relation to a protected area. In addition to economic benefits, the authors discussed the political benefit of PAs: participation can increase local power and lead to involvement even when there are no economic benefits (e.g. through exclusion of immigrants with another ethnic identity). Finally, conservation might offer ecosystem benefits even in the absence of political or economic gains.

PAs currently comprise the largest land use category on earth. Therefore, there is no point in asking how we can make biodiversity conservation "work" (Terborgh et al 2002). It is a reality that is working, producing winners and losers. A true win-win situation is rare. It is more fruitful to try to understand the systems that make participation work, and identify those who lose and those who benefit. Or to put it differently, what ideologies, discourses and narratives are used by different actors to be able to control and profit from conservation? This question makes it possible to analyse strategic action in a complex setting.

The main hypothesis for the NCCR North-South comparison was the following: there are no real economic benefits from the various participatory approaches because these approaches fail to mitigate structural social and political injustices. The projects often do not empower local people and fail to close the skill gaps that prevent local people from benefiting from new activities such as tourism; but this does not mean that PAs do not gener-

ate any benefits for local people. In some cases small development benefits arise from an integrated approach. However, it is not the best way to operate PAs, as it means that their sustainability depends on external funding. Considerable institutional change generating income *as well as* empowerment is necessary for things to change. But this cannot happen as long as powerful actors are able to appropriate all the income generated by these projects. Sometimes local actors are able to boost their bargaining power using specific identities based on ideologies that legitimise their rights of ownership and access to resources. In other settings this is not possible. In Latin American and in some Asian cases, where "indigenous identity" is a political resource, local people are claiming this identity to harness political gains. As long as they remain involved, they can defend their areas against settlers and other foreign resource users. In other settings, especially Africa, local people lose out, while NGOs, government agencies and organisations are the main beneficiaries. The participatory approach has given organisations direct access to new funds or income from tourism. Meanwhile the local people bear the costs, losing land, crops and even lives as parks are expanded and wild animals graze in their fields or attack villages. Finally they lose time in pro-forma participatory meetings and monitoring activities from which they derive no benefit (see also Haller et al 2008).

We discuss the results of the thirteen studies in this volume in the following steps: first, we compare the information provided on the pre-PA situation (ecosystems, resource use, institutional setting, issues of cultural landscape and colonial background) and on the historical development of the protected areas (time of implementation, basic ecological background and use, reasons for protection, actors in implementation, development of size and status, and governance structure). Second, we discuss current core problems and actors, focussing on who has the power to implement international, national and local institutional frameworks. Third, we offer an overview of institutional heterogeneity or pluralism in each PA, a comparative cost–benefit analysis including economic, political and ecological costs and benefits, and a synopsis of ideologies, discourses and narratives in the approaches chosen in the respective areas by different actors. The paper concludes by positioning the different PA governance regimes in a Participation–Sustainability Matrix as presented in the Introduction. We use two matrices – the first to discuss the formal regimes often relying on a community or co-management regime structure, and a second based on the research indicating how the governance approach was implemented in relation to the different forces influencing development. We then argue that the real positioning of a PA in this matrix

might greatly differ from the initial concept set up to please international donors. The analysis we offer here is based on the case studies; it is our interpretation of them from a specific perspective, in order to initiate a broader debate. We recommend going back to the individual papers and considering them from other interpretive angles as well.

14.2 Ecological and historical background of the PAs

The NCCR data file covering Latin America, Africa, Asia and Europe delivers a great variety of examples of PAs, with all kinds of ecosystems such as tropical forests (4 cases), dry forests/savannah-grasslands and floodplains (6), and high-altitude forest-grasslands, with or without glaciers (3). Regarding syndrome contexts,[3] 6 PAs discussed are situated in a "highland–lowland context," 5 are in a "semi-arid context" (including floodplains), and 1 represents the "urban–periurban context." The higher the biodiversity in these ecosystems, the higher the priority for conservationists. In the tropics, highland–lowland areas have high biodiversity due to the broad altitudinal range. Semi-arid areas and savannahs are not highly diverse *per se*, but if there is seasonal flooding of river systems (floodplains), many species of fauna and flora are attracted to the resources that can be found there compared to more arid environments.

14.2.1 History of land use

People are also attracted by resource hotspots and we need to understand their historical and contemporary contexts. In most cases, natural resource use was (and still is) regulated by a common-pool resource regime[4] developed by local people in pre-colonial or pre-state times. The different ethnic groups found are often, but not always, defined by their resource use: hunter-gatherers or shifting cultivators (all four Latin American cases, one Asian case: Vietnam). In the African cases agriculture, fishing and pastoralism are dominant. The same is true for the Swiss case and for one of the Asian cases (Nepal). All of these are characterised by mobile ethno-professional groups that have adapted to their environments by using resources in an extensive way. This statement embodies some of the knowledge from the debates on common-pool resources (see Feeney et al 1990; Ostrom 1990; Becker and Ostrom 1995; Agrawal 2003; Haller 2007a). All these resources were managed by common property regimes in the past. However, despite the groups' mobility in pre-colonial or pre-state times, they had a clear notion of belonging to a specific resource

territory or area linked to seasonally available resources. We know from the floodplain cases that such structures were more centralised in some cases (Cameroon, see Fokou and Haller, this volume), and less centralised in others (Tanzania, see Mbeyale and Songorwa, Meroka and Haller, this volume).

What characterises common-pool resources is that they are difficult to defend and are subtractable. The management schemes chosen are mostly common property regimes, regulating use by membership and invitation as well as seasonally adapted techniques for resource use, with the inclusion of coordination and monitoring of collective use and sanctions for violations. This is evident in all 5 African cases, and clearly in 3 Latin American and 2 Asian cases, as well as in the Swiss case. The case of Nepal is not so evident due to control by a centralised kingdom. However, a differentiation needs to be made: common property regimes can exist alongside private property in more intensively cultivated agricultural areas (2 African, 4 Latin American, 1 Asian and the Swiss case). An additional lesson learnt from the comparative analysis based on social anthropology and human geography is that we are not dealing with "pure" or "pristine nature" (Ellen 1982; see also Fairhead and Leach 1996; Escobar 1999; Brockington 2002) but mostly with cultural landscapes viewed as "natural" by powerful external forces. The Swiss glaciers, for example, are the only truly natural feature in the region; by contrast the impact of human use on the Alpine pastures is quite obvious. Swiss conservationists are the only ones who openly admit that local farmers are reproducing and protecting a cultural landscape; but in the Amazon, forests are perceived as "natural" ecosystems. In Africa the PA areas are also called "natural" savannahs and grasslands, and floodplains are "naturally" rich habitats.

14.2.2 Impact of (colonial) history and power constellation

If we are dealing with mostly cultural landscapes, then most conservation has in fact been guided by a false premise. It is also interesting to consider the varying impacts of colonisation on conservation. When Spain colonised parts of Latin America, conservation was not an issue. The local people were decimated by imported diseases, which limited the Spaniards' ability to exploit them for collecting resources. These resources were seen as existing in abundance and the jungle was seen as a source of gold, not as a place to be conserved or protected. The British and French colonial powers were different (see also Wolf 1982). In East and West Africa (see Fairhead and Leach 1996; Neumann 1998), they feared that local people were overusing resources and colonial conservation was driven by the desire to preserve

resources for colonial powers and white farmers. This view is less pertinent to the Asian case studies.

This point is shown in Table 1, which summarises results from the PA studies regarding their socio-cultural and political history. While Spanish colonialism in Latin America is not linked to the establishment of protected areas, the opposite is true for British and French colonialism in the African cases. The oldest PAs are found in Africa (Selous in 1922), and 4 out of 5 PAs studied were established between the 1920s and 1930s during the end of the initial colonial period. This was a time when the French and British colonial states tried to consolidate their power. Ethiopia is an exception, with the initial PA established only in the 1950s. In Latin America and in Asia, the oldest PAs date back to the late 1950s or 1960s; most PAs on these continents, however, were created during the 1990s. This means that the African cases have the oldest PA history and are more influenced by the colonial legacy than other areas. This is an important implication that is discussed below in the section on the main local-level ideologies, discourses and narratives related to participatory approaches.

Regarding the initial reasons for the implementation of the PAs and the major actors involved, the following conclusion is important: in the African cases, there was no initial involvement of local stakeholders in the creation of PAs. In 4 out of 5 cases (2 in Tanzania, 1 in Cameroon, 1 in Madagascar), the German, British and French administrations were interested in conserving nature as a "natural pristine wilderness" free of the threatening effects of use by local people. The truth was that local use of forests and hunting activities competed with logging and sports hunting, and were therefore redefined as illegal felling of trees and poaching. This was particularly true of the British colonial administration in Africa.

14.2.3 PA creation and development

Major arguments for the creation of a PA were based in 4 cases on the existence of (often rare) wildlife species (elephants, lions, ibex, leopards, rhinos, etc.), and in one case (Madagascar) specifically on deforestation. There are several additional reasons for later implementation of a PA. In Ethiopia an additional issue was soil erosion; in 4 cases conservation was pushed by colonial administrators, and in 1 case (Ethiopia) by the king and a group of Swiss scientists. In the Asian cases and in the Swiss case the reasons are more diverse: PAs in Nepal, Vietnam and Switzerland were motivated by a

desire to protect glacial landscapes and/or mountain areas. But in addition to landscape protection, wildlife (red panda, snow leopard, etc.) and biodiversity were a major reason for conservation measures in the Nepal case, and in the Vietnam case conservation of biodiversity was related in particular to the forest in karst areas. In Switzerland, with a unique natural and cultural peasant landscape, and in Indonesia (island of Sulawesi), protecting forests from deforestation by settlers was a crucial aim. In the latter two cases conservationists, the state and local people were motivated to protect the landscapes. It is no surprise that in all non-African cases, the combination of scientists from the North, centralised local governments (kingdoms in two cases) and conservation NGOs (World Conservation Union [IUCN], World Wide Fund for Nature [WWF], other smaller organisations) were the driving forces. In

Table 1

Creation of 13 PAs: date of creation, initial rationale, actors involved in implementation, evolution and governance aspects.

Continent / protected area/ country	Date	Initial rationale, core problems	Actors of implementation	Evolution of size	Status	Governance
Latin America						
Tunari (Bolivia)	1958	Close to urban area, deforestation by urban dwellers	US conservationists (biology scientists)	No increase	National Park	First fortress, later on community approach, (indigenous leaders)
Pilón Lajas (Bolivia)	1992	Incursion of settlers, deforestation	Conservationists and indigenous movement	No increase	WHS*	Community approach (indigenous leaders)
Amarakaeri (Peru)	2002	Settlers, oil companies, miners, loggers	Activists and indigenous movement	No increase	Communal Reserve	Community approach (co-management between indigenous and state administration)
Pizarro (Argentina)	*1969/ 2006)*	Settlers and large-scale agricultural operators	Conservationists and indigenous movement (fear of eviction)	Small increase	Federal Reserve	Community approach (indigenous leaders)
Africa						
Selous (Tanzania)	1922	Preservation of forest and colonial hunting areas, poaching (elephants, lions)	Colonial administration (German and British)	Several increases in size of PA, evictions in/ after colonial times	Game Reserve	Fortress approach; community approaches only since end of 1990s
Mkomazi (Tanzania)	1926	Preservation of forest and colonial hunting areas, poaching (antelopes, lions)	Colonial administration (British), later US NGO	Several increases in size of PA, evictions in 1980s	Game Reserve	Fortress approach; small park outreach

Ankarafantsika (Madagascar)	1926/ 2005	Deforestation and charcoal burning, swidden	Colonial administrators	Increase since foundation, evictions of locals	National Park	Fortress approach; park outreach models
Simen (Ethiopia)	1941/ 1969	Protection of ibex, leopard, prevention of soil erosion	Ethiopian state, Swiss conservationists	Increase and evictions, later integration of locals	National Park WHS*	Fortress approach; later, renegotiation of boundaries with local people
Waza-Logone (Cameroon)	1934	Wildlife protection, heavily used savannah-floodplain area	French colonial administration, later IUCN	Increase and evictions, later integration of locals	National Park	Fortress approach; in the 1990s community conservation and development
Asia						
Kangchenjunga (Nepal)	1997	Wildlife conservation (red panda, snow leopard), glaciers	King of Nepal and WWF	Increase, no use of resources within the park	National Park	Mix of fortress approach and park outreach development, mixed with participation measures (monitoring)
Lore Lindu (Sulawesi/ Indonesia)	1993	Conservation of tropical forests and floodplain	Government, conservation and human rights NGOs	Partial exclusion of locals, followed by co-management	National Park	Fortress, but soon participatory approaches; indigenous vs. immigrant people; later on all locals
Phong Nha Kẻ Bàng (Vietnam)	1986/ 2003	Conservation of karst forests and biodiversity	Government and international conservation org.	Enlarged to 8 times its original size; evictions	National Park, WHS*	Fortress approach; important area for tourism
Europe						
Jungfrau-Aletsch-Bietschhorn (Switzerland)	2001	Conservation of glaciers and cultural landscapes	Researchers, UNESCO project, national debate on development and protection of important landscapes	Discussion of size and implementation, negotiation between local interests and conservationists	WHS*	Community and stakeholder conservation; includes state, districts and municipalities, as well as business; development of a charter and management plan

*WHS = World Heritage Site

Source: NCCR North-South case studies in this volume; table by Haller and Galvin.

