

# The Social Context of Nature Conservation in Nepal

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## 1 Introduction

Third world and transition countries have placed an increasingly high priority on nature conservation in recent decades. In many cases, the designation of dedicated nature reserves causes conflict between conservation objectives and the demands of the local population. We assume that such conflicts may become more controversial if there are conflicting concepts regarding protection of the environment. It is obvious that international nature conservation activities are mainly based on western concepts of nature and its protection. These concepts are globalised and universally implemented, but within different cultural contexts. For this reason, scientific, sociological and cultural analyses have gained importance in recent years (see Röper 2001, Ghimire and Pimbert 1997, Blaikie 1995). Studies in the field of political ecology (Brown 1998, Knudsen 1999, Neumann 1992, 1995, 1997, Peluso 1993, Abel and Blaikie 1986), emphasise the relationship between the different interested actors at various local levels.

This article summarises the most significant results<sup>1</sup> of the research project 'Nature and Society' (sponsored by the Swiss National Fund), and investigates nature conservation projects in Nepal within a social context. Nepal, a country with extremely diverse biological parameters, and also one of the world's poorest countries, includes a large number of protected areas, developed with varied concepts and management plans. In Nepal, as in other parts of the world, this has resulted in a number of conflicts.

The introductory section summarises and interprets Nepal's history, and the development of the country's nature conservation policy. Of special interest is an analysis of the parties involved at various spatial levels. This provides an insight into the 'functionality' of nature conservation in Nepal by considering the political, economic and social contexts at a national level, as well as referring to international relations. The framework for this approach is provided by political ecology. Methodologically, this part of the investigation is methodically based on the analyses of legal provisions, management plans, the existing literature, and problem-oriented empirical field work in selected conservation areas.

Three case studies of protected areas with differing historical developments and management approaches are chosen to illustrate the

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diversity of Nepal's nature conservation concepts. Starting from a joint research question, for each case study an adequate social science approach is applied

The first case study introduces the Bardiyā National Park in the western lowland of the Terai, designated in 1976 mainly for the protection of large mammals, and analyses the parties involved from the perspective of political ecology. The second study analyses the Khaptaḍ National Park, which was created mainly for religious reasons. This nature reserve is located in Nepal's far western mid-hills, a previously unknown region of Nepal. The study focuses explicitly on the importance of institutions, with regard to pasture use and nature conservation. This aspect, hitherto neglected, is based on the "Environmental Entitlements" approach. The third study deals with the Kanchanjaṅgā Conservation Area in the Himalayan mountains of eastern Nepal. It analyses the implementation of an integrated nature conservation and development project, and the local population's perception of it. Finally, based on the findings of these case studies, conclusions are drawn about Nepal's nature conservation in general, and on the theoretical implications and research approaches, in particular.

## **2 Nature conservation in Nepal: Diversity and change of approaches**

Nepal's nature conservation programme is currently concentrated in 16 reserves of various conservation categories, covering more than 18% of the country (see figure 1 and table 1). The following analyses show how they have been created, over the last 30 years. The history of nature conservation in Nepal has been studied by, amongst others, Nepal (1999a, 1999b), Keiter (1995), Heinen and Yonzon (1994), Heinen and Kattel (1992) and Basnet (1992). Below we refer to these publications, and to an interview with B.N. Upreti, Director of the Department of National Parks and Wildlife Conservation, from 1980 to 1991.

### **2.1 The early stage: Royal Hunting Reserves and the 'Yellowstone Model'**

The first legislative efforts to introduce nature conservation in Nepal occurred in the second half of the 19th century. The autocratic regime of the Rāṅgā dynasty introduced the first hunting bans. Nepal's ruling elite, who prided themselves on being passionate big game hunters, invited the world's nobility to elaborate hunting parties in the jungles of the Nepalese Lowlands (see Gurung 1983, Filchner 1951, Shaha 1970). The most treasured trophies – the tiger, leopard and Indian rhinoceros – were considered 'royal game', not to be hunted by the local population.

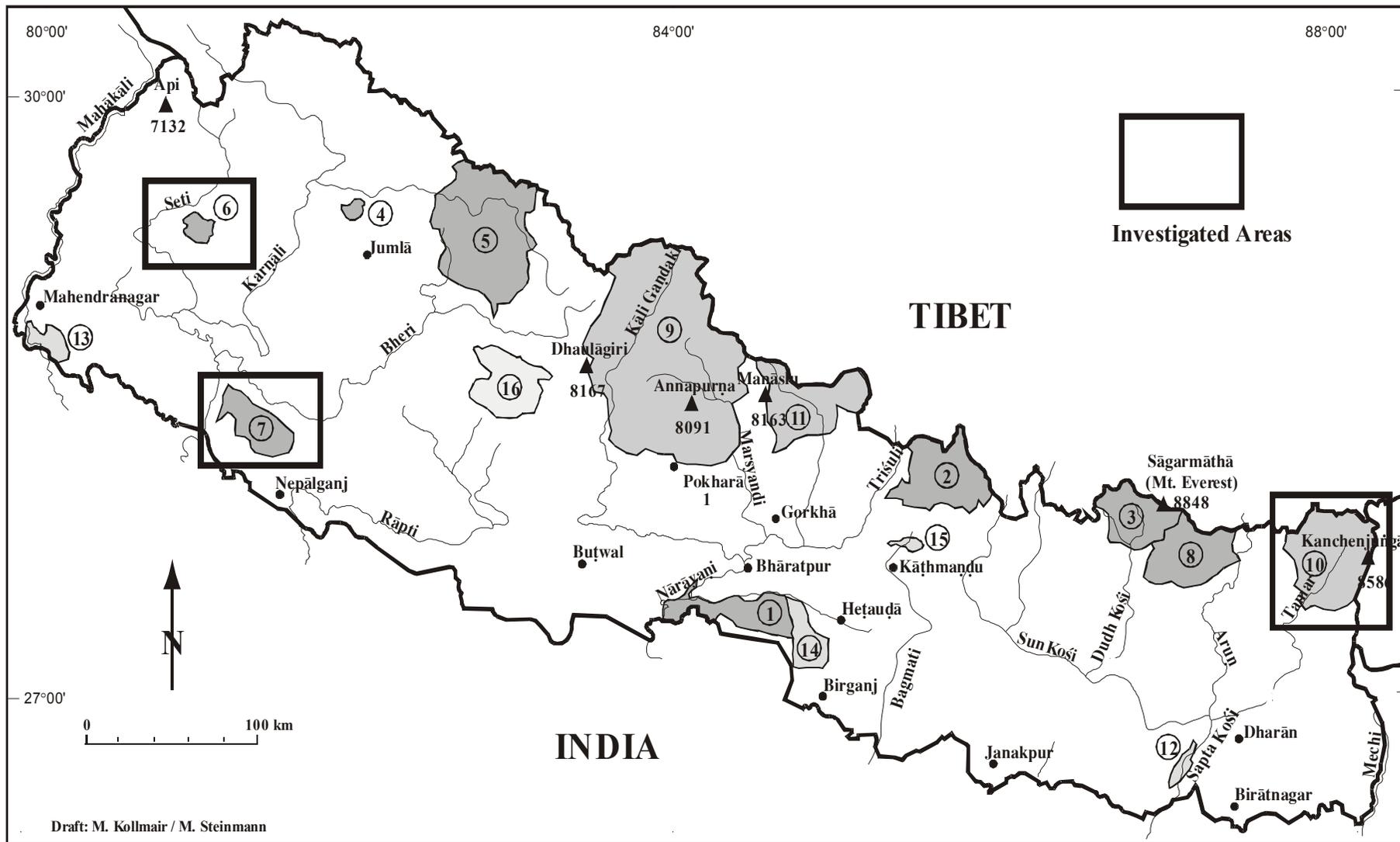


Fig. 1: Nature reserves in Nepal and location of research area

Table 1: Overview of the development of nature reserves in Nepal

Nr	Name	Year of foundation	Status (IUCN category)	Size (ha) in 2000	Settlements	Buffer zone since	Main conservation objectives at the time of establishment
1	Royal Citawan	1973	National Park (II)	93.200	a, r	1996	Wildlife conservation; tourism
7	Royal Bardiyā	1976/1988 <sup>1)</sup>	National Park (II)	96.800	a, r	1997	Wildlife conservation; tourism
12	Kośi Tappu	1976	Wildlife Reserve (IV)	17.500	a, r		Wildlife conservation
2	Lāngtāṅg	1976	National Park (II)	171.000	B	1998	Soil protection; tourism; protection of species
13	Royal Śuklā Phāṭ	1976 <sup>2)</sup>	Wildlife Reserve (IV)	30.500	a, r		Wildlife conservation
3	Sagarmāthā	1976	National Park (II)	114.800	B		Landscape and species conservation; tourism
4	Rārā	1977	National Park (II)	10.600	a, r		Landscape and wildlife conservation
14	Parsā	1984	Wildlife Reserve (IV)	49.900	A		Wildlife conservation
5	She-Phoksunḍo	1984	National Park (II)	355.500	B	1998	Ecosystem-, landscape- and wildlife conservation
15	Śivapuri	1984 <sup>3)</sup>	Watershed and Wildlife Reserve (IV)	9.700	b, r		Watershed conservation, securing the drinking water supply
6	Khaptāḍ	1986	National Park (II)	22.500	C		Conservation of religious heritage
9	Annapurṇa	1986/1992 <sup>4)</sup>	Conservation Area (VI)	762.900	B		Conservation and development
16	Dhorpāṭan	1987	Hunting Reserve (IV)	132.50	C		Conservation of wildlife for hunting
8	Makālu-Baruṅ	1991	National Park (II)	150.00	C	1992/2000 <sup>5)</sup>	Conservation of species and biodiversity; soil protection; tourism; research
10	Kanchanjaṅgā	1997	Conservation Area (VI)	205.00	B		Biodiversity cons.; tourism and development
11	Manāslu	1999	Conservation Area (VI)	166.30	B		Tourism and development; environment protection,

