

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

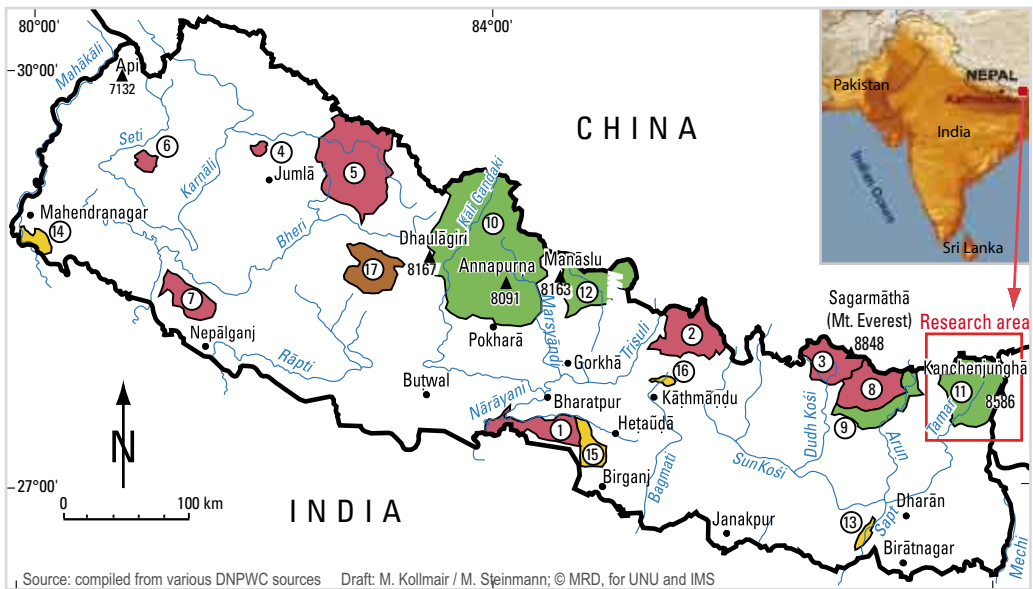
The following chapter provides a brief introduction to Nepal and outlines the state of its conservation efforts and its experiences relating to the development of protected areas. This chapter then goes on to present the local environmental and socio-economic conditions in the Kangchenjunga Conservation 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



Source: compiled from various DNPWC sources Draft: M. Kollmair / M. Steinmann; © MRD, for UNU and IMS

| National Parks (IUCN Category II) | | Conservation Areas (VI) | | Wildlife Reserves (IV) | | Hunting Reserve (IV) | |
|-----------------------------------|------------------|-------------------------|---------------------|------------------------|--|----------------------|--|
| ① Royal Chitawan | ⑤ She-Phoksunḍo | ⑨ Makālu-Baruṅ | ⑬ Kōsī Tappu | ⑰ Dhorpāṭan | | | |
| ② Lāngtāng | ⑥ Khaptāḍ | ⑩ Annapurṇa | ⑭ Royal Shuklā Phāṭ | | | | |
| ③ Sagarmāthā | ⑦ Royal Bar diyā | ⑪ Kanchenjuṅghā | ⑮ Parsā | | | | |
| ④ Rārā | ⑧ Makālu-Baruṅ | ⑫ Manāslu | ⑯ Shivapuri | | | | |

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.

Fig. 1 Protected areas in Nepal. (Map by M. Kollmair and M. Steinmann, modified by Ulla Gaemperli, based on map published in Müller-Böcker and Kollmair 2000, p. 325, reproduced by permission of UNU and IMS)

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.

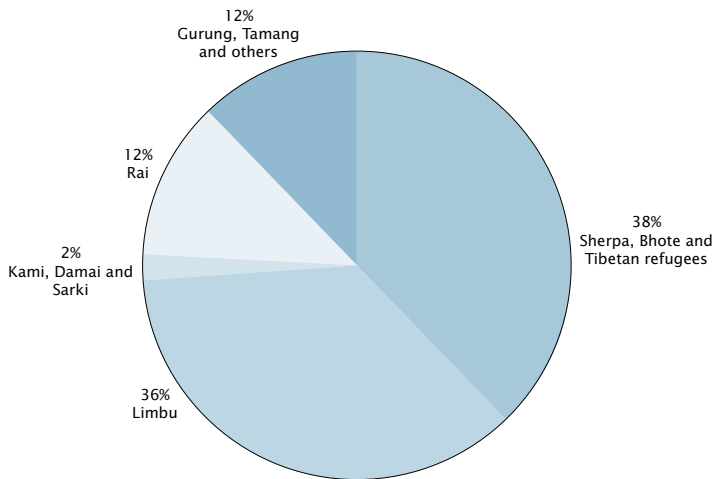


Fig. 2
Ethnographic
and demographic
information.
(Source: WWF-NP
2001a)