Latin America, the PAs studied were only recently established. The basic reasons were protection of high-biodiversity forests from settler agriculture, the threat of pollution by oil companies and gold miners, and deforestation by loggers and large-scale agricultural plantations.

It is interesting to observe that local communities who label themselves as indigenous form alliances with different conservationist groups and scientists in order to demand protected area status for the land that they claim as home. This is the case in Bolivia (Tunari and Pilón Lajas), in Peru (Amarakaeri Communal Reserve close to the Manu National Park), and in Argentina (Pizarro). This is a salient feature in our analysis: in the Latin American cases, local communities have struggled for a long time. For them, gaining indigenous status has meant recognition by conservationists and the state, and an advantageous role in PA governance. In some Latin Americas cases, indigenous peoples themselves have tried to set up a PA as a land use strategy. This is only the case in one Asian example in this volume (Indonesia/ Sulawesi), as well as in Switzerland, where farmers and the tourist sector collaborated to apply for World Heritage Site (WHS) status from the beginning, working with the government and conservationists.

Historically, the evolution of the size of PAs and not their size *per se* is an important feature with regard to governance issues and the way in which they are perceived at the local level. If we start with the oldest PAs, i.e. those in the African context, the following pattern can be observed: all these areas – including Selous, which is the largest African PA today – began as small PAs. During and after colonial times, these PAs were enlarged (sometimes up to double the original size) and local people were driven out of the area. For example, evictions happened as of independence and into the 1980s in Mkomazi Game Reserve in Tanzania. These actions were usually justified by reference to the uniqueness of wilderness habitats, fauna and flora. But for local people, they meant loss of homes, hunting grounds, agricultural land, fishing access and an increased threat to crops and lives from wild animals. Consequently, local stakeholders see no difference between the colonial state and the new powers (see section on ideology in Table 2, and Figure 3 below).

Boundaries of PAs were expanded in the Asian cases: the PA in Vietnam was enlarged to eight times its initial size, which led to a massive loss of use of the area for local subsistence. In Nepal, although the increase was not so large, resource areas were lost nevertheless and problems with dangerous

animals increased. In Indonesia/Sulawesi, people were first excluded, but soon participatory implementation was sought. This created a problem of deciding who the legitimate local partners were for collaborating on rules for the PA. The examples in Latin America are quite different. Either PA sizes remained constant or they were actually reduced. This was usually disadvantageous for indigenous peoples.

Switzerland, then, is the only case in which the PA's size and boundaries were discussed with the local stakeholders from the very beginning. This is unique and linked to political empowerment of the resident local population – consisting of farmers and people involved in the tourist industry – through Switzerland's democratic and property right systems. Although the PA's size and implementation were a compromise in the Swiss case (JAB World Heritage Site), and despite some critical local views, the case is a successful example of participation, unique among all the cases studied.

Further interesting results of the comparison concern the patterns of governance in PAs. Here again, there is a major difference between Latin America and Africa: 3 out of 4 Latin American cases began with a community approach, while none of the African cases started with this notion. They all began and stuck with a fortress approach well into the 1980s and 1990s. With the shift to participation, only 2 cases officially had co-management or a community approach (Selous and Waza-Logone). The others adopted park outreach models or participatory consultation (Mkomazi, Ankarafantsika, Simen). In Asia, all cases started with a fortress approach. The Phong Nha Kẻ Bàng Park (Vietnam) remained largely fortress while in Nepal a development and park outreach model including local people for monitoring was adopted. In Indonesia/Sulawesi local groups tried hard to gain recognition in the debate over the areas to be protected. Switzerland is again the only example of full participation, due to the system of direct democracy, through which all stakeholders were incorporated.

14.3 Institutional pluralism

The historical and structural data help us to compare the development of the notion of participation of local stakeholders in all these contexts. In 11 out of 13 PAs, participation was discussed and implemented or debated. But what does participation mean in these areas and in complex economic and political contexts? How clearly is the institutional setting defined? What does it

take for local people and governing bodies to have reliable expectations of how the PAs should be governed and managed? We found that local common-pool management institutions had been weakened by historical changes and by the new PA regulations that created legal pluralism. This pluralism increased with the involvement of new agencies, new agendas, different government departments, and foreign governments and NGOs. Table 2 summarises the findings from the studies related to these issues. In all cases plurality of laws and information sources makes stable management very difficult. In the Latin American cases, conservation and PA laws often contradict agrarian laws. In addition, minerals and fossil fuel deposits spell insecurity for PAs. To make the picture even more complex, international organisations such as IUCN, UNESCO and WWF are pushing for conservation and are aligning with indigenous movements with other legal agendas involving international and globalised regulations, norms and values.

14.3.1 Case studies

Looking at local strategies the following pattern emerges: the basic aim of indigenous leaders in the Amazon is to keep settlers out of their areas. This is a delicate balancing act: on the one hand they need to display an indigenous and specifically "traditional" way of life that appears *ecologically sound*. On the other hand they are under pressure from external groups and institutions which argue that indigenous people are culturally inferior and a hindrance to the development of a region or country. These aspects of institutional pluralism will be linked to ideologies and discourses later in this paper.

Table 2

Overview of institutional pluralism, economic, political and ecological costs and benefits, and ideologies (external and local).

Continent/ protected area/country (date)	Institut. pluralism	Economic benefits	Political benefits	Ecolog. benefits	Ideologies: External/ Local	Discourses: External/ Local	Narratives: External/ Local
Latin America							
Tunari, Bolivia (1958)	yes	no	yes	yes	Nature / Tradition	Protection / indigenous conservation	City / settlers
Pilón Lajas, Bolivia (1992)	yes	no	yes	yes	Nature / Tradition	Indigenous conservation	Settlers, miners
Amarakaeri Comm. Res., Peru (2002)	yes	yes but small	yes	yes	Nature / Tradition	Indigenous conservation	Settlers, miners, logging companies
Pizarro, Argentina (1969/2006)	yes	no	yes	yes	Nature / Tradition	Protection / indigenous conservation	Farmers, large agro-schemes

Africa							
Selous Game Reserve, Tanzania (1922)	yes	no	no	yes	Pristine nature/ Traditional landscape	Community protection/ poverty	Halt poaching / gains for government
Mkomazi Game Reserve, Tanzania (1926)	yes	no	no	no	Pristine nature/ Traditional landscape	Protection/ poverty	Halt poaching / gains for conservationists
Ankarafantsika, Madagaskar (1927)/2005	yes		no	no	Pristine nature/ Traditional landscape	Protection/ loss of land	Land use/ gains for government
Simen, Ethiopia (1941/1969)	yes	no	no	yes	Pristine nature/ Traditional landscape	Protection & development/ loss of land	Land use/ no rights
Waza, Cameroon (1934)	yes	no	no	no	Pristine nature Traditional landscape	Protection & development/ poverty	Land use/ gains for conservationists
Asia							
Kangchenjunga, Nepal (1997)	yes	no	no	yes	Pristine nature/ Traditional landscape	Protection & development/ development	Settlers/ controlling settlement expansion
Lore Lindu, Indonesia (1993)	yes	no	yes	yes	Pristine nature/ Traditional landscape	Pristine nature/ Traditional landscape	Local poaching and land use / loss of rights
Phong Nha Kẻ Bàng, Vietnam (1986)/ 1998/2003	yes	no	no	yes	Pristine nature/ Traditional landscape	Participatory conservation, negotiations	Uncontrolled land use
Europe							
JAB, Switzerland (2001)	yes	no (hopes for future)	yes	yes	Landscape/ Cultural landscape	Participatory conservation, negotiations	Uncontrolled land use

Source: NCCR North-South case studies in this volume; table by Haller and Galvin.

In the African cases, where "indigenousness" does not provide bargaining power, we also deal with institutional diversity. In Tanzania, two overlapping departments are responsible for legal issues: 1) the Wildlife Department, which is part of the Ministry of Natural Resources and Tourism, and 2) the National Parks Department, which is part of TANAPA, the state's Ministry for Conservation. The tension between tourism and conservation is often the source of contradictory institutional settings.

Pushed by government organisations in Northern countries and NGOs, the government of Tanzania added a participatory component to its conservation policy, especially in the case of the Selous Game Reserve. The area was a pilot zone for the development of new institutions named Wildlife Management Areas (WMAs). On paper, these areas were to be co-managed with local communities, who were expected to benefit from tourism and be given hunting quotas. However, this kind of power sharing has its limitations, as WMAs are clearly controlled by the Wildlife Department, which sets the institutional design of participation. Local people are not allowed to make decisions on hunting, clearing of forests and charcoal burning. The situation is even more evident in Mkomazi. Here legal pluralism arises from local rules regarding the use of pastoral areas colliding with a National Park fortress approach. The Madagascar case (Ankarafantsika) is a classic example of one central government authority (Forestry Department) being forced to delegate some rights to the local level to comply with the participatory approach. Therefore, a buffer zone to be used under specific conditions only was established. Legal pluralism stems from the conflict between the old and the new rules and regulations; this makes use of the area unclear for local people. The Waza-Logone case illustrates a similar institutional change, only that historically, there was much formal reshaping, while different powers in the government still maintained control: up to the 1990s, the fortress approach was dominant and the participatory approach only became attractive in the context of an IUCN project to re-introduce flooding in the area in order to restore wildlife habitat. The policy of involving local people had to be introduced in various departments (forestry, water, wildlife, agriculture and development). The basic idea was to boost infrastructure in the surrounding zones, while raising awareness of and incentives for protection of park resources among local people. Here too, much confusion reigns regarding what participation really means: who decides about the rules of participation, and who is entitled to participate, manage and use resources?

The Simen Park in Ethiopia is a special case: it has seen many different governments and situations of changing policies as well as total absence of state power during civil war. For local people these extreme cases of governance and legal plurality through history remain in their minds, meaning that it is unclear to them how long an institutional setting will be in place. Researchers and NGOs decided to collaborate with the government to introduce development schemes in order to improve soil conservation and protect rare fauna. However, these efforts lead to an obvious dilemma: institutional norms and rules are created to prohibit land use in the park, which inevitably means more intense use in the area outside the park – leading to more rapid

soil erosion. This is a major issue that has to be mitigated by rural development projects. In a more recent process, however, the park management body negotiated boundaries individually with farmers – a process which is not yet legally settled.