**Sources:** IUCN (1993); WCMC (1997); Shrestha and Joshi (1996)

#### Settlement / Utilisation

a: unsettled, utilisation strongly restricted or prohibited

c: unsettled, limited utilisation allowed to local people

b: settled, limited utilisation allowed to residents

r: residents resettled from the protected area

#### Notes

1) 1969–76 Hunting Reserve, 1976–88 Wildlife Reserve, NP since 1988

2) 1965–76 Hunting Reserve, Wildlife Reserve since 1976

3) 1976–84 Watershed Reserve, Watershed and Wildlife Reserve since 1984

4) 1986 project start, 1992 gazetted as a Conservation Area

5) 1992–2000 Makālu-Baruṅ Conservation Area, since 2000 buffer zone

When the Rāṇā dynasty was overthrown in 1951, the members of the reinstated royal family also showed great enthusiasm for hunting, and became concerned about the numbers of large animals. In the 1960s, King Mahendra created various Royal Hunting Reserves in the lowlands, presumably because of personal hunting interests. The local population were allowed to use the reserves 'at first, but not for hunting'. Heavy migration from the Nepalese mountain regions, and increased poaching during the politically unstable 1950s, dramatically reduced the numbers of tigers and rhinoceros<sup>2</sup>.

It was not only that the elite saw their hunting under threat, but, for the first time, international organisations for nature conservation were campaigning for the protection of tigers and rhinoceros. Their pressure and involvement (e.g. the massive World Wildlife Fund (WWF) campaign 'Operation Tiger') resulted in effective nature conservation planning in the early 1970s. Several scientific studies, along with the 'National Parks and Wildlife Conservation Act' of 1973, came out of this movement. This legislation enabled the establishment of the 'Department of National Parks and Wildlife Conservation' (DNPWC), to designate national parks and three other categories of nature reserves. The National Parks and Wildlife Conservation Act and subsequent studies for the Nepalese government were prepared and provided under the guidance of western FAO and UNDP experts who had previously worked in East Africa's national parks. They wished to transfer Africa's strict nature conservation concepts to Nepal (Upreti, personal communication, 2000).

The Citawan National Park, established in 1973, was followed by several wildlife reserves in Nepal's lowlands. They each followed traditional western nature conservation models (as implemented in East Africa), with the protection of large animals as the main objective. This so-called 'Yellowstone Model' (named after the world's first National Park in the western U.S.A.), provides strict protection of a large area from human settlements and use, except for tourism and research. This means, in effect, the sudden prohibition of the traditional use of resources, mainly for subsistence, by the population in neighbouring areas. Overnight, hunters became poachers and farmers became squatters (see Colchester 1993) without being given realistic alternatives for securing their subsistence. Units of the Nepalese army were stationed to protect the reserves. The only exception was the right to cut grass within the reserves, a few days out of the year. Thousands of people were moved from the reserves (see Willan 1965, Pradhan 1995: 10), with some forced migration from the Citawan National Park still continuing (see Müller-Böker 1999: 190), and additional resettlements from other nature reserves presently under discussion.

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<sup>2</sup> Whereas Stracey (1957) estimated the entire Nepalese rhinoceros population to be 400 in 1957, Spillett and Tamang (1966: 564) assumed this number to have fallen below 100 nine years later.

## **2.2 The extension stage: Inhabited National Parks of the high mountain areas**

When the first national parks were created in the Nepalese Himalayan region, in the second half of the 1970s (Sagarmāthā, Lāngtāng, Rārā), the DNPWC realised that it was impossible to move the many villages within the parks. With the exception of the Rārā National Park in western Nepal, where villages were relocated to the Terai region (see Fürer-Haimendorf 1984: 59), the DNPWC opted to allow settled villages to remain in the national parks of the mountain regions. The villages, together with private agricultural land, were legally excluded from the reserve area. The local population was allowed, under the provisions issued by the nature reserve management, to continue with traditional use of forests for firewood, timber, animal fodder, and pasture land. However, army units were also deployed to monitor the national parks, using up three quarters of the conservation budget in doing so (Shrestha 1997: 56).

The main objective of national parks in mountain regions is to secure the sustainability of agricultural use and tourism in fragile ecological systems. The protection of endangered species is not as significant as in the lowlands. In particular, the controlled promotion of tourism in the mountain regions is of major importance, as tourist admission fees have become the most important source of revenue. Only recently, a part of this revenue has been used for local development projects. However, the park management still adheres to the classic 'top-down' approach.

Until the introduction of the political party system in 1990, the king, as absolute monarch, was above the nature conservation law and was therefore allowed to continue hunting in the reserves. Presumably, these occasional hunting parties did not have much detrimental effect on the wildlife inventory. On the contrary, they may have secured the king's personal interest in nature conservation and his commitment to it (Upreti, personal notes, 2000). Even after the political overthrow of 1990, the royal family remained involved in nature conservation, for example through the position of Prince Gyanendra (the present king), as chairman of the 'King Mahendra Trust for Nature Conservation' (KMTNC), the most important national nature conservation NGO.

## **2.3 The conservation areas: The paradigm shift in Nepalese nature conservation**

During the second half of the 1980s, the inauguration of the Annapurṇa Conservation Area Project (ACAP) marked the beginning of new nature conservation concepts in Nepal. Its aim was the sustainable use of ecological systems through integrated nature conservation management approaches. Originally, a national park had been planned for the Annapurṇa region, but a feasibility study (Sherpa et al 1986) revealed that a 'conservation area' with

extensive consultation rights granted to the local population would be a more suitable form of protection.

This example was soon copied and met with much international acclaim. During the 1990s, three more conservation areas were designated in the Nepal Himalayas (Makālu-Baruṅ, Kanchanjaṅgā, Manāslu). Legislation enables management through national or foreign NGOs (King Mahendra Trust for Nature Conservation, WWF, The Mountain Institute). It also allows for the direct participation of the local population in nature conservation and tourism management, and in the implementation of development projects. The substantial revenue from tourist admission fees of the Annapurna Conservation Area is used for local nature conservation and development projects and is not poured into the state's coffers, as was the case until recently at other reserves (Gurung 1998).

This 'participative turn' in Nepalese nature conservation had several causes. Since the 1980s, international nature conservation organisations had increasingly realised that "nature conservation is only possible with the participation of all involved and, in an ideal world, through them" (Ellenberg 1993: 295). Subsequently, the objective of 'participation' has become a top priority on the agenda of the major international nature conservation organisations, such as IUCN and WWF. In Nepal, increasing conflict between the local population and nature conservation authorities apparently also made inevitable the involvement of the population with nature conservation, along with their participation in the economic benefits of nature reserves. At the same time, domestic political factors have promoted the development towards involvement of local forces in the course of development.

The political movement of 1990, resulting in the introduction of a democratic party system, was accompanied by increasing political awareness, and the demand for political participation, in particular from urban populations (see Krämer 1991). However, several nongovernmental and community based organisations, involving large numbers of people, have developed in rural areas in subsequent years. Ethnic minorities have also formed organisations demanding more political and social rights (see Hoftun et al. 1999). The decentralisation of state administration demanded by foreign sponsors has also been taken into consideration, although the implementation of reforms remains rather modest (see Thapa 1999). This means that interaction between political changes at the national level and a paradigm shift in international nature conservation have resulted in the reorientation of Nepalese nature conservation towards more participatory approaches.

## **2.4 New trends: Buffer zones and transnational corridors**

At the beginning of the 1990s, in conjunction with the 'participation turn' controversial plans were implemented to designate areas adjacent to nature reserves, often densely populated, as buffer zones. This followed concepts practised in other countries (Upreti, personal communication, 2000). The DNPWC, with the financial support of UNDP, created the Park People Programme (PPP), with the objectives of lifestyle improvement and sustainable use of natural resources in buffer zones, by means of various development projects (Park People Programme 1998). A 1993 amendment to the Nature Conservation Act forms the legal basis for the designation of buffer zones, with the result that 30% to 50% of the park revenue of four national parks is now used for development projects in buffer zones. However, local populations in buffer zones remain excluded from management decisions affecting the core zones.

A noticeable feature of current Nepalese nature conservation is the effort, supported by the WWF, to connect various nature reserves via (partly border crossing) corridors. This improves the protection of species that migrate between nature reserves (e.g. wild elephants) and larger ecological systems (WWF Nepal Program 2000).

Starting with the Bardiyā National Park in western Nepal, the following three case studies illustrate the major approaches to nature conservation in Nepal. One reason for choosing Bardiyā as a research area was that here, although it belongs to the first generation of nature reserves in Nepal, more modern management procedures have been adopted, together with a comparatively advanced buffer zone implementation. Unlike the Citawan National Park (comparable in many other aspects), the Bardiyā National Park was previously poorly documented.