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. Upreti (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 | <ul style="list-style-type: none"> - 5 health posts and 1 health centre - 175 toilets - All schools have toilets - Regular clean-ups in main villages | <ul style="list-style-type: none"> - Ghunsa health centre is privately run - Sanitary toilet installation is growing - Drainage system needs improvement |
| | Education | <ul style="list-style-type: none"> - 19 schools - 1 childcare centre (CCC) in Hellok - 32 scholarships for girls' education | <ul style="list-style-type: none"> - 1 girls' hostel in Lelep - Established endowment fund to run the CCC - Fund managed by mothers' groups (MGs) |
| | Communication | <ul style="list-style-type: none"> - No telephone service available - 5 post offices | <ul style="list-style-type: none"> - KCAP has wireless communication sets - Only connection with the outside world |
| | Alternative energy | <ul style="list-style-type: none"> - Electricity in Lelep and Gola - 2 kerosene depots - 123 back boilers (BBs) - 526 households with solar lighting | <ul style="list-style-type: none"> - 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 | <ul style="list-style-type: none"> - Accessible on foot - 54 km of trails repaired - 24 bridges repaired, 4 installed | <ul style="list-style-type: none"> - Transportation of goods by humans and pack animals - 6 suspension bridges designed for installation |
| | Agriculture | <ul style="list-style-type: none"> - No veterinary services - No irrigation schemes | <ul style="list-style-type: none"> - Offices remain in district headquarters - Has some traditional irrigation systems |
| | Trade | <ul style="list-style-type: none"> - Customs office in Gola | <ul style="list-style-type: none"> - Not rebuilt after the Maoists destroyed it in 2002 |
| | Drinking water | <ul style="list-style-type: none"> - 17 schemes serve major settlements | <ul style="list-style-type: none"> - Small scattered settlements lack access |
| | Tourism | <ul style="list-style-type: none"> - 685 snow poles installed - 46 teahouses/hotels, 53 campsites - A few garbage dumping sites exist | <ul style="list-style-type: none"> - Between Ghunsa and Yamphudin pass - A few community campsites exist - Regular village clean-ups take place |
| | Cultural | <ul style="list-style-type: none"> - 6 monasteries - 1 temple | <ul style="list-style-type: none"> - All in a dilapidated condition - Garbage needs to be managed |
| | Security and trade | <ul style="list-style-type: none"> - 5 police posts - 1 customs office | <ul style="list-style-type: none"> - No police posts or customs office exist after the Maoists destroyed them in 2002 |
| | Local government | <ul style="list-style-type: none"> - 4 VDC office buildings | <ul style="list-style-type: none"> - Not rebuilt after Maoists bombed them in 2002 |
| Source: KCA-MC 2005, Gurung 2006. | KCA Management | <ul style="list-style-type: none"> - Head office in Lelep, 3 sector offices with 2 visitor information centres | <ul style="list-style-type: none"> - Own buildings in Lelep and Ghunsa, and fully equipped sectoral offices and liaison office at Taplejung district headquarters |

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 (Upreti 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

| Characteristics and livelihood strategies | Lower altitudes (1,000–2,500 m) | Higher altitudes (above 2,500m) | Different livelihood strategies per altitudinal belt in the KCA. |
|---|--|---|--|
| 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, <i>chiraito</i> (two crops per year) | Potato, wheat, buckwheat, barley (one crop per year) | |
| Livestock | Cattle, buffalo, goat, sheep | Yak, <i>nak</i> (female yak), <i>chauri/urang</i> (cow and yak and/or bull and <i>nak</i> 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 (Updety 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

| Community-based | | Governmental | | Non-governmental | | Research |
|--|---|----------------------|---|--------------------------------------|--|---|
| Traditional | KCA | Local | Line agency | INGO | NGO | |
| <i>Kiduk</i> <i>Kipat</i> <i>Gompas</i> <i>Govas</i> <i>Dhuntshangs</i> <i>Rani-bans</i> 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 |

List of most notable local institutions and organisations active in the KCA (abbreviations are spelt out in the main text).

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').

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.

Source: compiled from Brown 1994, Uprety 1994, Yonzon 1996, Müller-Böker and Kollmair 2000, WWF-NP 2001a, WWF-NP 1998-2005b, Gurung 2006.

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

| | 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, <i>chiraito</i> 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. |
| Means | Alternative energy | Kerosene depots, back-boilers, improved cooking stoves, solar lighting, micro-hydro schemes. |
| | 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. |

Summary of the KCAP's main programmes and activities (1998-2005).

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, book-keeping 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 (BBL) 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

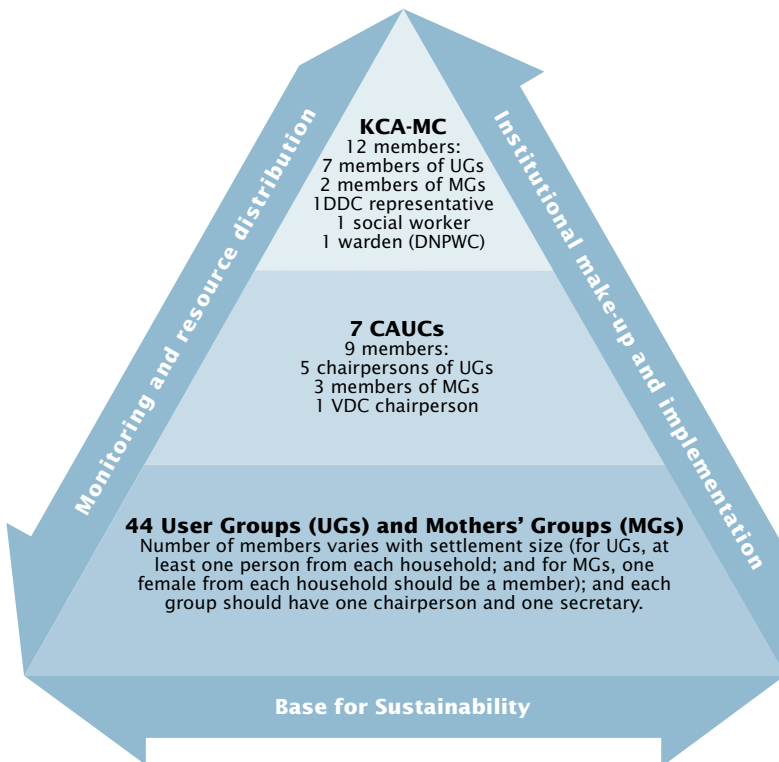


Fig. 3
Management
structure
of the KCA.

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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