Similarly, from a historical perspective there is much political instability in the Asian cases, with legal pluralism due to the introduction of NGOs and their views of participatory management: in Nepal, Maoist attacks rendered local participatory NGOs and government institutions defunct at times, while after the return of the state the plurality of regulations regarding management of Kangchenjunga still remains. It is unclear how much liberty local people have in managing the park itself: with the exception of local scouts helping to monitor the park, the most obvious implementation of a participatory approach in this case are small-scale participatory park outreach projects that focus on development (rotating-credit associations, mothers' groups, etc). This is a heavy investment by NGOs and the state, viewed as a kind of payment for not interfering with the park. Even the monitoring issue is contradictory in this case, as it does not involve the right for local people to control the area, although they do the actual job of controlling at low cost. In the other two Asian cases the issue of indigenousness re-emerges, but in a form slightly different from the Latin American cases: in Indonesia/Sulawesi (Lore Lindu), one government department is fostering immigration, while another assisted by NGOs is trying to protect "nature" in places where migrants are either sent to or go freely. Besides this obvious contradiction there is the challenge of *indigenous* versus *vulnerable* peoples. NGOs focus locally and internationally on the notion of indigenousness, which is a difficult issue in Indonesia – hence the shift towards the broader political category of "vulnerable people." This forces the so-called indigenous Lore Lindu group into a delicate balancing act: including immigrants while trying to control land use by immigrants via traditional *adat* law (see Benda-Beckman and Benda-Beckman 1995 for discussion of *adat* law and its link to colonial times). In the Vietnam case (Phong Nha Kẻ Bàng) there are ethnic groups that would qualify as being indigenous in the political sense, and local institutions could be used to strengthen them, but this does not happen. The major case of legal pluralism involves government departments and different NGOs as well as the profit-motivated tourism sector. The UNESCO World Heritage Site status of the area draws on its landscape speciality as a karst area (caves and sandstones, etc.) and the beauty of its forest. But it does not incorporate local users. It remains to be seen whether a new international initiative discussed at the moment will bring change in this institutional setting.

Based on the cases discussed so far, institutional diversity seems to lead to legal pluralism, insecurity and conflicts of interest. The Swiss JAB case does not follow this pattern. It is a successful example of institutional learning (Liechti et al 2008) that benefits from the established Swiss decentralised political system and the principle of subsidiarity. This is both an asset and a problem. It is an asset because it really involves all stakeholders in decision-making processes, from the government to the local administration (cantons, districts, village governments) and to actors representing business, conservation and the grassroots level. The problem is the high diversity of actors. However, this was overcome in the JAB because everybody was given the opportunity to participate in the process of institution building for management of the protected area (Wiesmann et al 2005). In addition, when nested in a basic democratic setting (see Ostrom 1990), institutions are robust and resilient and can engage in a conflict resolution process. Different stakeholders and regions might feel partly excluded but they all have their lobby and the possibility of speaking up in order to be heard in different political arenas. This structure and the institutional process that includes all voices and finds a compromise was the key for a common charter and management plan developed for the JAB.

14.3.2 First conclusions regarding pluralism

The Swiss example shows that institutional diversity is not necessarily something negative. However, it is a problem if there are no coordinating agreements and if different procedures create confusion and stakeholders go "forum-shopping." This is the case in most of the other examples: actors pursuing narrow self-interests do not easily find common ground and a plural institutional setting re-enforces this trend, labelled "forum-shopping" in the literature (see Benda-Beckman 1984; Meinzen-Dick and Pradhan 2002). For example, where indigenousness is a political asset based on plural institutional settings, local actors using this notion are blind to broader issues of how to develop the area and how to craft more integrative institutions. From the historical context of colonisation and of being treated as inferior people, their main goal is to keep settlers out. However, conservationists, as their major allies, have their own narrow agendas, which is to increase the space of areas to be protected. Similarly, states may follow their own agenda: while they are supporting conservation, they may primarily want to secure access to subsoil resources. This is true of the Latin American cases and to a certain extent of Vietnam. In most African cases, people are quite confused by legal pluralism. Government actors and NGOs involve them

in a particular way, but ultimately the locals have no real means of controlling areas and crafting their own institutions. Nonetheless, they accept this compromise for the few development benefits gained from NGO involvement. In Asia, this is true for Nepal, although much more is invested in local development. In Sulawesi, local people are better able to participate given their improved political status.

By comparing the Swiss example with the others we therefore see the importance of the historical and political context and observe that encouraging results are actually possible, but only when diverse actors are forced to find common ground for building or transforming institutions. By analogy with Foucault's concept of "governmentality" (Foucault 1982), we could label this *constitutionality*.

14.4 Cost–benefit analysis: economic, political or ecological benefits?

One of the main challenges of participatory approaches is to ensure that benefits actually reach the local level. In other words, do the people who are expected to participate in the conservation of nature actually benefit? We analysed economic, political and ecological benefits (Figure 1).

14.4.1 Mostly no economic benefits

The analyses of economic benefits done by all authors deliver a rather negative picture. No clear calculable net benefits at the household level were found anywhere. Calculations of real and potential benefits minus costs for local people were analysed. Opportunity costs were disregarded.[5] Let us look at the results regionally.

In 3 of the 4 cases in Latin America, local people are exposed to costs from PAs due to loss of access to common-pool resources such as land and forests. These costs are highest in Argentina and lower in the 2 Bolivian cases. Peru is the only case where local indigenous peoples do not face any direct costs. In Bolivia and Argentina there were no profits. In the Peruvian case benefits were small and limited to less than 10% of the population who earn a minimal salary as rangers or scouts. Therefore one cannot speak of real benefits here, either.

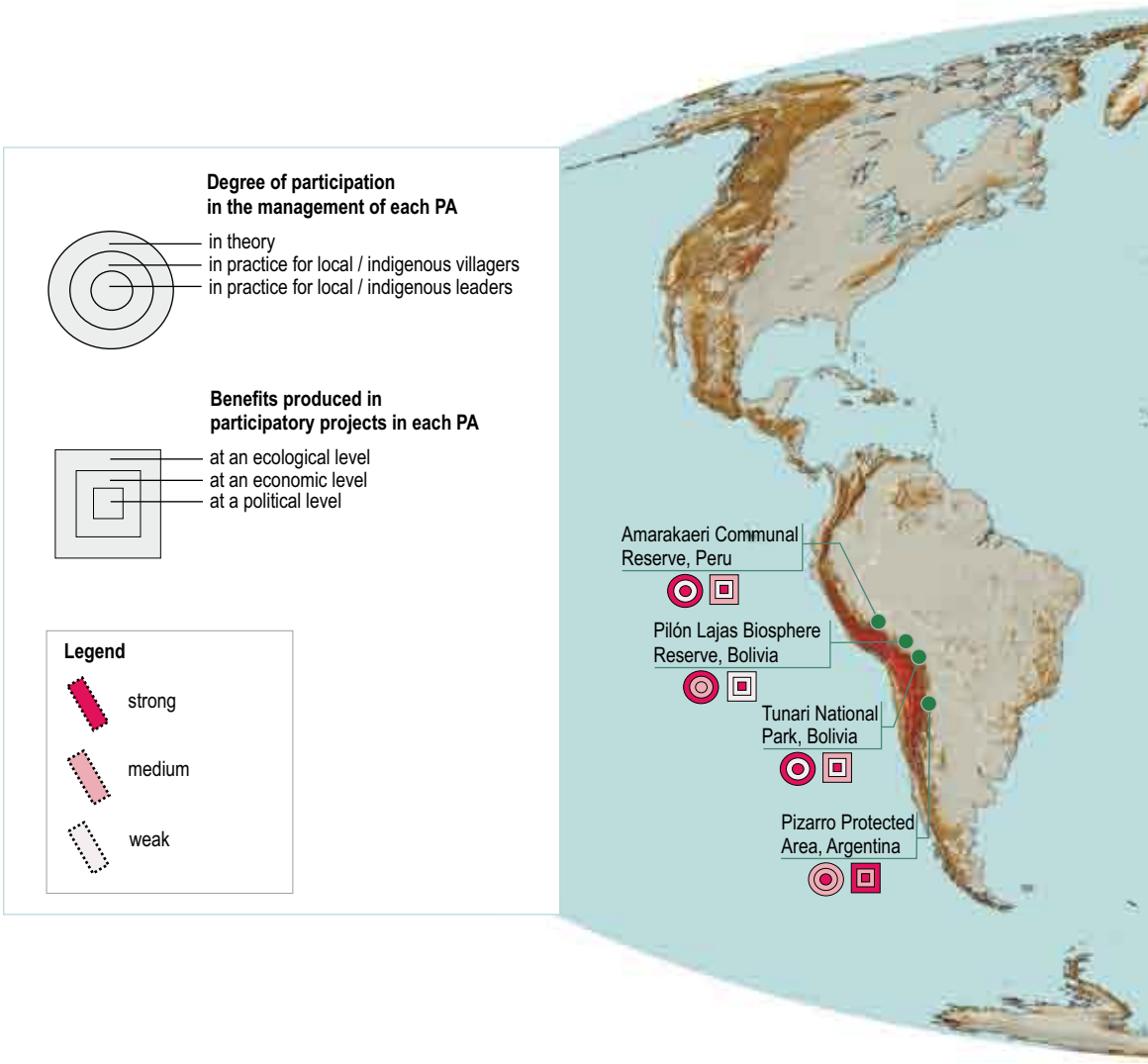
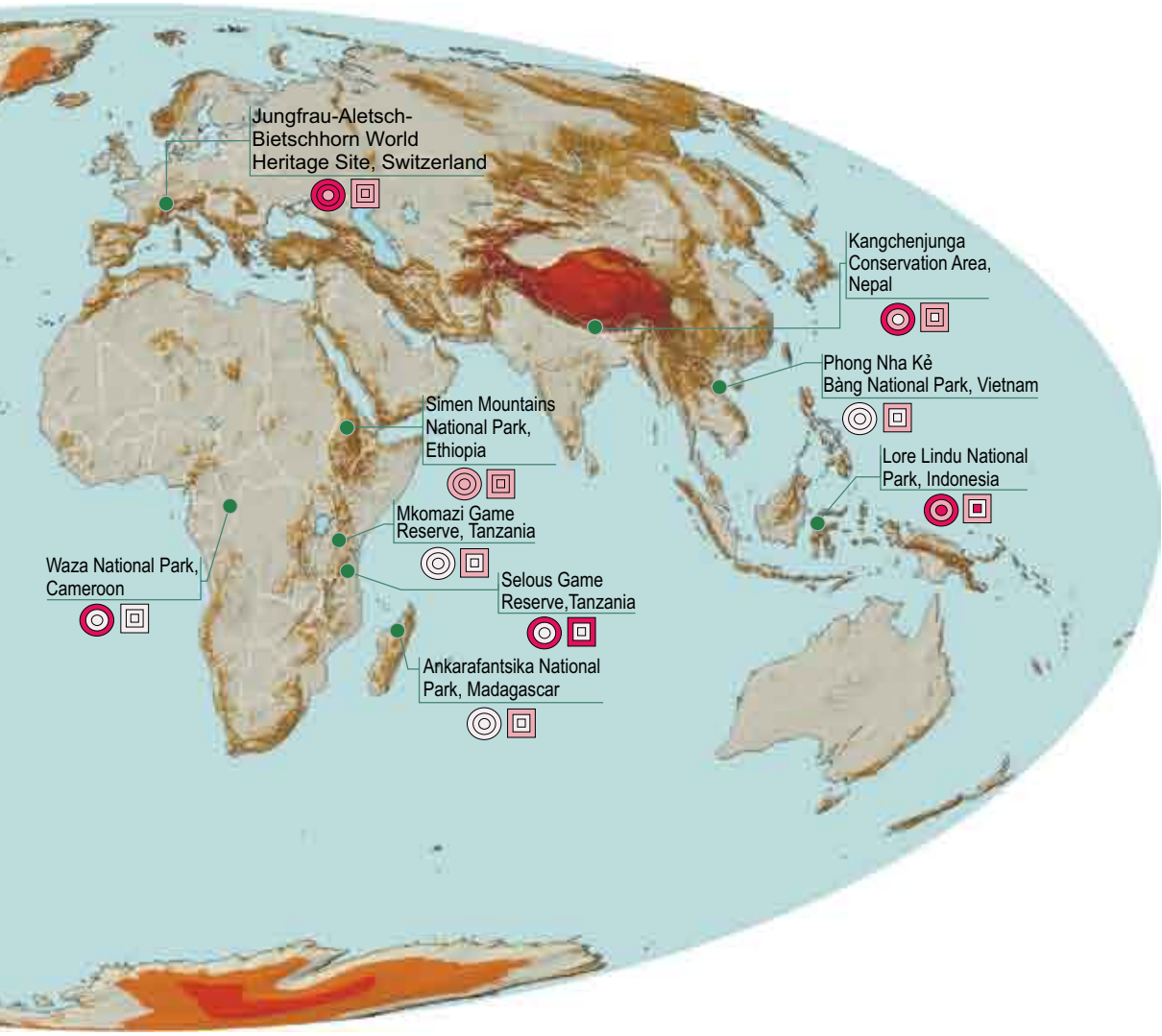


Fig. 1
Overview of participation and benefits in the 13 protected areas described in this volume.
Map by Albrecht Ehrensperger and Ulla Gaemperli, CDE.