## **3 The Royal Bardiyā National Park: 'Whose nature? Whose resources?'**<sup>3</sup>

With an area of nearly 1000 km<sup>2</sup>, the Royal Bardiyā National Park (RBNP) is one of the largest protected areas of the Terai. It was established in 1976 as the 'Royal Karnāli Wildlife Reserve', mainly for the protection of the Bengal tiger, and has been managed according to the classic 'Yellowstone Model'. Accordingly, it aims to protect 'untouched nature', the high biodiversity of the area, and the habitats of threatened animals against human influence. Earlier inhabitants of the park area have been resettled and are kept away from the national park by units of the Royal Nepalese Army (Brown 1997).

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<sup>3</sup> For a more in-depth analysis see Soliva 2002 and 2003.

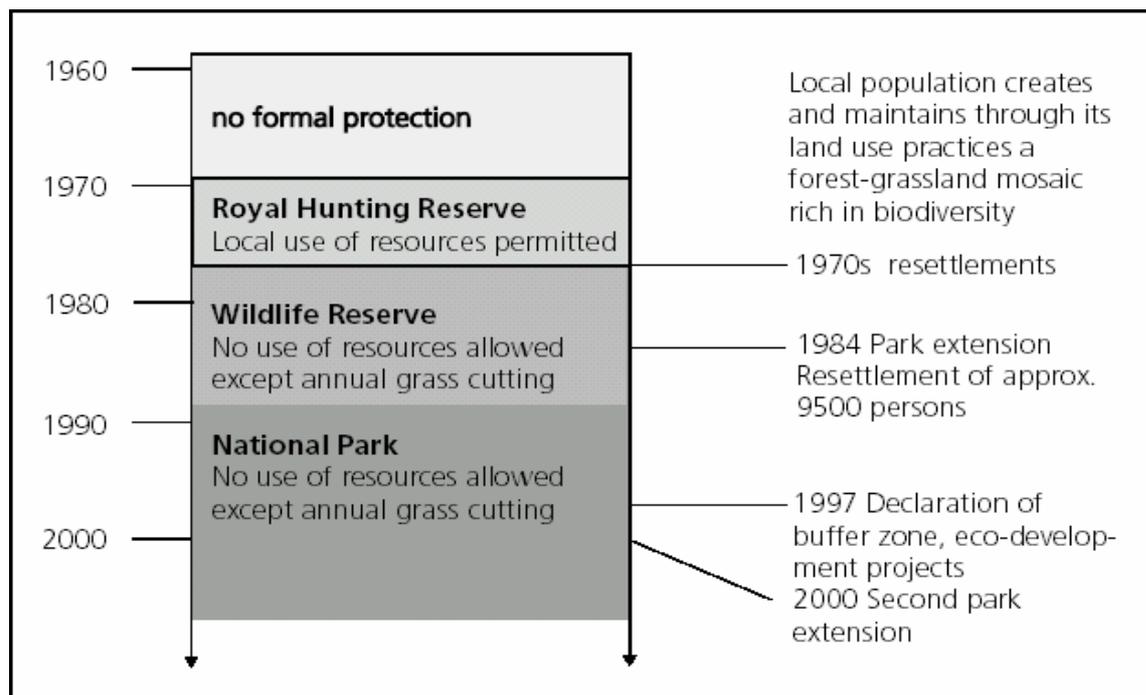
### **3.1 Political ecology as an approach, and its methods**

Several previous studies have dealt mainly with the ecology of Bardiyā and particular aspects of park-people conflicts. This study aims to give a more extensive view of the interests and interactions of the environmental actors. The concept of political ecology is used as an analytical framework. It emerged in the 1980s as a combination of ecology and a broadly defined political economy (Blaikie and Brookfield 1987: 17), and is concerned with the integration of political, historical and social aspects in the analysis of environmental change (Krings 1999: 129). Its basic assumption is that the environment is always political, and that special consideration must be given to the interests and interactions of environmentally relevant actors, at different spatial levels. Environmental actors are vested with varying amounts of power and pursue their diverse interests, resulting in conflicts over natural resources. Nature conservation can, therefore, be seen as a social process in which actors on the local, national and international levels are involved.

For the Bardiyā case study, the available literature was collected, and semistructured interviews were conducted with various actors in Bardiyā as well as in Kathmandu, supplemented by the method of participant observation (see Girtler 1992).

### **3.2 The development of the Bardiyā National Park**

Located on the fringe of the Gangetic plains and in the *Curiyā*-range, the Royal Bardiyā National Park, particularly along the rivers Karṇāli and Babai, provides a perfect habitat for many threatened species. These include the Bengal tiger, the elephant, the gharial and the Asian one-horned rhinoceros, which was reintroduced from Citawan National Park (Upreti 1994). Approximately 70% of the park surface is covered by sal (*Shorea robusta*) forest, while the remaining 30% consists mostly of a mosaic of forest and grassland. Until the 1950s, because of malaria, Bardiyā was very sparsely populated, with the Thārus as the only inhabitants, mainly relying on shifting cultivation, fishing and gathering. This situation changed in the 1960s, when a malaria eradication programme led to the mass immigration of caste groups and ethnic groups from the densely populated hills. This process continues: between 1981 and 1991, the population of Bardiyā district rose from 199,000 to 290,00 - an increase of nearly 46% (Central Bureau of Statistics 1993). The forest areas have been steadily decreasing, while agriculture has been intensified and is today dominated by paddy cultivation. Many people are, for lack of alternatives, still forced to rely on natural resources (grass, firewood, timber, grazing areas, etc.) from the national park.



*Fig. 2: The history of conservation in Bardiyā*

For the Rāṇā rulers, Bardiyā was a prime site for big game hunting. Only in 1969 was the western part of today's park area declared a Royal Hunting Reserve, in order to protect the big game for royal hunting parties. Grazing and hunting by the local people were thereby banned inside the reserve. Following the advice of an international conservation expert, the Royal Karṇāli Wildlife Reserve was officially established in 1976. This brought about a total ban on the use of the reserve's natural resources by the local people, except for a short grass cutting period in the dry season. Since then, the territory has been guarded by the Royal Nepalese Army, which is supposed to prevent the local population from entering the park. As early as the 1970s, three villages were resettled (Bolton 1976). In 1984, the protected area was expanded eastward to include the Babai valley, which was inhabited by about 9,500 people (Pradhan 1995: 10).<sup>4</sup> They were all resettled outside the protected area, in many cases against their will. In 1988, Bardiyā was 'upgraded' to national park status, but the park regulations remained the same.

As a reaction to increasing park-people conflicts, but also following the international trend of involving the local people in conservation, a buffer zone was declared in 1997, on three sides of the national park. It has

<sup>4</sup> A second park extension, to include another 500 km<sup>2</sup>, plus a nearly 400 km<sup>2</sup> buffer zone further to the east were approved by the government in October, 2000. According to a zoologist involved in planning, the park extension will not cause any new resettlements of villages. At the same time, RBNP was declared a 'Gift to the Earth' by the government in support of the 'WWF 2000 – The Living Planet Campaign'.

attempted to make the more than 90,000 inhabitants living inside the buffer zone (PPP 1998: 15) independent of park resources. They are encouraged to form user groups responsible for sustainable forest use. Through conservation education programs, attempts are made to make them aware of conservation needs. Moreover, the UNDP-financed 'Park People Programme' and several NGOs are implementing a number of development projects. These include the promotion of alternative energies and the generation of alternative income to raise the standard of living of the local population. 50% of the national park's income is to be directed to the local communities in the buffer zone.

As the history of the Royal Bardiyā National Park shows, various actors with different interests and vested with varying amounts of power have been involved in conservation in Bardiyā. Their interactions have been investigated in the following analysis from the viewpoint of political ecology.

### **3.3 Actors in the process of nature conservation in the Royal Bardiyā National Park**

Starting at the national level, there is above all the administrator of RBNP, the Department of National Parks and Wildlife Conservation (DNPWC). Its main tasks lie in the conservation of biodiversity and threatened animals and in promoting and controlling national park tourism, the main source of revenue for the national park. To enforce the laws and to protect the park against poaching, two companies of the Royal Nepalese Army are stationed in the national park. Many conservation experts acknowledge the role of the army in fighting against poaching in the protected areas of the Terai. However, even in conservation circles there have been complaints that stationing the army is too costly, that the co-operation between the army and park staff is poor at times, and that most soldiers are not motivated. They are given very little specific training and are transferred and given other duties every two years (Upreti 1994: 40). Furthermore, some local people complain about the bad behaviour of drunken soldiers who roam around the village at night, starting fights and molesting women.

The national park administration, together with the army, generally manages to prevail against the interests of local actors. Nevertheless, they have not been able to eliminate poaching, and park resources being used illegally by local people. Most farmers as individual actors do not possess much power. Together, however, they are a considerable force of resistance, which does not manifest itself through organised rebellion against the park authorities, but through 'everyday forms of resistance' (Scott 1985), small violations of park rules that cannot be brought under total control by the

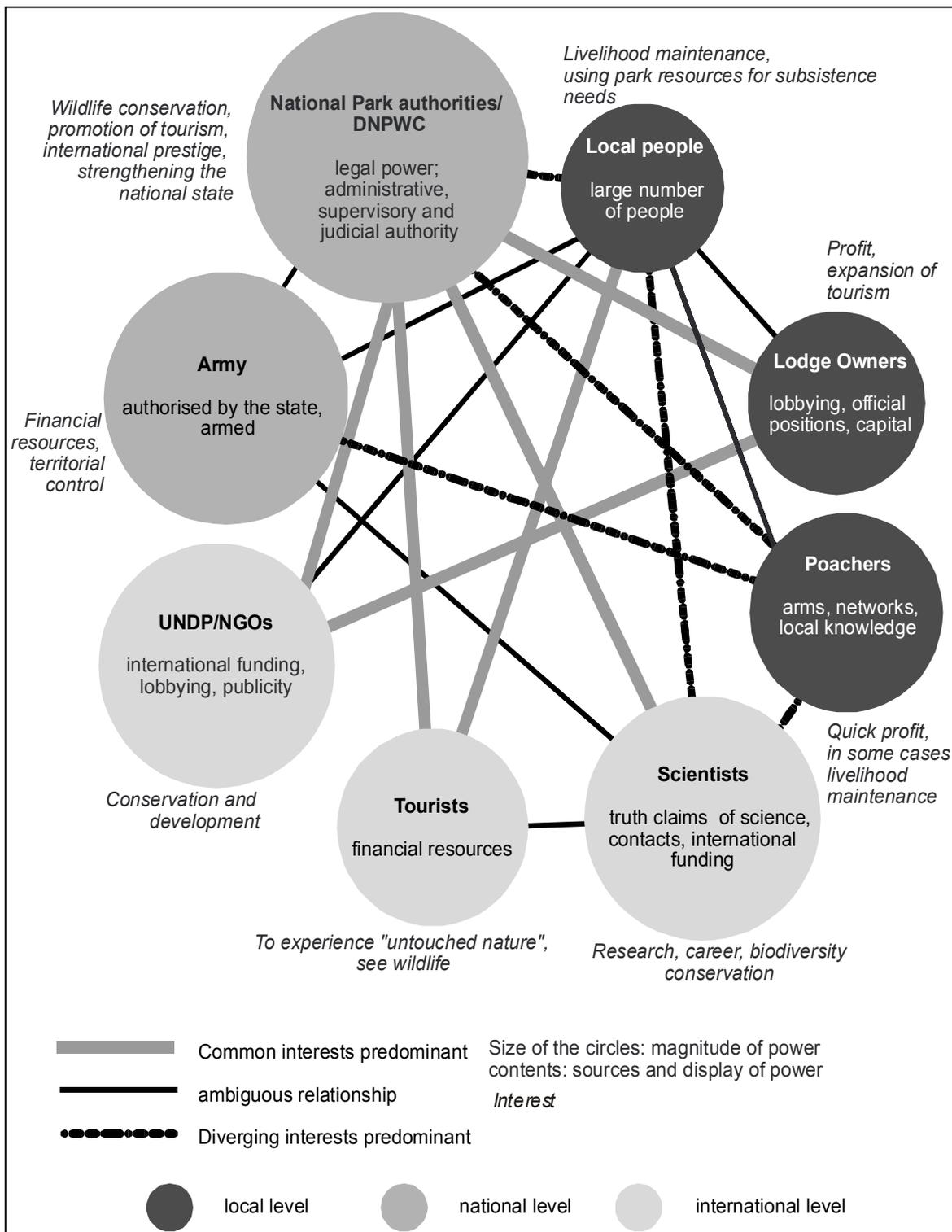


Fig. 3: Model of actor groups, interests and power relations in the Royal Bardiy National Park and its buffer zone

army. Regarding its original and primary goal, the protection of threatened species, the national park has been rather successful. The tiger and its habitat are protected, and the rhinos that have been relocated from Citawan seem to prosper in Bardiyā.

The rural population makes up the vast, heterogeneous majority of actors at the local level, differing in ethnicity and caste, social and economic status, land possession, etc. As most local people are poor, they are mainly concerned with meeting their basic needs through agriculture. With the establishment of the protected area and growing population pressure outside, some resources, such as firewood, have become scarce in certain areas. Many households near the park boundary have no other option but to collect firewood illegally in the park. The most serious problem the national park poses to the existence of local farmers is crop depredation by wild animals from the park. It results from both the increase in wildlife in the national park, and the intensification of agriculture in the buffer zone. The chief crop depredators are wild elephants, rhinos, wild boar and deer, all being strictly protected except wild boar. The park administration and NGOs working in the buffer zone are aware of the problem and are trying to build fences, which they claim to be effective. According to many farmers they are not.

The only use of park resources permitted to the local people is the cutting of grass, ten days per year. The national park administration regards the annual issuing of grass cutting permits to local people as a partial compensation for the restricted access to park resources. Indeed, the annual grass cutting is very important to the farmers. The grass is used for thatching and a variety of other purposes, and is only available inside the park, since there are no grasslands left outside. Between 1983 and 1993, the annual number of permits issued increased from 21,000 to 45,500: as in Citawan, a higher increase than the annual population growth rate (Brown 1997). Some conservationists and scientists are, however, worried about the increasing number of grass cutters. They fear a negative impact on the ecosystem, disturbances of wildlife, and theft of firewood. On the other hand, ecologists point to the necessity of annual cutting and burning for maintaining the grasslands and preventing the invasion of woody species. For the park managers, the question arises, how many grass cutters the park can support, and how they are best controlled. It has recently been suggested that the organization of grass cutting be left to local user groups, certainly an important step toward greater 'participation' of local people in park management. It does not, however, answer the question of the maximum number of grass cutters.

Tourism is gaining importance in Bardiyā, and year after year new lodges are being opened in the village of Andhākurdwārā. Between 1993/94 and 1998/99, the number of foreign visitors has more than tripled, from 871 to 2853 (annual reports of DNPWC 1994 to 1999). Most tourists come all the

way to Bardiyā to experience ‘untouched nature’ and avoid the mass tourism of Citawan (Müller-Böker 2000, Johnson and Orlund 1996). Bardiyā is said to be the best place in Nepal (and probably one of the best in the world) to see tigers, certainly an important motive for many tourists. For the national park, tourism is the main source of income, through entry fees and fees for elephant riding (around \$10 each in 1999). Therefore, the park administration is interested in a controlled expansion of tourism, even into areas that have been as yet closed to tourists. There are, however, fears among scientists and conservation–focused NGOs that Bardiyā may become another Citawan, which for them is a symbol of uncontrolled mass tourism.

The lodge owners are mainly people from Kathmandu or Citawan, who are already established in tourism, or local people with enough capital and connections to open up a lodge. So far, only a small minority of Andhākurdwārā inhabitants has benefited from tourism by working in a lodge, as nature guides, by selling souvenirs to the tourists, or vegetables to the hotels. Nevertheless, the attitude of local people towards tourism is generally positive, as Johnson and Orlund's survey (1996: 51) confirms. Many farmers rightly see in tourism a potential for development of the region.

### **3.4 Participation in the buffer zone: Juggling with names**

A final, important group of international and national actors consists of international organisations and NGOs. There are several NGOs, in addition to the UNDP-financed Park People Programme, operating in the buffer zone of Royal Bardiyā National Park. These include the World Wide Fund for Nature (WWF), the KMTNC, and CARE, Nepal. Their rhetoric emphasises local participation in their projects, yet the term ‘participation’ is rarely clearly defined in their publications. ‘Participation’ is a complex, multidimensional concept that may have different meanings to actors within the same context of interaction. Thus, Pimbert and Pretty (1997) distinguish between seven levels of participation on a wide scale, from ‘passive participation’ to ‘self-mobilisation’. The term ‘participation’ as used in this study is located on an upper level of this scale, where actors in the process of conservation are not only consulted, but have effective decision making powers. Accordingly, participation is understood here as effectively taking part in collective decision making and development processes. Participation is effective if actors are able to bring their opinions to bear in discussions and if their voices count when decisions are taken. The buffer zone programme suggests, however, that only part of the local population is given limited decision making power, which would assign the programme to the lower rungs of Pimbert and Pretty's ‘ladder of participation’.

Interviews with villagers show that the majority of those people interviewed has no clear idea about the buffer zone and has not benefited

from the projects. While those people who benefit from the projects are fairly satisfied, the poorest section of the population seems to derive little benefit from the projects. Quite a few people lack sufficient land or capital to take up income-generating activities. Furthermore, one informant complained that she had been excluded from forest user group membership due to her low caste, thereby being forced to illegally use park resources. It can be assumed that this is not an isolated case (cf. Graner 1997, concerning user groups in community forestry in Sindhupālcok District). In its brochures, the Park People Programme presents itself as highly 'poverty- and gender-conscious' by explicitly listing the percentage of participation of 'disadvantaged groups' in its statistics of activities and projects (PPP 1998, DNPWC/PPP 1999). However, definition of disadvantaged groups employed by the Park People Programme, which includes Thārus and members of lower castes, seems problematic. Poverty in Bardiyā does not occur precisely along ethnic or caste lines. While most members of lower castes are indeed poor, there are also some rather wealthy Thārus. In addition, just being present at group meetings does not guarantee participation, in the sense of taking part in decision making. Often, Thārus and members of low castes are present in user group meetings, but do not raise their voices, and silently agree to the decisions the local elites take.

While the user committees are expected to set up their own forest management rules, they have to adhere to a framework of rules formulated by the park authorities, such as a general ban on hunting in the buffer zone. Finally, the plan has to be approved by the chief warden of the national park. Generally, any use of natural resources in the buffer zone have to be 'sustainable' and in accordance with the objectives of the national park. In this way, the establishment of the buffer zone can be seen as an extension of power of the national park authorities.