Map sources: Terrain data: Resampled from the GTOPO30 Digital Terrain Model (DTM9 produced by US Geological Survey (USGS) using a model by Kopas et al 2000. Elevation (metres): Derived directly from the DTM. Slope (degree): Derived directly from the DTM. Elevation range (metres): Maximum elevation difference in a 5km radius. Derived from DTM.

Hydrographic data: ESRI Data and Maps, World CD.
Administrative data: ESRI Data and Maps, World CD.
Map scale: approx. 1:100,000,000
Map projection: Mollweide
Authors: Research, GIS, cartography and layout: Albrecht Ehrensperger (CDE) and Ulla Gaemperli (CDE)

The picture in the African cases is even bleaker: we did not determine a value for the human lives taken by lions, crocodiles and elephants, so this loss was excluded from the calculations. However, these losses represent the largest damage at all imaginable levels. In the 2 Tanzanian cases, quantitative financial estimations were made of losses due to crop damage. These amounted to half of the crops produced. Based on the formal set-up of the PAs, people in these areas should get direct revenues from the PA and hunting quotas[6] or park outreach gains. In the case of the Selous Game Reserve, equivalent gains from the reserve cover only 25% of the losses from crop damage. We say "equivalent gains" because the money is not actually distributed to the individual households (see Meroka and Haller, this volume, as well as Haller et al 2008); it goes to community projects and does not create individual incentives. According to several scholars, direct benefits would be crucial in order to increase motivation for conservation (Gibson 1999). In the Cameroonian case, the losses at the individual household level also exceed by far the gains made (see Fokou and Haller, this volume). In the other 2 African cases (Ethiopia and Madagascar), no clear gain–loss calculations could be made, but qualitative data presented in the studies show that the costs of loss of access to forests and good farming land for locals (see Simen, Ethiopia) largely outweigh the gains from park outreach projects, soil conservation programmes and small-scale tourism activities. However, most recent negotiations have been taking place in Simen National Park, and boundaries adapted to minimise local farmers' losses. In the Ankarafantsika PA in Madagascar, costs stem from evictions and loss of land to the PA and are by no means compensated for by the park outreach projects.

In Asia the cost–benefit situation is more varied. In Nepal while direct gains are low, there are benefits from high investments in development projects and credit associations. An insurance system covers some of the losses when domestic animals are killed by snow leopards. But the resurgence of poaching during the short period of Maoist control evidences the vulnerability of this conservation project system and its dependence on foreign inputs. There are no gains in the Indonesian case and high losses especially in the Vietnamese case, where local hunter-gatherers and shifting cultivators were expelled.

In the Swiss case no direct economic benefits are visible, either. However local actors perceive potential benefits. The status of World Heritage Site should make the area more attractive for tourists and lead to investments in infrastructure and the creation of a market for local farmers wishing to sell their products to hotels. These expectations account for the better acceptance of the JAB WHS compared to that of the other PAs in the NCCR sample.

14.4.2 Partial political benefits

Economic costs and benefits are, however, only one part of the story, and a purely economic cost–benefit analysis is insufficient (see Haller et al 2008). As we have seen in the case studies all 4 PAs in Latin America, 2 in Asia and 3 in Africa formally have a community-driven approach. In Latin America, all local representatives use the label of "indigenousness". This includes not only being local, but differing culturally and politically from other resource users such as immigrants. In the Latin American cases, groups referred to and referring to themselves as "Indian" groups were stigmatised in the past for their culture and their way of life. They lost living space to powerful logging and oil companies, gold miners, rubber-tappers and large-scale farmers as well as state agencies. But a major political change started taking place in the late 1970s. Supported by international organisations such as the International Labour Organisation (ILO) and the United Nations (UN) (Brysk 1996; Colchester 2000; Haley 2004) the political status of indigenous peoples increased considerably in Latin America. Conservationists and indigenous people now share the same enemies: settlers looking for new land, farmers, the lumber industry, gold miners, oil companies and sometimes private tourist companies (see Haller et al 2007). In addition, the search for the 'noble savage' has been an attractive tool in the environmental and human rights struggle, providing an image of conservation as a traditional way of life.

In this context, new participatory forms of governance offer an opportunity to control 'indigenous' areas. In Peru for example, community reserves are a strategic option. Defining oneself as indigenous legitimises the exclusion of other competing interest groups. This is a political tool in the fight for the right to continue living in an area – a right that could be jeopardised by outside interests. Based on the idea that controlling territories can guarantee economic and cultural survival, indigenous leaders have opted for PA solutions, even when they realise that no economic gains are to be made at present (see Galvin et al, this volume; Haller et al 2008).

Once again the African picture is quite different from the Latin American cases. In the African cases studied, indigenousness cannot be used in the same political sense. There are people who could qualify as indigenous according to ILO Convention 169 on indigenous peoples or other charters (see Colchester 2000; Haller et al 2007). Still, apart from the case of some hunter-gatherer groups and some pastoralist groups such as the Maasai in East Africa, this label is not applicable and has no political function whatsoever. This applies to the fortress approach cases that include park

outreach projects (i.e. Mkomazi [Tanzania], Simen [Ethiopia] and Ankarafantsika [Madagascar]). In the other 2 cases (Selous [Tanzania] and Waza [Cameroon]), despite formally applied community approaches, there is no local empowerment. Local people are not allowed to decide on main issues regarding how to control resource use and how to participate in monitoring and sanctioning activities. Living close to a PA or in a buffer zone even in Wildlife Management Areas (WMAs) in Tanzania yields no political gain.

The Asian cases fall in between the African and Latin American extremes. In Nepal the issue of political control did not really emerge, as the area was under the control of an NGO and the monarchy. But the king has now fallen and the WWF wishes to leave the project in local hands. Whether local actors will develop a political agenda remains to be seen. The Vietnamese case clearly shows no political benefit for local groups. Indigenousness is not seen as an issue for the government, NGOs or other organisations. The new German Agency for Technical Cooperation (GTZ) projects might change this problem and give more power to local people. In Indonesia, indigenousness is a tricky issue: while there is a tendency to accept indigenous rights, national NGOs have pointed out that using indigenousness as a criterion for special rights will lead to exclusion of many other people. On the Indonesian island of Sulawesi, local people who label themselves "indigenous" use this identity for subtle benefit: while immigrant farmers also have to be included in the participatory PA approach, local indigenous leaders try to use local institutions such as the traditional *adat* law to control the amount of land used by immigrants. Thus, as in the Latin American cases, gains from the political process are more important than immediate direct economic benefits.

In the Swiss case, all stakeholders were involved. It was difficult to see a clear alliance between government agencies and conservationists or local people: while the federal, cantonal and village governments involved had an interest in conservation, they also had economic interests in development of the area. In addition, local people were much more hostile towards conservationists than in the Latin American cases. In the JAB area, local people clearly saw that conservation measures would not be profitable enough; they were eager to indicate what their interests were. By giving all stakeholders a platform, the PA project officials and consultants limited the power of the conservationists and empowered local people to participate in the debate on how to manage the PA.

14.4.3 Some ecological benefits but high costs

The ecological benefits in terms of fauna and flora protection cannot be taken for granted: they strongly depend on local involvement and investment. In the Latin American cases, results depend on the power and organisation of local indigenous groups. In the 2 African fortress cases (Mkomazi and Ankarafantsika), low acceptance of protection measures means ecological gains are only possible with a high level of external investment. In Simen, where the most recent change from a fortress to a negotiation approach is minimising conflicts regarding PA boundaries, it remains to be seen what impact this will have on conservation in future. In the 2 cases that show a clear participatory commitment, a short-term positive effect was only seen in 1 case: in Waza the participatory conservation approach is no longer really applied, and according to local views there is a high level of poaching, fishing and grazing in the PA. In Selous, the increase in poaching has stopped since the late 1990s because money from NGOs and GOs (Germany's GTZ) helped to restore military-style protection of core zones. The total PA area has been increased in the context of the participatory approach: Wildlife Management Areas (WMAs) took over village land. If the increase in wild animal numbers is an indication of ecological benefits, then some success has to be acknowledged (Baldus et al 2003). However, the ecological benefit is not a result of participation *per se*. Instead, reference to participation has been used to raise donor money that is used as an incentive for governments to put more land aside for conservation. Monitoring costs are then reduced by delegating responsibility to the local level in a cost-effective manner for the government, but involving high costs for local people.

In the Nepali case, more endangered animals are surviving – a short-term ecological benefit. However, the resurgence of poaching by local people during the short period of Maoist control questions the sustainability of the participatory approach. The Vietnamese case shows similarities with Selous insofar as it is a tourist attraction generating high benefits for the government and for tourist operators, while the government and the NGO provide large sums of money for its maintenance. But local people feel excluded because the park is managed using a fortress approach. This leaves younger men around the buffer zones with an incentive to poach. This in turn leads to high monitoring and sanctioning costs for protecting the area. Therefore, the ecological gains are mixed at best.

In the JAB in Switzerland, it is hard to assess concrete ecological benefits. Glaciers primarily suffer from climate change that cannot be mitigated by the PA itself. However, extreme sports such as helicopter skiing disturb endemic wildlife, so curtailing these activities based on WHS status will lead to an ecological benefit. Furthermore, we would argue that the agricultural use of grassland by local farmers in the surrounding zones is ecologically beneficial in that it sustains a cultural landscape with high biodiversity.

14.5 Ideologies, discourses and narratives

Based on the literature review (see Introduction) and the empirical case studies, especially taking into account history and the current debate on how PAs should be managed, we realised that ideology is a major topic.

14.5.1 Why does ideology matter?

Using only political and economic aspects without reference to ideology would make it impossible to explain the institutional outcome of actual PA governance. One could easily argue that in Africa, participation should be more widely spread: the concept was developed mostly in these areas, while in Asia and Latin America, presumably for political and economic reasons, participation does not seem to have been a key issue in the past. However, our comparison indicates that the opposite is true today. So how does the focus on ideology help to explain this contradiction?

For Ensminger (1992) ideology is important for actors because it explains how the world works and how it is shaped. It gives symbolic meaning and justification to actions taken (see also Galvin 2004; Haller 2008; Haller et al 2008; Haller and Merten 2008). As a major framework for orientation (see also Foucault 1972, 1982) it influences which action is taken. In Marxist thinking ideologies such as religious systems guide and justify action and often work as self-enforcing frameworks of reference (see Plattner 1989). For the German sociologist Max Weber, the Christian protestant ideology that God will reward hard-working people, was one of the ideologies driving capitalism (protestant work ethics, Weber [1904] 1958). But how does this happen and how does this process work? This is not the place to conduct a full literature review on Marxist and Neo-Marxist debates on ideology, but it is important to refer to the notions of "hegemonic ideologies" and "strategic aspects" in the sense elaborated by Gramsci, who argued that the state

establishes a hegemonic ideology based on hegemonic power, which drives actors even if they act against their self-interest (Gramsci [1975] 1996).

However, ideologies change and are used strategically; from another theoretical angle this can be discussed in the framework of New Institutionalist approaches dealing with institutional change: according to these approaches focussing on models of limited rational choice, institutions change in response to relative prices shaped by external economic, political and technological factors. In reality this explanation is insufficient. Within the framework of New Institutionalism (North 1990; Ensminger 1992), institutions are influenced by both bargaining power and ideologies. When powerful people are able to justify and legitimise their actions through ideologies, they gain acceptance and reduce information, monitoring and sanctioning costs (transaction costs). For example, participatory conservation is an ideology that is used to legitimise or revitalise conservation efforts after broad critique of the fortress approach. Given the absence of widespread benefits for local people, it is extremely costly to develop and maintain conservation institutions; in extreme cases, these depend on physical force alone. But community conservation and co-management approaches provide the ideology that tries to promote local involvement and thereby reduce transaction costs, and thus justifies further donor investment and continued sacrifices on the part of local people.

Foucault's "governmentality" (1982) and Agrawal's "environmentality" (2005) focus on the process by which people are subjugated by the state. According to these authors, this happens through internalisation of ideologies or environmental issues defined by the state (see also Scott 1998). In this volume, however we prefer to pursue Acciaioli's analysis and critique of this approach (see Acciaioli, this volume). He argues that people often use ideologies, discourses and narratives *strategically* to legitimise self-interested actions. Ensminger uses ideology – an evocated "worldview" as she puts it – in much the same way, advocating that ideologies can be altered if relative prices change strongly. However, the actual path of institutional change is unpredictable. So while we are aware that there is ample room for internalisation, we see evidence of actors trying to influence the institutional design of PA management in a strategic way[7] in many of the case studies in this volume. Therefore, we argue that ideologies are a major resource increasing bargaining power by producing legitimacy. They help to establish an institutional setting that is favourable for powerful actors (see Ensminger 1992; Haller 2007a, b; Haller et al 2008; Haller and Merten 2008).

To this use of the term ideology, we add the wider concept that includes discourses and narratives. We understand "discourse" as meaning a specific way of linking issues and rationalising topics in a logical way, either in spoken language or writing. Logic in this sense means a closed system of meaning. Discourses contain fragments of a larger framework (ideology – or "worldview," as Ensminger terms it [1992]). For example, the ideology of modernity can be applied to a discourse of development in such a way that it gives positive meaning and value to any development project. On the other hand a conservation discourse can be supported by an anti-modernity ideology, which might represent a belief in the existence of imperilled pristine wilderness. A third example of a relevant ideology would be the "local traditionalism" ideology, according to which nature is intimately connected to a traditional way of life. The main discourse would then be that tradition is equivalent to conservation and that old wisdom and techniques are the best way to protect nature.

We use the concept of "narrative" for the explanations offered by different actors for their perception of the state of things within the context of their ideologies. According to the ideology of modernity, poverty is due to lack of development and this implies that "traditional" people are "backward." In the ideology of "pristine nature," the "wilderness" is threatened by human development and dynamic demographic forces. In the ideology of traditionalism, overuse of resources and the increase of poverty are a result of submission to outside forces, leading to disempowerment and the loss of traditional ways of life. These narratives offer different explanations for the same phenomena.

All these levels – ideology, discourse and narrative – reinforce one another and create a pool of legitimacy that aims to increase one's own bargaining power and reduce that of others. In this way, power and financial resources can be mobilised: discourses and narratives, then, help one to find allies and outside support. This process has a strong influence on the outcome of actual PA management strategies, especially if one considers participation as an institutional setting. The way PAs are crafted in the historical process is not only influenced by relative prices but also by the way in which the legitimacy of allies and political and economic resources can be harvested or manipulated by *all* actors. This does not imply that we validate actors' motives. We simply argue that in different areas, local actors a) are not homogeneous and b) have different bargaining power based on the ideologies, discourses and narratives used as a legitimacy resource.

14.5.2 Comparing ideologies as a source of power: findings from the studies

If we now compare the 13 different case studies, there is a major immediate finding regarding the time of implementation of the PAs: many PAs established in colonial times or before the 1980s are based on the ideology of nature in peril and the central discourse of conservation of biological diversity. Most of the older PAs follow this ideology and its discourse (see Tunari in Bolivia, all cases in Africa, and Vietnam in Asia). The basic narrative, then, is that local people are the cause of the degradation of nature. If pristine nature exists and needs to be protected, and local people are the basic destructive force, then evictions and expropriation are legitimate. This thinking is a central element in the history of PAs. With independence, the ideology of the 'nation-state' gave rise to discourses that created national parks both as symbols and sources of government income and governmentality. Despite the change of governmental structure, the institutional setting of fortress conservation remained: the colonial narratives of pristine nature in peril at the hands of destructive locals persisted.

In the Latin American case studies, most of the PA settings are much younger than those in Africa. In the Americas, the longer colonial history was dominated by the ideology of modernity. Nature was seen as abundant and dangerous – something that should be exploited in order to drive development. Discourses referring to this ideology were common in the highland–lowland contexts and areas in the Amazon. Local people do not destroy nature – they hinder modern development by being too close to nature. Given this ideology, any large-scale development project is welcomed by regional leaders and the nation-state. Consequently, local people face a drastic loss of livelihoods due to the invasion of modernity seeking to exploit such resources as timber, land, rubber, and gold. Furthermore, being *indígenas*, in the historical context of the areas studied, was a burden (see Brysk 1996) without any political advantage.

In the Asian context in Vietnam in the 1960s, liberation forces were followed by a strong modernity (Marxist and Maoist) ideology. The concept of the state was based on the socialist development discourse, and that made any other kind of development problematic or counter-revolutionary. More capitalistic ideologies as well as an orientation towards a centralised state with Islamic or Hindu foundations were adopted in Indonesia and in Nepal. All these ideologies, discourses and narratives were pushed by powerful colonial and post-colonial governments, and constituted the controlling and organising state maintained by an elite (see also Scott 1998).

14.6 Changes since the 1980s: perceptions of an environmental crisis and regional differentiations

Since the 1980s, a major shift in ideologies, discourses and narratives has been taking place: development is still a major issue, but a crisis of understanding has been emerging in all the regions where our case studies are located.

14.6.1 Latin American cases

In areas particularly affected by large-scale developments, especially in frontier zones such as the Amazon, the destruction of forests becomes very evident. This pushes Western-based NGOs and governmental organisations to act on the problem of environmental destruction. Concern regarding the degradation of nature by local people, by immigrants and industries is particularly important in Africa and Latin America. A growing lobby in the North is emerging, driven by the ideology that pristine nature is in peril. The resulting discourse is followed by a growing political and public interest in ways of protecting nature and halting the damage. In the Latin American cases, local people also profited from the Western-based human rights discourse: ILO and UN organisations started to become interested in the fate of groups that were seen as oppressed because of their culture. This gave rise to a growing international movement recognising the special role of so-called indigenous peoples (see Brysk 1996; Colchester 2000; Haley 2004).

In this political context, a growing body of environmental NGOs following the ideology of conservation of pristine nature realised that indigenous peoples might be allies for the protection of the environment. They started to argue that human rights and the protection of nature were not contradictory goals. Environmental activists began advocating that modernity kills both nature and the environment needed for the livelihoods and survival of indigenous peoples. They also argued that indigenous peoples' view of land as a spiritual entity protects nature. It was argued that indigenous peoples do not harm nature, because they use it extensively. However, being "one with nature" or living from "mother earth" had seldom been part of the way such ethnic groups perceived their environment (Haller 2007b). This was a construct by Western NGOs that saw indigenous peoples as welcome allies: indigenous peoples helped them in the push to halt the negative consequences of the ideology of modernity and the corresponding development discourse, combining it with upcoming human rights concerns. Therefore, local people

in the Amazon – with some delay after North American "Indian" peoples of so-called "First Nations" and indigenous peoples in the highlands of Latin America – started to gain bargaining power by emphasising their traditional identities. Their weakness suddenly became a strength, accepted not only by human rights groups but also by larger environmental organisations such as WWF and IUCN, as well as by official declarations and conventions such as ILO Convention 169 and the Convention on Biological Diversity following the 1992 Rio Summit (see Brysk 1996; Colchester 2000; Haley 2004). Representatives of indigenous organisations realised that a 'close to nature' identity could be linked with a positive view of tradition. This in turn led to strategic participation in PA management (see also Haller et al 2008).

The "environmental problem" narrative goes beyond examining the impact of large-scale development projects and mining/oil industries, increasingly addressing problems of the "frontier zone." This is the narrative of nature endangered by settlers but protected by indigenous peoples. With this shift from the colonial modernity ideology to the nature-in-peril ideology that motivated the creation of PAs in other parts of the world, Latin America was ready to create its own new PAs. Throughout this ideological process, the bargaining power of local people was increasing. They could now address the negative impacts of development. The following examples help to illustrate this process: in Pilón Lajas, Bolivia, in the PA controlled by indigenous peoples, it is argued that traditional culture is embedded in nature and immigrants are destroying the forest. In Peru the Amarakaeri Communal Reserve established in 2002 could only be set up because an indigenous organisation (Federación Nativa del Río Madre de Dios y Afluentes [FENAMAD]) created an alliance with activists, and because FENAMAD leaders used the ideology of being close to nature and the discourse of protecting ancestral land. The discourse of the leaders was that conservation is only guaranteed by traditional indigenous peoples and through the latter's cultural knowledge. Activities of settlers and oil companies were thus perceived as the major narrative threatening the forest. This helped to establish the PA and to protect it from settlers and later from oil companies. Also in the case of Argentina, the notion of being indigenous and setting up an alliance with conservationists helped local people to secure land against settlers.

14.6.2 African cases

The African cases tell another story: the pristine-nature ideology and the fortress approach were challenged by the reality of a severe economic crisis (bad

terms of trade, low prices for agricultural products and minerals) and political unrest. The transaction costs for top-down conservation became too high in relation to the countries' income and heavy debts. To make matters worse, many clientelistic regimes made their political allies and elites a financial priority (see also Chabal and Daloz 1999). The result was bad governance and corruption. But even those with noble motives faced a diversity of development needs at various levels that completely overwhelmed income (Wisner et al 2006). Consequently, they often relied on donor money. As the links between poverty and environmental concerns were recognised, international environmental NGOs gained more power in the African context. It was evident that the fortress approach was no longer adequate. Top-down conservation was becoming very unpopular, and as a consequence, local involvement in conservation became important (Gibson 1999; Hulme and Murphree 2001). In 3 out of 5 cases tourism developed as an important contribution to the national income, as relative prices changed and NGOs linked to tourism and conservation (Selous, Mkomazi [Tanzania], Waza [Cameroon]) gained strength. Conservation became a means by which gains were said to be made at all levels (more tourists as well as money from development projects). Increasingly money for anti-poaching or anti-logging campaigns was found, provided local people were formally involved. Examples of development projects in the regions surrounding PAs are seen in Cameroon and Ethiopia. They included attempts to improve agricultural techniques, prevent soil erosion and supply sanitation and infrastructure. In other words, modernity and pristine nature had now merged into one basic ideology. The major discourse was sustainable development, with the inherent paradox of using and conserving nature at the same time (see Haller 2007b). Some claim this paradox can be solved by recognising the link between poverty and environmental degradation. Others argue that poverty has multiple causes (ibid.), including state failure (elite capture and 'corruption'), the North's debt policies, dependent economies, local disempowerment (loss of common-pool resources), monetarisation of traditional lives, and geopolitical and resource-specific issues (oil, minerals, Cold War conflicts; see Wisner et al 2006). Unfortunately, such analyses have rarely led to useful lessons for implementation.