Sharing park revenues with local people in the buffer zone is, in principle, an important step toward participatory park management. In the case of RBNP, the resulting economic benefit for the population has until now been small. Park revenues accruing from the barely 3,000 visitors per year are very low, compared to those from more than 80,000 visitors in Citawan National Park, and must be distributed over an area with more than 90,000 inhabitants.<sup>5</sup> Moreover, as several informants pointed out, the distribution of these funds to the user committees has not been functioning well.

Although it may be too early to evaluate the buffer zone programme in the Royal Bardiyā National Park, there seem to be grounds for the assumption that a 'participatory veneer' has been given to a traditional

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<sup>5</sup> Although suggested on several occasions, there is no direct mechanism for balancing the revenues among different protected areas. While considerable sums accrue in frequently visited parks such as Citawan or the Annapurna Conservation Area, the revenues of, for example, Khaptaḍ National Park are negligible.

fortress style of conservation in order to please foreign donors. Although a substantial benefit from park revenues arises for some in the buffer zone of Citawan National Park, this is not the case in Bardiyā. It is true that some villagers, often the already better-off section of the population, benefit from development projects implemented by the NGOs. The continuation of this benefit after the cessation of financial aid is not yet secured. Yet, for most inhabitants of the buffer zone of Bardiyā National Park, the buffer zone programme means, first of all, a limitation of their control over natural resources, and a reproduction of the existing power structure.

#### **4 The use of pastures inside Khaptaḍ National Park**

Bardiyā National Park is strongly marked by the so-called 'fence and fine' approach. Khaptaḍ National Park, on the other hand, represents an officially regulated natural resource regime.

Khaptaḍ National Park, probably the most unknown and least investigated protected area in Nepal, was established in 1984 in the Far-Western Development Region. It covers an area of 225 km<sup>2</sup> at an altitude between 1,400 and 3,300m, and includes parts of the districts Doti, Acham, Bajhang and Bajura. Gazetted in 1986, and guarded by the Royal Nepalese Army, it is managed directly by the DNPWC, each having headquarters inside the park and several posts at the border.

The districts bordering Khaptaḍ National Park, populated by some 600,000 inhabitants, constitute, even in the Nepalese context, an extremely poor region (NESAC 1998). Relatively small production figures within the farming sector, regular food aid and the absence of development and research projects are characteristic indicators of the region's marginal position. Temporary labour migration and emigration are widespread in this marginal region.

With an average of 15 foreign visitors per year, tourism in the park remains negligible so far. There is, however, domestic pilgrimage tourism with a peak season in June, when thousands of pilgrims visit the holy places in Khaptaḍ. The park is surrounded by a 'buffer zone', from which the local population is allowed to use several resources of the park. It comprises 22 Village Development Committees (VDCs) with approximately 10,000 households, belonging mostly to the so-called 'hill-castes' which are grouped in a very orthodox caste system (see Müller-Böker 2003).

Despite the absence of a general management plan for the protected area (IUCN 1993), regulations pertaining to the resource use were drawn up shortly after the park came into existence in 1986. They have remained in force, with a few changes, up to the present. Seasonal summer settlements are located on a 3,000m plateau within the park. For four months, people living on the park's borders are allowed to let their animals graze in the park. Under a strictly regulated scheme (requiring the payment of fees, and

only for a few days each year), a number of other resources in the park, such as bamboo, *daphne*, grass and firewood, may be exploited.

The conservation values of Khaptaḍ National Park can be basically divided into physical and cultural values. Its main physical value derives from the fact that it is the only protected area representing Mid-Hill-ecosystems in the western part of Nepal. Furthermore, it stretches over an altitude belt that is under-represented in the extensive protected area system of Nepal (Hunter and Yonzon 1993). It contains abundant forests (e.g. *Quercus leucotrichophora*, *Abies spectabilis*) and rare lake and mire ecosystems. Four plant species found in the park are endemic to Nepal, from which *Cotoneaster bisraminanus* is only found here (Shrestha and Joshi 1996). Among the broad diversity of fauna in the park, there are 223 bird species. Five of them are of supranational importance, and the only sighting of *Yuhina nigrimenta* has occurred here (Inskipp 1988). Endangered wildlife like musk deer, wild dog, *ghoral* and *thār* occur in the park, as well.

Cultural values seem to have been of great importance for the establishment of Khaptaḍ National Park. Its history differs fundamentally from other parks, worldwide. It was established basically on the initiative of Khaptaḍ Baba, a well-known Hindu holy man who lived for 50 years in Khaptaḍ. He personally approached the king of Nepal with a request to protect the land surrounding his ashram. Within six months, the national park was established and the borders were defined, and he took over the role as an 'unofficial caretaker of this park' (IUCN 1993). In the core of the park, there is a 5 km<sup>2</sup> 'sacred zone', which encompasses important holy places and the ashram of the Khaptaḍ Baba. At this place of 'meditation and silence', grazing, felling trees, killing animals, as well as the consumption of alcohol and tobacco are prohibited. Khaptaḍ seems to have been a sacred place for a much longer time. In ancient mythology the Khaptaḍ region is mentioned as being in the lower part of Manasa Kanda (the upper part is Mt. Kailash and Manasarovar Lake). It is said that Lord Shiva lived near Khaptaḍ in mythic times and that he invented Aryurvedic medicine with herbs from Khaptaḍ ridge (KRTC 1999). However, for local as well as for foreign visitors, the peaceful setting and the unique landscape of Khaptaḍ is now the main attraction. A mixture of grazing grounds and forests shapes the landscape on the high plateau at 3000m.

#### **4.1 The Environmental Entitlements Approach**

The 'Environmental Entitlements Approach' (Leach et al 1999) attempts to deal analytically with the rights to use natural resources, and tries to show the central role of institutions in mediating the relationships between societies and the environment. Based on an extended form of the entitlement analysis (Sen 1981), it also appeals to the 'New Ecology', the

'New Institutional Economics', the 'Theory of Structuration' (Giddens 1984) and 'historical landscape interpretation'. It is used to analyse the means of access to environmental resources, of various social actors. Central importance is given to institutions as mediators of the interaction between people and environment. The focus of attention is on the transformation of actors' endowments into capabilities by means of the entitlements. Endowments are very broadly defined as the 'rights and resources that social actors have', entitlements as the 'legitimate effective command over alternative commodity bundles', and capabilities as 'what people can do or be with their entitlements' (Leach et al 1999: 233). Institutions may be conceived as rules which manage human activity (North 1990: 3), and which are, in turn reproduced by actions (Giddens 1984). The consideration of institutions that are involved in nature conservation is useful for an analysis of the various related interests. Thus, it becomes clear that different groups of actors view themselves as being tied to different institutions, and accordingly appeal to different rules when pursuing their activities. Moreover, institutions differ from each other regarding their power and their temporal and spatial range of effectiveness. The goal of the Environmental Entitlements Framework is to analyse the connection between ecological and social dynamics, and the use of natural resources by particular social groups. Consequently, the results obtained may serve to more clearly target external intervention in order, for example, to protect particular social groups, or to be able to use natural resources better.

#### **4.2 Endowments: Who has the right to use Khaptaḍ?**

The pastures, as well as the other natural resources of the park, may only be used by the inhabitants of a buffer zone surrounding the park. This zone comprises 22 communities with a total of some 10,000 households. For a relatively small fee, one may graze animals on the pasture lands of the plateau and in the directly bordering forests, for four months in the summer. Surveys have shown, however, that even before the park's establishment, people from only ten communities brought animals to the area of the present national park. Among these ten communities, it was only people from villages situated very close to the (present) park who kept their animals on the plateau over the summer. One may conclude that traditional institutions have already restricted access to a pool of some 1,000 households (see Fig. 4). Decisive factors here are proximity to the park, availability of other pasture lands, and physical accessibility. These elements would make use of the park too difficult for the settlements further west.