Therefore, poverty alleviation through small projects, including conservation of pristine nature, is no longer regarded as challenging global and national political issues. In addition, the discourse of sustainable development has become a major resource for legitimacy. The ideology of pristine nature combined with the discourse of participatory conservation gives powerful state actors and NGOs two advantages: first, monitoring and sanctioning of PAs

can be delegated at low cost to the local level. Second, donor money for conservation can be generated by highlighting collaboration with local people. The main goal of a low-cost increase of PA territory is thus elegantly masked by the ideology of pristine nature and the discourse of local participation. Thus, powerful stakeholders craft institutions that seem participatory but inherently strengthen central control by setting the conditions for local participation: this is the case in the Selous Game Reserve and in the Waza-Logone setting. In Madagascar officials also follow this strategy. The protection of pristine nature, focussing on a specific species, is the basic ideology in the Ethiopian case but it is accompanied by development projects and soil conservation projects, trying to combine the development and conservation discourses. However, local people did not play the main role in this development until recently, when negotiations on the boundaries between agricultural and park lands took place. Interestingly, in the second Tanzanian case (Mkomazi) there is a more blatant pristine-nature ideology with a fortress-like discourse, combined with some small park outreach projects.

At the local level, people refer to various ideologies to explain their world and the impact of conservation on their lives: while modernity linked to development projects is a sincere hope for many people in African contexts, in the PAs studied here local people consider modernity as a system that excludes them. In their view it is state revenues from tourism or development projects that are being protected, rather than nature itself. Therefore, conservation and participation are viewed as part of government actors' discourse used to maximise income while externalising costs to local people. This means that participatory conservation equals underdevelopment. The narrative is then that poverty is linked to conservation, while benefits are channelled to state actors (Selous, Tanzania). In Mkomazi, Tanzania, local views contest the ideology of the government and NGOs that pristine nature must be protected from local actors. Thus, leaders of the Maasai herders' organisation claim that their way of life protects most wild animal species and that they also create favourable grass conditions. Local discourses refer to the fact that fortress conservation measures have led to underdevelopment as well as bad governance of the PA. The Pare farmers complain of crop raiding by wild animals. In the local narratives, the PA was enlarged repeatedly in the past without local consultation: besides taking more and more land required for their livelihoods, lack of consultation meant that the local people could not participate in mitigating problems. Similarly, in Waza (Cameroon) and Ankarafantsika (Madagascar), local people claim that the talk of participation does not translate into concrete action on the part of the government.

This, then, is a challenge for our analysis: why is it that local African people have failed to secure benefits in most cases, given that they have a clear notion of their loss of cultural landscapes and a clear understanding of how state ideologies work? Our conclusion is that authorities simply inform and discuss with local people under the guise of participatory development, while stopping short of real power sharing. Because of the lack of the notion of indigenousness or any other political label, local people cannot mobilise adequate political and financial resources from outside and are not really viewed as a part of the solution despite the participatory discourse. In the view of local people, participatory discourse defines how projects can access funds controlled by government actors, enabling them to profit from tourism income, as seen in the Selous case, Tanzania. The same ideology, discourses and narratives can be found in the Madagascar case. In Ethiopia, before the recent change in approach, local peasants did not really understand why the PA was important. For them the PA was just about taking valuable agricultural land away from them in order to protect one or two endangered species (Walia ibex). Although debates over soil erosion seemed to attract some local attention, people did not understand them as sufficient for motivating their exclusion from the park. In the narratives recorded, they protected the ibex before the creation of the park, and during the time when park management was ineffective due to military conflict in the area. Local people mentioned self-determination and participation as the main reason why the ibex could still be found after times of war (Hurni et al 2004). Park management is now paying greater attention to land issues around the park and has started to involve local people in the negotiation of new boundaries for the park.

14.6.3 Asian cases

The Asian cases offer an array of ideologies, discourses and narratives. These include:

– Protecting pristine nature, exclusion of local people from areas claimed by the government but belonging to local people (Vietnam), discourse of developing a unique tourism area, and narrative that shifting cultivation and poaching cause harm;

– Protecting pristine nature via exclusion but with gains from NGOs with development incentives (Nepal), discourse of an Integrated Conservation and Development (ICD) approach focussing on development, and narrative that poaching can only be stopped by proposing alternatives sources of income;

– Protecting natural forests while acknowledging local groups' right of use in buffer zones (Indonesia/Sulawesi), discourse of development, especially of involving migrants, and narrative of large availability of land but with pockets where conservation is needed.

The Asian cases turn out to be the most heterogeneous in our comparative study. We observed a Latin American type in Indonesia, a more African type in Vietnam, and an intermediary type with a greater focus on development issues in Nepal. These differences can be explained by the different political settings and the different timing of PA creation.

In Vietnam, there was insecurity and war followed by communist modernity ideology. All these made local participation difficult. In Nepal, the PA was set up very recently. The implementing agency (WWF) had to manoeuvre between the monarchy and donors who made participation the *conditio sine qua non*. Given the ICD approach, it was crucial to involve local people in development issues, but this was done only marginally in the domain of executive power over the PA. Indonesia is a special case: the state has problems controlling a large and very heterogeneous area and is plagued by secessionary fears. Therefore, participatory approaches were slow to develop. Nevertheless, a major movement for the support of local and indigenous peoples emerged as a result of an active civil and human rights movement, involving outside agencies and NGOs.[8] Here it is interesting to note the shift from an indigenous focus among local NGOs to a broader integration of immigrants and a focus on poverty and peasantry in general.

Looking at the ideologies of local actors we also see a wide variety. For local groups in Vietnam, being local does not pay, which is similar to the African cases. Worse still, local people have no participatory options that might further their interests and must therefore suffer exclusion. Locals link this situation to the ideology of expropriation by the state, arguing that the discourse of conservation is done for tourists and using the narrative that their lower development status is linked to conservation issues. However, their voice was not heard until recently. The ideology of being local is no resource because the international NGOs are not looking for indigenous partners, contrary to what is happening in the Amazon. Similarly, in the Nepalese context notions of indigenousness are not important. Overall, people seem grateful to the state and the NGO that at least something is being done for development in their remote area. However, conservation does not make sense to them ideologically. But they see gains in the discourse of devel-

opment through livelihood projects. Their narrative argues that if the state does not help, at least the NGOs (in connection with the state) help a little. The title of the paper by Müller et al in this volume is a revealing local statement, addressing the willingness to help in conservation because the NGOs are helping them with their livelihoods. Their participation in conservation is therefore motivated by a notion of reciprocity. Local people do not view conservation as something positive *per se* but only in relation to services and opportunities provided by NGOs.

Local leaders among the To Lindu in Sulawesi are pursuing yet another strategy: after a time in the 1990s when being indigenous could in certain contexts be used to political advantage, the situation changed again with broader involvement of local peasants. But the notion of indigenousness remained a resource. To Lindu people used the nature-in-peril ideology together with a traditionalist discourse for the management of the Lore Lindu park. Central to their argument is that their *adat* system and "wise culture and knowledge" are the keys to forest preservation. Their narrative is that immigrants are causing harm to nature through deforestation. But as they have no power over immigration they resort to trying to control the land in the buffer zones by controlling the amount of land settlers can use.

14.6.4 Making a difference: the Swiss case

In the World Heritage Site in Switzerland, the ideologies differ from all other cases. The political context and process of PA creation is vital to understand the case. Swiss direct democracy means that government ideologies are always subjected to local consensus. Instead of self-interested discourses by the state there is evidence of dialogue. The basic ideology recognises that the area is a mixed cultural and natural landscape that depends on farmer activity. The aim of development is conservation and tourism. For all local actors the new label does not impact their livelihoods too negatively and is at best an economic gain in terms of tourism. Nature protection and economic development can be linked via tourism if gains are distributed equally. This addresses the discourse of community conservation on the basis of fairness. Equal benefits are an important ideology, and the narrative that something needs to be done to support more remote areas in Switzerland adds legitimacy to the case. By making this conclusion we only say that the basic view of protecting natural *and* cultural landscapes as well as the Swiss democratic system make the participatory conservation discourse a major resource for providing all local actors with legitimacy. Conservationists are not able to

dominate as they do in other settings. Local users have much more bargaining power than in other countries, which is enforced by the national institutional setting based on the principle of subsidiarity.

14.7 Conclusion and discussion: positioning of PAs regarding participation and sustainable development

The presentation of the overall results in terms of core problems, institutional diversity and different costs and benefits has indicated that the understanding of participation varies greatly in all cases, as does the role of development. As indicated at the beginning of this paper, we will now position all PAs according to their formal institutional governance set-up, before discussing their informal position, derived from local viewpoints. The formal positioning of the examples can be seen in Tables 3 and 4 and in Figure 2 (matrix presented in the Introduction, pp 22-24); we first position the PAs according to their level of participation:

Table 3

Positioning of PAs according to different levels of participation (by authors)

Kind of participation	Cases
No participation or only consultation / Fortress	Mkomazi, Phong Nha Kẻ Bàng
Negotiation / Collaborative management	Ankarafantsika, Waza, Kangchenjunga, Simen
Shared power	Selous Game Reserve, JAB
Transferred power	Pilón Lajas, Tunari, Amarakaeri, Pizarro, Lore Lindu

In Mkomazi (Tanzania) and Phong Nha Kẻ Bàng (Vietnam), there is no participation and therefore a fortress approach. This means that there is minimal or no consultation of local people regarding management of the PA. Different forms of collaborative management with a low level of negotiation were found in Ankarafantsika (Madagascar), Simen (Ethiopia), Waza (Cameroon) and Kangchenjunga (Nepal). In 2 cases there is shared power, at least on paper: Selous Game Reserve (Tanzania) and JAB (Switzerland), while a formal transfer of power (stakeholder/community conservation) can be seen in all Latin American cases (in Bolivia, Peru and Argentina) and in Indonesia (Lore Lindu). The positioning of PAs according to (sustainable) development indicators leads to the following result:

Table 4

Positioning of PAs according to development indicators (by authors).

Type of development incentive	Cases
No real incentives (or very little park outreach)	Mkomazi, Phong Nha Kẻ Bàng, Tunari, Pilón Lajas, Pizarro
Collective incentives	Waza, Lore Lindu, Amarakaeri
Collective/individual incentives	Kangchenjunga, Simen
Individual incentives	Selous, Jungfrau-Aletsch-Bietschhorn

There are several examples where there are no development indicators or only small park outreach projects such as wells, sanitation infrastructure, small clinics and schools (Mkomazi, Phong Nha Kẻ Bàng, Tunari, Pilón Lajas and Pizarro). The latter 3 cases are at a highly participatory level. Real development issues are dealt with at the level of collective incentives in 3 cases: 1 in Africa (Waza), 1 in Asia (Lore Lindu), and 1 in Latin America (Amarakaeri). In the African case, clearly defined development programmes try to foster tourism and build infrastructure, etc. For the people in the Lore Lindu and the Amarakaeri PAs the approach adopted fits the criteria of collective incentives because here the community is supposed to profit from gains at the infrastructure level. Two cases fit the intermediary level of collective and individual incentives (Kangchenjunga in Nepal and Simen in Ethiopia). Collective development incentives are related to the overall development of the area and individual ones are in the form of gender-related rotating credit associations (mothers' groups) and compensation schemes related to damage by wild animals and – very recently – negotiation of park boundaries with individual households in Simen. Only the Selous Game Reserve in Tanzania and the Swiss case could formally be positioned as focussing on individual incentives: in Tanzania, collective-level gains come from the park for small-scale projects and the focus is clearly on household-level incentives within the Wildlife Management Areas (hunting quotas, direct benefits). In the JAB area in Switzerland, all levels are included, particularly individual stakeholders from all interest groups. They should have a personal incentive in participating in the JAB and using the JAB as a positive label to promote their economic interests. This formal or on-stage level of participation is displayed in Figure 2. However, if we look off-stage, or "behind the scenes", at how actors view the process at the local level, a different picture emerges, as shown in Figure 3.

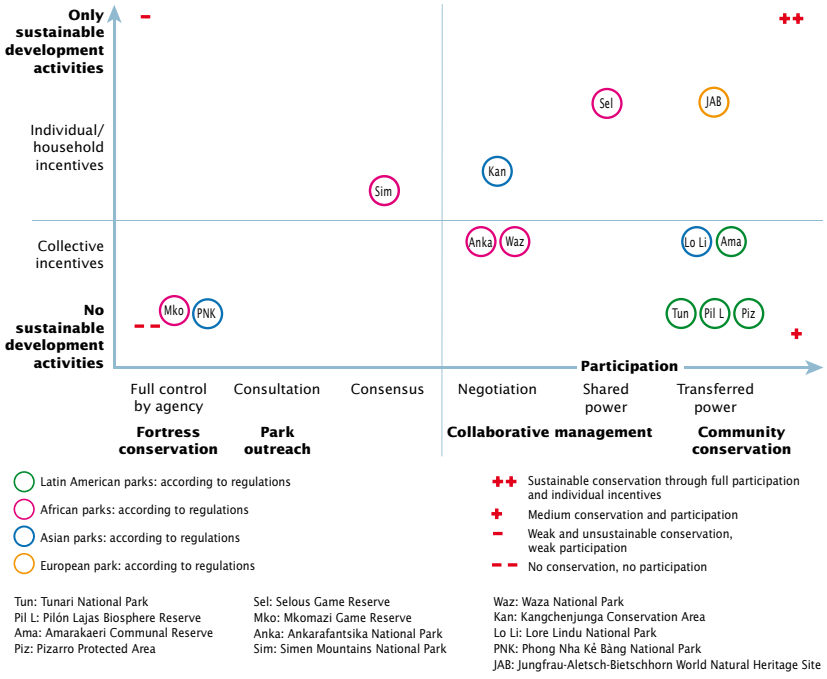


Fig. 2
Comparative Participation–Sustainability Matrix for PAs examined in NCCR North-South study areas.

The new positions are based on the interpretation of the results presented in the 13 case studies and highlight the different ideologies, discourses and narratives: there is no change in the position of the most fortress-style examples (Mkomazi, Tanzania, and Phong Nha Kẻ Bàng, Vietnam). However, the reality of the more participatory cases is actually a shift towards a more fortress-style approach: two African cases (Cameroon and Madagascar) as well as one Asian case (Nepal) move from collaborative, negotiating management (positioned between the collective and individual incentive levels) to a more fortress and collective incentive level. In these cases, where PA management is concerned, local people face the problem of having access to involvement on paper but not in reality. The differences between cases that look really participatory on paper are even more striking: Selous Game Reserve moves from shared power to a fortress approach with medium collective/individual incentives (due to the fact that locals cannot really decide on management plans and hunting quotas). The Latin American cases indicate that they offer collective incentives, but the implementation of community conservation via power transfer is in reality much lower. This means that on the one hand, local people have a certain degree of bargaining power by claiming to be indigenous – and this power is greater than in most of the

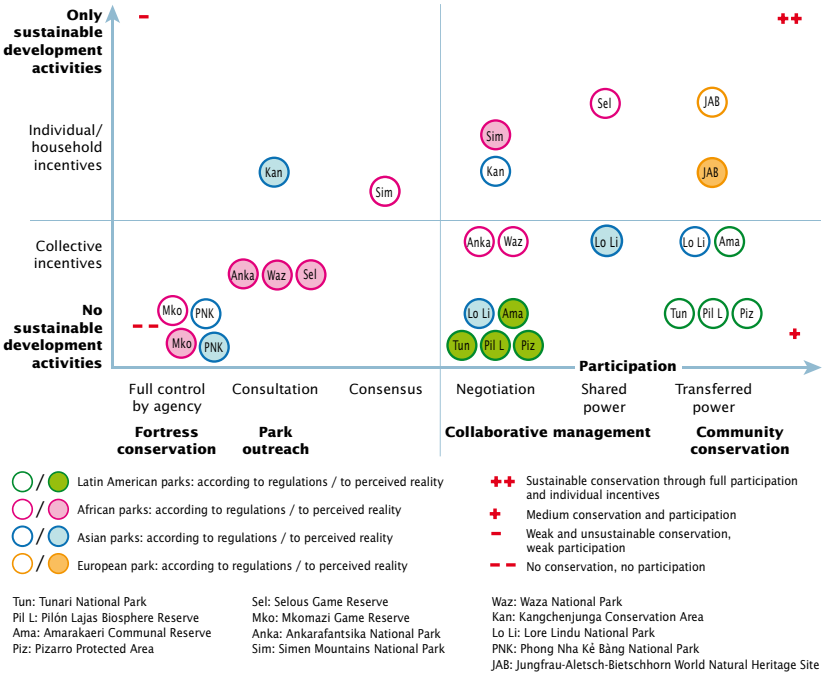


Fig. 3
Comparative Participation–Sustainability Matrix for PAs examined in NCCR North-South study areas, with a focus on stated degree of participation and development activities, and degree as perceived by local people.

other cases. But on the other hand, the state as well as mining and oil companies can, at any time, refer to higher interests if they really want to do so. Therefore, a certain degree of uncertainty remains. The only stable position was in the Swiss JAB project. Direct democracy provides local people with considerable institutional power to address the problems. The Lore Lindu case is also fairly stable – elders manage to control the area for their own personal interest. This stability is due to the political systems in these two countries and the ideological levels at which local actors have an increased bargaining power to influence the institutional design and try to gain political power from the PA system. The most recent development in the Simen PA suggests that after a more fortress and more collective incentive approach, management has adopted a negotiation approach including aspects of individual incentives.

What does this mean for sustainable management of PAs at the ecological level of species protection? If local people see an economic or political benefit, they are likely to be inclined to participate in protection of PAs, and this in turn supports ecological goals. We adhere to this viewpoint despite the cases where a fortress approach with little local participation has resulted in excellent ecological benefits. In the cases of Kangchenjunga, Selous, Simen

(before the new approach was adopted) and PHNK, there was a fortress approach with less participation by local people: wildlife numbers increased and flora was protected. But these results depended on considerable outside inputs, tourism or development projects. Upholding the rhetoric of participation, funds were acquired that covered the high costs of fortress conservation. Species protection is therefore provided as long as these costs are covered. But what will happen if these funds are no longer available and donors and NGOs start to pull out? Our analysis shows that these examples are not an argument against real participation and involvement of local people: all other solutions are too costly and will not stand the test of time. In addition, expensive conservation will come under local pressure, as it elicits the perception that animals matter more than (poor) people. Obviously in the case of Simen, the new development is going in this direction, as the park managers have realised that costs in the long run might be too high.

The Swiss and Indonesian cases are the only ones where there is little difference between formal and real (on and off-stage) levels of participation and development, and where ecological gains seem to be robust. In Switzerland the democratic system gives everyone a political voice. Principles of political involvement are relatively transparent. In Indonesia, we would not argue that the political system is transparent but in the case studied, local Lore Lindu groups are able to influence the management setting: they are centrally involved in management and play a key role in PA governance. This is due to the fact that their elders have successfully manoeuvred between notions of indigenousness and involvement to control newcomers.

The basic lesson to be learnt from the case studies are the following: although most of the PAs studied are participatory in their formal structure, this does not translate into economic benefits for local people, while there are partial political gains for those groups capable of linking their identity with ideological demands from more powerful groups such as NGOs and government agencies. For local actors political gains may be an incentive to strategically subscribe to conservation goals, especially if there is an aspect of constitutionality available to them, i.e. if they have ownership of the decision-making process. In cases where this is lacking, participatory conservation is perceived negatively – a challenge that needs to be tackled when dealing with community conservation as a mitigation strategy.

Endnotes

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[3] According to the NCCR North-South, a "syndrome context" is a region or circumstances in which one or more syndromes of global change actually occur, or may potentially emerge (Hurni et al 2004).

[4] Common-pool resources are a specific category of natural resources which share two characteristics: difficulty of excluding other users (because they are highly mobile or do not occur in a concentrated form that can be controlled easily) and subtractibility (the part which is used is not immediately available for other users; some CPRs regenerate but only with a certain time lag). Examples of mobile and immobile resources include wildlife stocks, fisheries, water for irrigation, forests, pastures, extensively used land, etc. (see Ostrom 1990; McKean 2000; Ostrom et al 2002).

[5] Opportunity costs could be included to indicate that people are not interested in participating in conservation incentives in spite of direct net gains, as other options might be more profitable (see Emerton 2001).

[6] However, local people have to buy the meat, for example in the Selous Game Reserve. In addition, the annual amount of meat a household receives is very low (see Meroka and Haller, this volume; Haller et al 2008).

[7] However, we would like to underline that we are aware that simple cost–benefit calculations are not easy to do, and that political costs and benefits need to be considered in addition to material costs and benefits. Moreover, the very term calculation might be misleading, as not everything can be calculated (see Gudeman 1991; McCloskey 2001).

[8] By this we do not mean that Indonesia has a more indigenous-friendly policy, but that in the recent past claiming "indigenousness" without using this in association with the desire for secession (see East Timor) did not lead to high repression by the state.

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Afterword

Stan Stevens[1]

This book is an important contribution to the literature on protected areas (PAs) and the political ecology of natural resource management and conservation. It provides a very timely analysis of "participatory" PA governance and management, examining "new paradigm" PA approaches which – in policy and rhetoric if not always in practice – offer alternatives to the fortress conservation approaches that have so often proved environmentally ineffective, socially disastrous and morally questionable. The editors, Marc Galvin and Tobias Haller, and thirty-one contributors "tried to determine how the participatory approach to conservation evolved in specific settings and who profits from the new approach." Drawing on research by thirteen research groups working in diverse regions of the global South (South America, sub-Saharan Africa, and South and Southeast Asia) and in Switzerland, the book offers a set of coordinated case studies that are attentive to historical, geographical, political, social and economic contexts and dynamics.

People, Protected Areas and Global Change is distinguished by the degree to which a number of the case studies bring to bear in their analyses the critical perspectives of postmodernism and poststructuralist political ecology to illuminate on-the-ground dynamics of PA governance. These case studies attend to multi-actor interactions and political dynamics; multiple – often conflicting ideologies, discourses, environmental narratives; disparities between policy, rhetoric and conditions, and the degree to which local actors benefit politically and economically from PA establishment and governance. Together with the insightful introductory and concluding analyses by the book's editors, the case studies provide theoretically informed, in-depth analysis of a diverse set of participatory PAs, illuminating governance dynamics and examining how multiple, conflicting actors articulate discourses in efforts to establish legitimacy and pursue PA governance power and political and economic benefits. These discourses are typically linked to specific environmental narratives and are embedded in larger ideologies of human–nature relationships, conservation and development, identity, territoriality and sovereignty. This combination of attention to multi-scale politics and to ideology/discourse/environmental narratives provides important insights into "participatory" PAs as embodiments of the

interactions of state agencies, inter-governmental organisations, NGOs, communities and other local and non-local actors. The book's nuanced studies and concluding chapter provide insights that should be of great value to academics, activists, governmental agencies and NGOs concerned with the globalisation of conservation and social justice, as well as with promoting PAs which aim to achieve more effective environmental and cultural landscape conservation through respect for local knowledge, livelihoods, development, self-determination and participation in PA governance.