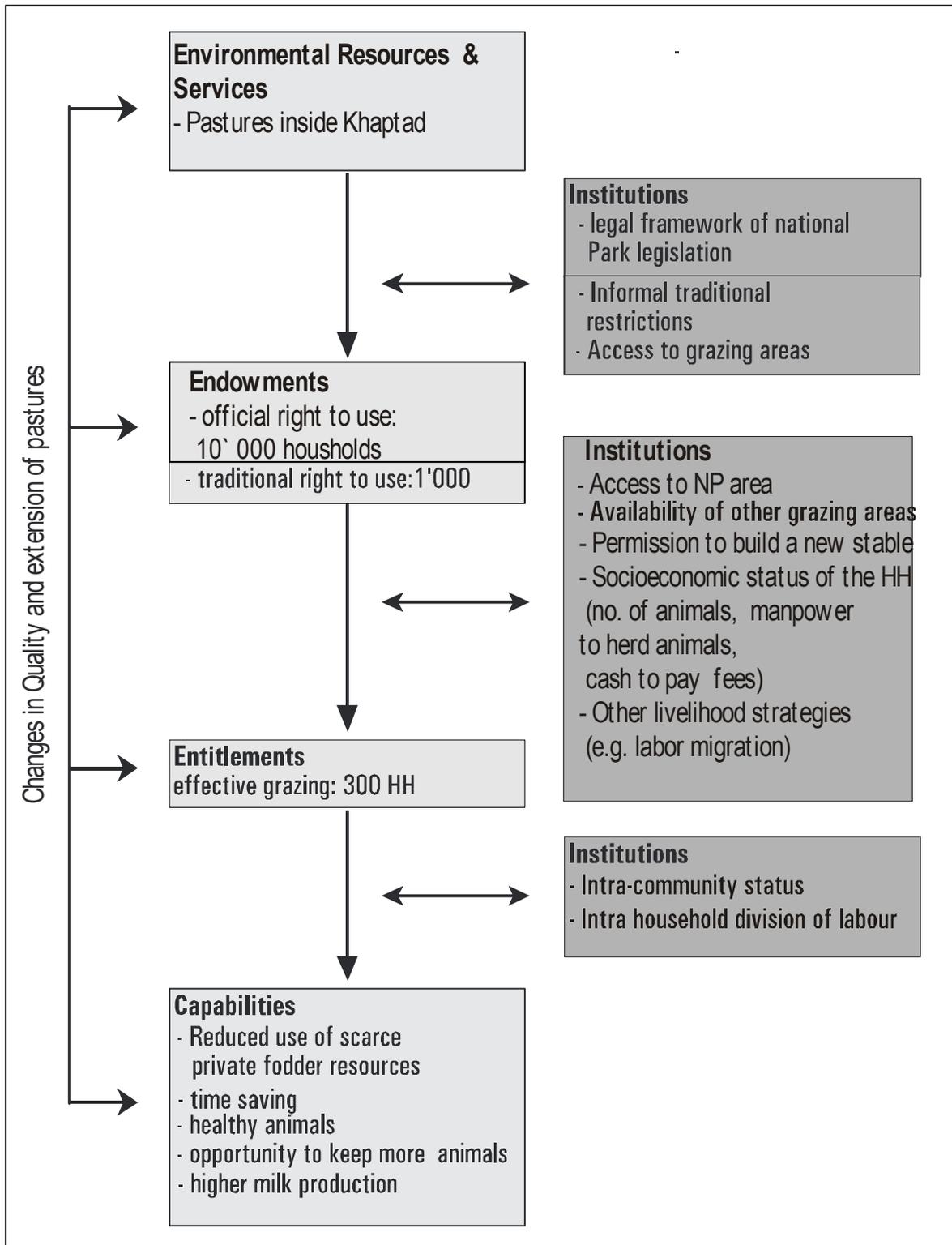


Fig. 4: Environmental entitlements of pasture use in Khaptad National Park

### **4.3 Entitlements: Who uses Khaptaḍ National Park?**

Can it be that of the 10,000 households that have right to engage in pasturing within the park, only some 300 households lay claim to this entitlement? The vast majority of households, as previously noted, are denied access by traditional institutions. Some households have been denied use of the pasture resources because their stables lie outside the public pasture lands. Following the establishment of the park, such stables had to be abandoned. The necessary approval from the park administration to build new stables was not given.

The most important institutions determining whether use rights will be turned to account or not, can be observed at the village level. They may be seen in the social and economic status of individual households, and in the economic strategies they pursue. Thus, certain preconditions must be met in order to make rational use of the summer pastures as a resource in the park. There must be enough animals and enough workers to tend them, and also the cash to pay the fees. This would initially suggest that it is mainly the larger, better-off households that satisfy these conditions. Household surveys have nevertheless shown that many poorer households also make use of this resource. Other household strategies that are independent of natural resources and the availability of other sources of income play a role as well. Additional income is, above all, generated from temporary labour migration to India, a widespread phenomenon in the region.

### **4.4 Capabilities: Who profits from the use of the resources in the National Park?**

A total of only some 300 households from eight communities use the pasture resources of the national park. Those who have been able to translate their endowment into capabilities constitute up to 40% of all households from a few villages in the directly surrounding area. But who profits?

The advantages of using pasture land in the national park are obvious. By spending the summer on the mountain pastures the animals have access to better grazing and produce more milk. The pressure on scarce pasture resources near the village is reduced, as well as the input of labour, since grass doesn't need to be cut nor do the animals need to be permanently watched. Indeed, both factors tend to raise the value of the animals.

Within a household, it is not easy to judge winners and losers. Women are socially extremely underprivileged and overburdened. They may profit from not having to cut grass, but must then take over male labour when necessary. This typically happens when the men are pasturing their animals in the national park.

## 4.5 Conclusions

Regarding the use of pastures, the example of Khaptaḍ National Park makes it clear that traditional, local institutions decisively regulate the transformation of resources into assets. If only formal institutions existed, the intensity of grazing would greatly increase, and the park's resources would be quickly overexploited. This does not mean that institutionalised 'nature conservation' has no impact on the surroundings of Khaptaḍ National Park. This is proven by the conflicts between the army and the local population, when they collect firewood 'illegally', as well as the increasing damage to harvests from the growing number of wild animals (mostly wild boars).

Even though the 'sacred institution' nature conservation (Backhaus and Kollmair 2001) acts as a restriction for a small portion of the population, there are recurring calls to prohibit the use of the park for grazing altogether (KRTC 1999). This proposal, formulated by powerful representatives of the tourism and nature conservation sector, shows that the institution of 'nature conservation' claims special status for itself. Decisions to change use-related regulations have until now usually been made without consulting the users (Kollmair 2003).

The Environmental Entitlement approach has proved to be a useful tool for the analysis of problems associated with the institutional regulation of claims upon natural resources. The involvement of institutions in the recursive processes between action and structuring framing conditions could be illustrated. The distinction between endowments and entitlements leads to a deeper understanding of institutional processes involved in natural resource use. The use of resources as well as the often ignored non-user can be identified with the aid of the restricting institutions.

These results, combined with investigations on socio-economic strategies at the household level (Müller-Böker 2003, Müller 2002), make it possible to develop proposals for improved buffer zone management.

## 5. The Kanchanjaṅgā Conservation Area: A participatory concept of nature conservation and its local perception

The Kanchanjaṅgā Conservation Area Project (KCAP), established in 1997, follows the principles of the new participatory concepts of nature conservation. These concepts suggest that sustainable nature conservation is only possible with or, in the best case, through the local population. A preliminary study was conducted in the remote and sparsely populated area of the northeastern corner of Taplejuñ District. The aim was to clarify the local population's perception of the project's participatory approach, by taking a look at the condition of livelihood and local institutions. The region was chosen because the conservation area was very recently established

there. The World Wildlife Found (WWF), an important stakeholder within the international conservation community, provides the funding and management. In other words, concepts and ideas of the international conservation lobby meet those of a traditional subsistence oriented population.

### **5.1 The Kanchanjaṅgā Conservation Area Project**

The Kanchanjaṅgā region in eastern Nepal was declared a 'Gift to the Earth' by the government of Nepal in April 1997, supporting the 'WWF 2000 – The Living Planet Campaign' (WWF 1999). In July 1997 it was designated as a Conservation Area, and in November 1997 the WWF (US)-funded project started work. Administered jointly by the DNPWC and the WWF (Nepal), KCAP covers an area of 2,035 square kilometres southwest of Mt. Kanchanjaṅgā, the world's third highest peak (8,586 m). The area encompasses an impressive high mountain landscape with glaciers, rocks (65%) and meadows (9% of the protected area), as well as abundant forests (24%) below 4,000 m. Only 2% of the area is under cultivation.

The main reasons for protection, as stated by the WWF, are the unique environmental characteristics of the Mt. Kanchanjaṅgā area. It has a great density of glaciers, biodiversity, extensive forests of endangered Himalayan larch (*Larix griffithiana*), as well as endangered wildlife (e.g. red panda, snow leopard, blue sheep). The potential for trans-boundary conservation with the Kanchanjaṅgā National Park in Sikkim (India) and the Qomolangma Nature Preserve in Tibet (China), is regarded as a further benefit (Rastogi et al 1997). The general project aim is "to safeguard the biodiversity of the area, and improve the living conditions of the local residents by strengthening the capacity of local institutions responsible for making decisions, which will effect the long-term biodiversity conservation and economic development of the area" (KCAP 1999: 1).

These aims should be reached by the following measures (KCAP 1999, Gurung and Gurung 2001):<sup>6</sup>

- implementation of a management plan through Conservation Area Management Committees (CAMCOM) formed by local people;
- motivation of the local population towards community and infrastructure development;
- raising the awareness and motivation of local people to work for conservation management, community development, biodiversity conservation and eco-tourism development; and

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<sup>6</sup> Because the project was still at an early stage in 1998, only a few measures had been implemented to the state in 2001. See Gurung and Gurung 2001: 162 ff.

- enhancement of the economic status and education opportunities of women.

The well-known, and successful, Annapurna Conservation Area Project (ACAP) (e.g. Bunting et al 1991, Bajracharya 1995) served as a model for the Kanchanjaṅgā area. However, the preconditions of ACAP are quite different from KCAP. The success of ACAP has an economic foundation, based on the income generated from tourism. Entrance fees and expenditures of the more than 50,000 foreign tourists per annum (Yonzon and Heinen 1997) can be used for development activities. On the other hand, the Kanchanjaṅgā region only opened up for trekking tourism in 1988. Currently, there are only 500 to 800 tourists per year (Watanabe and Ikeda 1999, Yoda et al 2001). The main disadvantages for tourism include the difficult access due to its remote location, a short season (high precipitation and low temperatures) and poor facilities for tourists. In the near future, a substantial increase of visitors and income opportunities is not expected (Gurung 1996).