The collaborative fieldwork-based case studies presented here from Africa (5), South America (4), Asia (3), and Europe (1) illustrate how difficult it has been to achieve participatory PA governance or to ensure that indigenous peoples and other local communities and people realise economic and political benefits from PA establishment in many parts of the world – First World (Switzerland), Second World (Vietnam) and Third World (Africa, South America, and Asia) alike – in different national political contexts and within PA systems with different histories and different forms of national and international collaboration and intervention. Indeed, of thirteen case studies examining supposedly "participatory" PAs only that of the Jungfrau-Aletsch-Bietschhorn World Heritage Site in Switzerland is represented as effectively embodying participation by diverse local people, interests, and communities, and that case study illustrates that this was not easily achieved. One Southeast Asian case study (Lore Lindu National Park, Sulawesi, Indonesia) and three South American case studies (the Biosphere Reserve and Indigenous Territory of Pilon Lajas, Bolivia; Amarakaeri Community Reserve, Peru; and Pizarro Protected Area, Argentina) document efforts by indigenous peoples to use PA collaborations with conservationists as a means to attempt to retain control over homelands, natural resources, livelihoods, and self-determination. These have had varying success.

A decade ago I edited a book, *Conservation Through Cultural Survival: Indigenous Peoples and Protected Areas* (Stevens 1997), which advocated a change in PA governance and conservation goals from fortress conservation and exclusionary PAs to what are now known as "new paradigm" PAs – inhabited PAs based on cultural landscape conservation, respect for indigenous peoples' cultures, livelihood practices and self-determination, and governed or co-managed by indigenous peoples and other local communities. At that time my collaborators and I aimed to examine a set of PAs that were being heralded as exceptional examples – even models – of participatory, community conservation-based PAs. We provided insights into

these achievements and drew lessons from them with the intent of catalysing similar efforts elsewhere. In the course of examining more than a dozen PAs we documented some very promising approaches in Australia, Nepal, Central America, and the Pacific. Some indigenous peoples and indigenous peoples' organisations had negotiated useful collaborations with state agencies, inter-governmental organisations, and NGOs which promoted conservation on indigenous peoples' lands grounded in recognition of indigenous rights to self-determination and self-governance. Some peoples and organisations in Australia, Canada, Nepal, Honduras, and Papua New Guinea had found that some forms of "new paradigm" PAs offered means for them to achieve political, economic, social and cultural benefits through maintaining control over their homelands, resources, livelihoods and ways of life. In some cases – including Uluru-Kata Tjuta National Park and Kakadu National Park, Australia, and Sagarmatha National Park and Annapurna Conservation Area, Nepal, indigenous peoples had also benefited from rent/lease of their lands by national governments for PA designation, revenues from tourism entrance fees, tourism entrepreneurial ventures, employment in tourism and as PA staff, and other PA-associated establishment.

We also found, however, that in a number of cases participatory rhetoric by governments and transnational conservation NGOs was not realised on the ground. Indeed, geographer Bernard Nietschmann – who had worked closely with Miskitu communities that had created a community-initiated PA in Nicaragua only to have it betrayed by what he called "predatory" and "colonialist" transnational conservation NGOs and the Nicaraguan state – concluded that:

> *Forget the rhetoric from almost every international conservation organisation and development assistance agency about the need for 'conservation by local communities,' 'integral management,' 'co-management,' 'community-based management,' 'participatory local management,' 'parks and people,' 'resident peoples and national parks,' and 'management partnerships.' This is just an illusion. Out there, where indigenous people live, on the coral reefs, in the mangroves, and in the tropical forests, these new concepts simply are not backed up by actions. This is because the people in most international organisations remain trapped in the old colonialist ways of thinking about indigenous peoples and their resources."*
> (Nietschmann 1997, p 223)

Unfortunately, this has been the experience of many peoples in many countries. Numerous indigenous peoples and local rural communities have been affected by continuing marginalisation within many states in "postcolonial" times, being dominated by other peoples or urban elites. The establishment of PAs has often been shaped by these relationships, resulting in systems of governance in which policy and decision-making are controlled by outsiders, including outside "experts" (scientists among them), government officials and NGO staff who have little understanding of or respect for indigenous and local knowledge, values, institutions, practices, concerns, conservation contributions or rights. It is accordingly not surprising that many peoples, communities, and local residents have widespread scepticism about "participatory" PA-based conservation.

Our mid-1990s case studies thus highlighted some of the diverse political, social, economic, cultural, geographical and historical contexts within which PAs had become sites of contestation and collaboration among multiple actors negotiating control over land and sea territories, continuity of livelihood and cultural practices and values, "ownership" of or access to "natural resources," collective management of commons, the stewardship and protection of sacred places, and PA governance. We found cases where historical and place-specific contingencies had enabled some indigenous peoples to negotiate relationships and PA political ecologies inspiring hope that it is indeed possible to create new kinds of PAs which link social justice and indigenous rights with conservation. And we found other cases that revealed all too well how colonialism, neo-colonialism, "internal" colonialism and "colonialist conservation" could undermine community conservation in the name of what proved to be false, self-interested governmental and NGO rhetoric of community empowerment and PA participation.

People, Protected Areas and Global Change has been written in another era and builds on a considerable amount of recent scholarship and another decade of experience with the dynamics of "participatory" PA rhetoric and practice. The case studies assess political and economic benefits from PA establishment and the political and social – often inter-ethnic – dynamics among multiple actors (states, inter-governmental organisations, transnational and national conservation NGOs, differentiated local communities and indigenous peoples, corporations and settlers) that enable or constrain real local participation in PA governance and substantive shares of PA economic benefits. To understand these contingent PA contexts and the often contested and negotiated power relationships that shape them, the book

editors and case study contributors (who include the editors) attend also to the ideology, discourses, and narratives through which multiple actors in the past and present have attempted to establish legitimacy for their territorial, governance, conservation and development agendas, and their particular political, economic, social and cultural interests. The case studies are accordingly more detailed and theoretically informed than has often been the case in books that attempt global analyses of PAs. In the conclusion Tobias Haller and Mark Galvin draw on these rich empirical and theoretical analyses to make a set of useful politically, ecologically and "New Institutionalism"-informed observations and analyses.

The book focuses on the global South and achieves considerable regional breadth of coverage (Mexico and Central America, Australia, and the Pacific are, however, not represented). The inclusion of multiple case studies from these regions allows for intra-regional as well as regional comparisons, and the South American and Southeast Asian case studies – while far from representing ideal examples of recognition of indigenous rights as enumerated by ILO 169, the UN Declaration of the Rights of Indigenous Peoples, and IUCN recommendations – strikingly contrast with the African and South Asian case studies in terms of how identity and claims to indigeneity and indigenous rights have been mobilised and articulated by peoples, NGOs and states, the kinds of collaborations that have been produced and the political – if not economic – gains that indigenous peoples have in some cases realised through PA establishment on their lands. The book highlights that proclamations of participatory conservation and PA governance by many states in the South and by transnational conservation NGOs often prove to be rhetorical only, and that implementation falls far short of policy and fund-raising promises. In their analysis of the lessons learned from the case studies Tobias Haller and Marc Galvin identify several dynamics that contribute to this disappointing performance – distrust and unequal inter-regional, inter-ethnic, and other power relationships that are often rooted in colonial pasts but persist in the supposedly post-colonial present; self-interest of states that use conservation and PAs as a means of extending state territorial control; and self-interest of transnational conservation NGOs that use "participatory" and "community" conservation rhetoric to gain donor funding but fail to carry through with these promises on the ground – an insight into conservation as big business that corroborates earlier condemnation of such practices by Nietschmann (1997), Chapin (2004) and Dowie (2005).

Many of the case studies and the concluding chapter in particular provide insightful critiques into the motivations, strategic rhetoric, and often less than progressive practices of transnational conservation organisations and the nation-state agencies and inter-governmental organisations with which they collaborate. Together they offer a compelling, if often discouraging, perspective on the dominant ideologies, discourses, environmental narratives and power relationships that shape PA governance, character, and social and environmental ramifications. These case studies suggest that the shift from the old paradigm of exclusionary, authoritarian, state and TNGO-created fortress conservation of supposedly "pure nature" or "wilderness" to the new paradigm of inclusive, community conservation of protected landscapes, community conserved areas, indigenous territories and community managed or co-managed PAs is far from complete. The paradigm shift in many cases seems to have been merely rhetorical. Some NGOs have strategically deployed these discourses to capture donor interest and funds or to meet the social justice requirements of funding agencies. States have found the same discourses a means to gain international legitimacy by meeting – on paper at least – the expectations of inter-governmental organisations and TNGOs and the requirements of international agreements. The diverse representations and meanings that thus have been given to "participation" have masked the use of PA establishment and governance as a vehicle of expansionary state territorialisation and TNGO intervention into indigenous peoples' territories and lives. Devolution has often proved to be little more than "environmentality" – an effort by states and transnational NGOs to impose new institutions and conservation thinking in communities rather than to support indigenous rights, community empowerment, self-governance, self-determination, and conservation grounded in indigenous knowledge and values. This is not, however, to suggest that all devolution and international collaboration and all introduction of new conservation discourses and institutions are necessarily problematic, nor to maintain that all apparent "environmentality" is what it might naively appear to be. Greg Acciaioli, writing about Lore Lindu National Park on the island of Sulawesi in Indonesia provides an insightful analysis of the political and discursive dynamics in a multi-ethnic PA context that illustrates how To Lindu leaders have made strategic use of new discourses of indigeneity and conservation, finding in the establishment of the PA and transnational conservation NGO involvement an opportunity to press claims for their continuing authority over territory and over land use by migrants as well as their own community.

This book deserves a wide audience. I hope that the lessons learned from these insightful case studies and integrative analyses will lead to renewed efforts to hold states and NGOs to higher standards in their collaborations with communities in the creation and governance of supposedly "new paradigm," participatory PAs and that they will create awareness of the need for greater provision of PA economic and political benefits to communities. Above all, I hope that this book will focus greater attention on PA governance as a critical social as well as environmental issue, and that lessons can be learned from it by progressive conservationists, government agencies, and transnational and national conservation NGOs that will help them to work together more effectively with communities to create PAs that are more respectful of and sensitive to the peoples for whom those places are home. Only in this way can they establish new relationships and PA conservation collaborations which indigenous peoples and communities welcome and value.

Endnote

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People, Protected Areas and Global Change is an important contribution to the literature on protected areas (PAs) and the political ecology of natural resource management and conservation. It provides a very timely analysis of "participatory" PA governance and management, examining "new paradigm" PA approaches which – in policy and rhetoric if not always in practice – offer alternatives to the fortress conservation approaches that have so often proved environmentally ineffective, socially disastrous and morally questionable. The editors, Marc Galvin and Tobias Haller, and thirty-one contributors "tried to determine how the participatory approach to conservation evolved in specific settings and who profits from the new approach." Drawing on research by thirteen research groups working in diverse regions of the global South (South America, sub-Saharan Africa, and South and Southeast Asia) and in Switzerland, the book offers a set of coordinated case studies that are attentive to historical, geographical, political, social, and economic contexts and dynamics.

These case studies suggest that the paradigm shift from the old paradigm of exclusionary, authoritarian, state and NGO-created fortress conservation of supposedly "pure nature" or "wilderness" to the new paradigm of inclusive, community conservation of protected landscapes, community conserved areas, indigenous territories, and community-managed or co-managed PAs is far from complete. The paradigm shift in many cases seems to have been merely rhetorical. This book deserves a wide audience. I hope that the lessons learned from these insightful case studies and integrative analyses will lead to renewed efforts to hold states and TNGOs to higher standards in their collaborations with communities in the creation and governance of supposedly "new paradigm," participatory protected areas, and that they will create awareness of the need for greater provision of protected area economic and political benefits to communities.

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