## **5.2 Livelihoods and local institutions in the Kanchanjaṅgā Conservation Area**

Around 5,700 people of different ethnic origins reside permanently inside the conservation area. Living in five Village Development Communities (VDC), the population is split between the ethnic groups of Sherpa (Bhoṭe), Limbu, Rāi, Guruṅg and Chetri. Their main source of income is subsistence agriculture and animal husbandry. Beyond these, the local population depends on a wide variety of activities to sustain their livelihood. These range from small cottage industries and trade with Tibet, to income generated from tourism, seasonal labour migration, and mercenary employment. Most households combine these different strategies to minimise risk and optimise the use of natural and economic resources.

The KCA can be roughly divided in two altitude belts with different livelihood strategies (tab. 2).

Table 2: Altitude belts with different livelihood strategies in KCA

	<b>Lower Altitude (1,000 – 2,500 m)</b>	<b>Higher Altitude (above 2,500 m)</b>
<b>main villages</b>	Tāpethok, Māmānkhe, Lelep	Ghunsā, Olānchuṅgolā
<b>ethnic groups</b>	Limbu, Rāi, Guruṅg, Sherpā (Lāmā)	Sherpā, Tibetan refugees
<b>farming system</b>	mixed small-scale farming on irrigated and dry fields; shifting cultivation	animal husbandry in transhumance; dry field farming (not in Olānchuṅgolā)
<b>main crops</b>	rice, maize, millet, cardamom (cash-crop), two crops per year	potato, wheat, buckwheat, one harvest per year
<b>livestock</b>	cattle, buffalo, sheep, goat	yak, nak, chauri, sheep
<b>off-farm activities</b>	portering, military service, seasonal labor migration, selling of forest products	trade with Tibet and Sikkim, tourism, carpet weaving

A bundle of local institutions regulates access to the natural resources of the surrounding environment. Examples are pasture management regulations, grass-cutting regulations, and local forest protection regulations.

The pastures are officially registered as government land, but their use and management is under the control of local user groups. A healthy population of blue sheep above Khānpāchen (Brown 1994) indicates that the local management of pastures is not only sustainable, but also supports wildlife. Only the inhabitants of Ghunsā have free access to these pastures, while users from outside (non user group members) have to pay fees. Since the refugee residents of Phale do not have pastures or pasture rights, they have a system of joint herding with the residents of Ghunsā. In exchange for half the produce (*ghiu, churpi*), Ghunsā herders take Phale livestock to their summer pastures. The livestock is kept near Phale in winter. Another group using Ghunsā's pastures are Chetri shepherds from Taplejuñ Area, practicing an extended transhumance.

The 'grass-cutting day' is one of the most exciting and effective institutions of Ghunsā (Brown 1994: 30). It regulates the supply of winter fodder. To avoid individual exploitation of a crucial common resource, village representatives fix the day on which the grass cutting is allowed to start. After three to four days, all the grass is harvested. All members of the community will have had the opportunity to collect sufficient hay. The grass cutting regulations also extend to private land. This helps to mitigate economic disparities and prevents the theft of grass from private lands. The ability to adapt the system to a new setting was proved after Tibetans took refuge in Phale in 1959, when they were accepted as equal partners in this system.

Locally developed rules and regulations are also found concerning the forests, especially the heavily used forests in the vicinity of settlements. The term '*rāni ban*' designates those forests that are traditionally preserved for religious, as well as secular reasons. The timber for the construction of schools, gompas, bridges and other needs of the community is taken from these forests.

Various local institutions establish governance over a particular resource defined by a user group, demarcating a boundary and establishing and enforcing a functioning set of user-rights and restrictions. In the past, these local institutions could effectively resist external state control because of the remoteness of the area. However, the KCAP tries to enhance and modify these traditional rules and regulations through the implementation of a management plan through Conservation Area Management Committees (CAMCOM).

### **5.3 The local perception of the KCAP**

In autumn 1998, we visited nearly every village inside and bordering the KCA (with the exception of the restricted area of Olānchungolā). We conducted around 40 interviews with various local residents and with the representatives of the project who were present.

The first set of questions dealt with the following subjects: What does the local population know about the KCAP? What are their expectations concerning the project?

The majority of interviewees knew that a project called KCAP existed. However, only two of them were aware that the main organisation running the project is the WWF, without knowing what kind of organisation it is.

After having explained that the WWF is an international nature conservation organisation, the question was raised: "Why, in your opinion, do people from other countries donate money to protect nature in this area?" The reaction to this question was astonishment and laughter. Many people admitted that they had never reflected on this. After some considerations, sometimes it was stated: "Probably people from foreign countries know about our very bad situation. They want to help us!" However, they gave no thought to nature conservation.

When questioned about the main targets of the KCAP, it was surprising that intrinsic conservation targets like the ban on hunting, protection of animals, plants and forest use regulations, were known in only a fourth of the cases. Twice as many responses were related to the project's aim of 'improving in the standard of living'. It was repeatedly mentioned that the main objectives of the project are the construction of large buildings and roads, supplying water and electricity, restoration of monasteries, improvement of schools, agricultural training programs, and the formation

of women's groups. These expectations, which go far beyond the intention and economic potential of the project, are comprehensible in view of the main problems of the area.

Asked about the main problems, many respondents stated that there are 'far too many' of them. Most frequently mentioned was the lack of infrastructure. Nearly everybody complained about the bad conditions of the sometimes dangerous trails and bridges. High transportation costs for all commodities, limited access to markets (the nearest vehicular road is a walk of two to five days from the KCAP), and dangerous routes to the school were mentioned. Problems with the drinking water supply, no access to electricity, insufficient medical supplies, lack of telephones and milling facilities, were stated less often. Other frequently stated problems were the general lack of education and employment opportunities. Only a few interviewees noted environmentally linked problems, such as poor firewood supply and erosion. One respondent even identified the conservation project itself as the main problem!

Overall gender differences in the perception of problems were significant. While more than two-thirds of the male interviewees mentioned the poor infrastructure (paths, bridges, electricity), only one-third of the females did so. The perception of the drinking water supply was quite the reverse, being often mentioned by women, but only occasionally by men.

The perceptions of the few tourists we interviewed were in sharp contrast to those of the local population. They mentioned that the main problems for the local population were (in order of frequency): deforestation and erosion, hygiene problems (toilets), education, medical supplies, general economic problems, the bad influence of outsiders (sic!), drinking water supply, footpaths, and drug problems.

The second set of questions concerned the topic: Is it necessary to protect nature? In which way could it be done?

That it is necessary to protect nature, or more precisely, that rules and regulations for the use of natural resources are necessary, was common sense. The reasons mentioned for the protection of nature were mainly utilitarian, and focused on their own locality. These reasons included, "for our own security", "our children will need firewood in the future", and "that tourists have something beautiful to see". Aesthetic aspects were also quite frequently mentioned: "If there are many trees, then there are many birds and animals, and that is beautiful to see". Opinions were divided with relation to the fauna. It was stated that it is 'bad' to kill animals, but referring to the frequent harvest losses due to wild animals and highly dangerous encounters with bears, there were also those who demanded the extinction of these animals. Only a few men, Buddhist Sherpas and Tibetans, gave religiously motivated reasons for conservation by referring to Buddhist concepts: "not to kill animals or to plant trees, this is good for our *dharma*".

While the answers concerning the reasons for protecting nature were diverse, the answers regarding how it could be done were quite consistent. Most of the interviewees emphasised that it is first of all necessary to find consensus within the community. Conservation, in their eyes, is only possible if the whole community pulls together: “I can't do anything by myself, we must work together” was heard frequently. This refers to institutional regulations. As mentioned above, there are traditional ones in existence, but new ones have to be created. KCAP can count on the readiness of the local population, especially women, to take up these innovations. The most positive and successful examples of new institution building, as promoted by KCAP, are the mother-groups and the informal education classes for women.

#### **5.4 Conclusions and outlook**

An important result of our investigation in the Kanchanjaṅgā area is that only a small part of the population is aware of the principal objective of the KCAP, which is nature conservation. The WWF project is almost always perceived as a rural development project. Consequently, the expectations are unrealistic. It can be deduced that in the new generation of conservation projects the main target of ‘conservation’ is embedded within development measures and, for the local population, is hardly visible. Acceptance of such a project is high, at least in the beginning. However, as soon as the conservation targets, including the restrictions, become more obvious, and many of the expectations with regard to improvement in the living standard are not fulfilled, critical voices tend to become louder. The lack of transparency, as well as campaigns against the project, have already led to rumours about army stationing, prohibition of forest resource use, and grazing restrictions. A lesson that the KCAP team had to learn was that, “As a result of misinformation, it was very difficult for the extension team to build trust with the local communities and address conservation issues” (KCAP 1998: 12).

Nevertheless, compared to many other conservation projects in the developing world, the KCAP makes serious attempts to integrate the needs of the local population. With the implementation of the community-based CAMCOMs on different administrative levels, including women's groups and forest user groups, it is on the best path to embed traditional institutional structures in the conservation approach.

The project will, however, have to face a number of problems in the future. A permanent one will be financing of the development activities. The income generated through entrance fees paid by tourists will never cover the expenses. Another problem facing the project is a social one: the multiethnic composition and local stratification of society. The project headquarters is situated in a village with predominately Sherpā inhabitants, and most of the

local employees are Sherpās. The Limbus, the second most numerous group of the area, are not represented at the headquarters and therefore feel discriminated against. Again another conflict seems to emerge from the fact that the KCAP interferes in local polities. The project ran into serious trouble in 1999. Local political leaders tried to urge the management to shift the headquarters to the district capital, and to involve local NGOs, which are under their control, in the park management. In other words, participatory nature conservation programs have to tackle primarily social questions and depend on existing political structures.

The main aim of 'conservation' has not been adequately explained to the local population, which shows once more that 'participation' is easy to promulgate, but difficult to implement. In the environmental conservation context, participation is still largely seen as a method of reaching externally desirable conservation goals. It is generally interpreted in ways that do not allow the transfer of control to the local people, and is not seen as a social process (Pimbert and Pretty 1997).

## **6 Discussion of the most important results**

### **6.1 Different nature conservation concepts**

Case studies have shown that the impact of nature conservation projects on the local population can differ according to the project's approach. In its early phase, Nepalese nature conservation was influenced mainly by U.S. notions of nature and nature conservation, which were then implemented within the context of Nepalese societies. Later adaptations, executed in various conservation areas with solutions that were influenced by international mainstream nature conservation but generally based on the Nepalese concept, were developed together with ACAP, KCAP and other conservation areas. For this reason, in an international context, Nepal can be said to have pioneered participative management of nature reserves in High Mountain regions.

Case studies confirm the initial hypothesis that conflicts between nature conservation and the local population increase when contradictory concepts of nature and nature conservation exist. It has become apparent that the evaluation of the natural environment in Nepal's subsistence-oriented societies is primarily focused on use (see section 5). However, nature can also be understood as part of a religious reference system, where mountains, rocks, forests or trees are worshiped (see section 4). Western perceptions of nature, on the other hand, are based on the segregation of nature and culture (Schiemann 1996), and consider it necessary to maintain an unspoiled natural environment as the converse of civilisation.

According to the classic 'Yellowstone concept', research and recreation are the only forms of use permissible in national parks, and they are

intended to serve the 'enlightenment of mankind'. In more recent times, the conservation of genetic biodiversity has gained importance for future exploitation by the pharmaceutical industry and bio-technologies.

One area where the interests of the local population coincide with western nature conservation concepts is nature conservation for religious motives. It should be noted that in most cases where religious motives were instrumental in designating nature reserves, these areas are sacred to Hindus, and their protection is in the interest of a Hindu kingdom. If, on the other hand, Limbus had demanded the protection of a mountain that was sacred in their religion, or if Thāru had demanded access to a forest within a national park where forest spirits are worshipped, it would have been unlikely that the state would have considered their demands.

## **6.2 Tourism and wildlife protection**

National park tourism is another area with a trend toward combining interests of the local population with the authorities in charge of nature conservation. Tourism is an important source of revenue for the state as well as for (some) members of the population, and is considered by the authorities as almost harmless for the environment. In this context, the necessity to protect wildlife as a prerequisite for tourism in the Terai National Park is probably less controversial than it is in the mountain nature reserves where enjoyment of the landscape is more important.

Nevertheless, all over Nepal the protection of crop-damaging animals and predators that kill domestic animals meets with limited acceptance among the farming population. As long as farmers are not compensated sufficiently for such damage, 'conservation education' is not likely to succeed in convincing them of the necessity of wildlife protection. In other words, a smallholder in the Terai region is not likely to understand the 'immense national and international importance of the rhinoceros', so long as these animals keep destroying his crops and he does not receive any compensation.

## **6.3 Institutions**

If both the local population and the Nepalese state acknowledge a region to be worthy of protection, this does not necessarily mean that the implementation of a nature reserve can go ahead without conflict. This depends rather on the way nature conservation is carried out in accordance within the relevant institutional regulations. In some cases, as with the traditional pasture regulation in the Khaptaḍ National Park, local institutions are compatible with nature conservation concepts designed at a national level, and hardly cause any conflict. However, such institutional regulations are more often incompatible, especially if the farming

community is no longer permitted to use vital natural resources without being offered realistic alternatives.

The monitoring of natural resources is another area where conflict can arise, because of incompatible institutional regulations. For example, in some national parks now monitored by the army, monitoring was previously carried out by traditional 'forest wardens' and other monitoring authorities. Among the best documented in the literature is the 'Shinggi Nawa', the traditional forest warden of Sherpā in the Everest region (Stevens 1996, Sherpa 1993). His job was officially taken over by the army after the Sagarmāthā National Park was implemented, but was carried out much less efficiently. Subsequently, conflicts arose between the indigenous Sherpā and the national park management. Although monitoring of the mountain nature reserves by the army has been widely criticised, even among DNPWC, the Nepalese government adheres obstinately to this system.

For this reason, one can assume that, besides park monitoring, other reasons are responsible for the government's attitude (such as protection of border regions, control over ethnic minorities, and financing of the army).

#### **6.4 Perception and evaluation of nature conservation concepts by different actor groups**

Not only are nature conservation concepts and their implementation strategies important, but also the way they are perceived by the different groups involved. For instance, the DNPWC's perception of nature conservation concepts and environmentally relevant institutions of a village community within a nature reserve can determine the scope of use restrictions, or the relocation of an entire village. However, nature conservation agencies' perceptions of concepts and institutions for the use of local resources have changed emphasis in the last two decades.

Until the 1980s, farmers in nature reserves were mainly considered to be a disruptive factor; they damaged the environment by their ill-considered actions (Müller-Böker 1997). Some authorities in charge of integrating nature conservation projects now treat farmers as 'environment caretakers' and 'land managers'. In the beginning, they distinguished between 'indigenous' and 'immigrant' people, in many cases a rather ambiguous decision. Whereas indigenous people such as the Thāru in Bardiyā or the Sherpā in the Everest region were at first considered in a romantic way as 'living in harmony with nature' and sometimes as 'part of the ecological system', the so-called immigrant settlers were considered to be far less capable of dealing sustainably with nature. Nevertheless, in several cases indigenous people were resettled from national parks (for Citawan see Müller-Böker 1999).

### **6.5 Opportunities and limitations of participatory nature conservation approaches**

Local institutions that have proven to be useful for national nature conservation interests are acknowledged by the management and supported as much as possible. However, in conservation areas as well as in buffer zones, the objective is to create new institutions dealing with nature and the environment, and establish them as user groups and committees. In practice this can lead to problems.

Firstly, the results of the Bardiyā case study, as well as investigations in the field of community forestry (Graner 1997), point out that already disadvantaged groups, such as the members of lower castes, are often excluded from effective participation and co-operation in user groups. They are also difficult to reach with development measures. This means that, in some cases, already underprivileged groups are further marginalised by the formalised use of resources, and possibly driven in increasing numbers into dependency on the illegal use of park resources.

In order to promote participation by disadvantaged groups, the law provides that the conservation area management must nominate five (male and female) representatives of disadvantaged groups as members of the user committee. However, this laudable intention is difficult to execute in practice, as effective participation of the nominees is easily prevented by the dominant members. This demonstrates once more that the influence of local hierarchies in participatory projects cannot be overcome within a short time.

It is doubtful that current legal provisions in buffer zones and conservation areas actually enable 'true' participation. In both cases, the user committees, when establishing their use terms, are bound by the objectives of the nature reserve management, and dependant on its approval. The final decision is made, in principle, by the DNPWC. Furthermore, the Conservation Area Management Rules, in force since 1997, restrict local use autonomy by denying user groups the right to impose penalties. The new legislation gives the DNPWC, or its liaison officer, the exclusive right to determine sanctions.

Is such loss of power over natural resources by the local population - caused by the designation of nature reserves or buffer zones - at least compensated by economic benefits? The answer depends largely on the volume of tourism and the associated revenue generated by the parks. The population, or at least some of it, in well-frequented areas such as Citawan and Annapurṇa, profit from park revenue. Economic benefits in the three (more remote) case study areas are small or non-existent. Nevertheless, the development projects within the framework of the buffer zone programme contribute to the improvement of the population's lifestyle, although it remains to be seen how sustainable these measures will be once project support is withdrawn.

How can such problems be minimised? There is no magic wand. It is doubtful that true participation can be realised, especially in the strictly regulated Terai Nature Reserves, with their rich resources (wildlife, sal timber). In the lowlands, uncontrolled immigration of large numbers of people is still apparent. At the same time, the population is becoming more and more heterogeneous. The establishment of relatively stable institutions, acknowledged by all population segments, is becoming increasingly difficult. Furthermore, conservation areas without effective monitoring are surely at risk of becoming the victims of illegal settlements. Nevertheless, efforts should be made to integrate the population in at least some parts of park management, e.g. for controlling the park borders. Buffer zones could be used, initially, as a kind of training area for future tasks within the core zone management.

For this reason, the local population must be made to feel that it is effectively responsible for buffer zone management, and is not outmanoeuvred by the park management. Despite legal ambiguities (Keiter 1995), the user committees should be granted the right to impose fines for violations of resource use regulations.

Secondly, in all nature conservation areas, the participation of the local population in the parks' revenue and benefits is most important in order to improve the lifestyle of all involved. Development projects in conservation areas initially try to win the trust of the population before the real intention, of establishing a nature reserve, becomes apparent (see section 5). If, at a later stage, the use of resources is restricted, and the local population becomes aware that their unrealistic expectations from the project with regard to development and progress are not fulfilled, such trust will be replaced with conflict. Consequently, the objectives of nature conservation should be made transparent to the population from the beginning.

Last but not least, the planning of development projects in nature reserves or in their buffer zones, should acknowledge local livelihood strategies and institutional regulation of the population. Although this notion is by no means new, it is not universally acknowledged, as the designation of the buffer zone for the Khaptad National Park demonstrated, where communities were integrated without having any rights of use of this territory.

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