

Learning from Community Participation in Conservation Area Management

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Abstract: Biodiversity conservation and protected area management are dynamic processes that change over time and space. At present, protected area management is moving towards participatory management as a progressive shift in both concept and approach. Nepal's conservation history can provide a good example of this paradigm shift. However, the agenda-setting process of conservation still continues to be dominated by government and international agencies, keeping the local people aside and undermining their role. Nevertheless, this paper presents a good model of community-based conservation practised in the Annapurna Conservation Area of Nepal. The local knowledge systems and experience of local environment, socio-economy and culture, and technological innovations have been effectively used for sustainable conservation of biodiversity in the area. The experience of the conservation area demonstrates that community-based conservation is a long-term venture that requires more time, integrated effort, democratic spirit and a visible link to local livelihoods.

Key words: protected area, community-based conservation, integrated development, ecotourism

INTRODUCTION

Biodiversity conservation and protected area (PA) management are both dynamic processes that change over time and space. Various concepts and approaches emerge and become prominent during certain time periods until they are refined or evolve or are replaced by more progressive ones, thus shifting away from the existing conservation approach (Western *et al.* 1994; Kothari *et al.* 1998). Nepal is witnessing such a paradigm shift in biodiversity conservation and PA management.

Nepal formally initiated biodiversity conservation by establishing PAs in the early 1970s (HMG 1973). Since then, the country has set aside 16 PAs, representing all the eco-regions, ecosystems, and most of the flora and fauna and their habitats, which cover more than 19% of its total land (Basnet 2007; ICIMOD/UNEP 2007; Wikramanayake *et al.* 1998). Only five of the total 36 forest vegetation types found in Nepal are still outside the PA system (Bhujju *et al.* 2007). Distributed mostly along the international borders with China and India (Basnet 2003a), these PAs are grouped into five major categories: national parks, wildlife reserves, hunting reserves, conservation areas and buffer zones. Although buffer zone is

considered part of the first three categories of PAs, which represent the top-down model or conventional approach, the buffer zone and community-based conservation (CBC) approaches involve local community in biodiversity conservation. Both approaches have contributed directly or indirectly to biodiversity conservation of Nepal by protecting rare and endangered wildlife species and their habitats. Recent global trends, however, show that the CBC approach has overtaken the conventional approach to biodiversity conservation, and Nepal is no exception to this. Nepal adopted CBC in mid-1980s by establishing the Annapurna Conservation Area (ACA), and it has now expanded the concept to landscape-level conservation (WWF 2001). Handing over of the Kangchenjungha conservation area (CA) to local community-based organisations is a recent example in this development.

This paper highlights the importance of conservation area as a model of biodiversity conservation and PA management in Nepal. Specifically, it focuses on CBC, the national policy on PA management, a case of ACA and lessons learned from the conservation initiatives taken so far.

COMMUNITY-BASED CONSERVATION AND PUBLIC PARTICIPATION

Although the conventional top-down model of PA management that Nepal adopted some decades ago was successful in protecting the biodiversity, it was at the expense of the life and property of the local people. Furthermore, guarding the present network of PAs with Army has been too expensive for a developing country like Nepal. A quick assessment of Nepalese PAs with international recognition such as the Ramsar Site and the World Heritage Site indicates that such recognition has no meaning for local people unless their traditional resource use rights are guaranteed. Koshi Tappu Wildlife Reserve (KTWR) of Nepal is a good example to learn lessons of this kind (See Box 1).

To overcome the lacunas of the conventional conservation approach, CBC has been developed. CBC involves local communities in planning, decision-making, implementation and monitoring of conservation efforts (Kothari et al. 1998). It recognises the role of local communities, reduces the management cost by involving them in the process, and also protects the biodiversity and other natural resources (Bajracharya et al. 2005). It is a holistic approach to development that includes maintenance of socio-cultural practices, community development, promotion of indigenous knowledge, development of ownership feeling and responsibility at

Box 1: Park-people conflict in Koshi Tappu Wildlife Reserve

KTWR was established in 1976 by displacing local people to protect wild water buffalo (*Bubalus bubalis*), other endangered wildlife species and their wetland habitats. Because of the global significance of wetland biodiversity, the reserve was designated as a Ramsar site in 1987 and as an International Wetland Site in 1991. Both national and international events followed the 'top-down' model without consulting the local people who largely depended on the reserve's resources for their livelihoods. Even worse was the failure to rehabilitate the families displaced from the reserve during its creation. It caused conflicts between the reserve authorities and local people. In spite of strong rules and regulations, army guards and the reserve's surveillance, thousands of livestock graze regularly in the reserve (Gurung 2002). In order to discourage livestock grazing inside the park, the reserve authorities shot dead 88 domestic buffaloes in the reserve (Acharya 2003), but it aggravated people's resentment and hostility, which was reflected through vandalism, violations of regulations and encroachment upon the reserve. Today after more than 30 years of protection and 20 years of international recognition, the survival of the wild water buffalo in Koshi Tappu is still at stake due to the ongoing habitat destruction, encroachment, livestock grazing, and crossbreeding between wild and domestic buffaloes.

There are many cases of such negative impact, including economic and social hardships to local communities, generated by PAs, which are created without considering people's rights. For example, some villagers from Parsa Wildlife Reserve were forced to migrate because of lack of access to resources, escalating wildlife depredation, and leading to frequent assaults by soldiers and park staff. Crop raiding and livestock depredation by wildlife became so severe that 15% of all households around the park have abandoned their cultivable land in Shivapuri National Park (KMTNC 2004).

individual, community and government level. It is considered the best way of achieving sustainable development in the developing countries (Wells and Brandon 1992; Christensen 2004; Wells et al. 2004). Nepal has adopted CBC to address the growing needs and aspirations of the people living in and around PAs. Experiences from many parts of the world show that CBC is superior to the conventional approach to conservation in many ways (Bajracharya et al. 2005, 2006) (Table 1).

Table 1. A comparative view of conventional and CBC approaches: Scope, policy and practice

S.N.	Conservation Components	Conservation Approaches	
		Conventional Approach	Community-based Approach
1	Biodiversity conservation	Main focus	One of the main components
2	Tourism and recreation	Limited programmes	Major programmes/activities
3	Education/Research	Strong component	Strong component
4	Revenue generation	For government treasury	For local community
6	Community development*	None**	One of the main objectives
7	Resource sharing*	Minimum; seasonal	Maximum; seasonal; based on local practice
8	Administration/management	Expensive; inefficient	Less expensive, efficient

* Note: In the core area of the park authority.

** Community development is one of the agendas of all the mountain national parks where there are settlements.

EVOLUTION OF CONSERVATION POLICIES: INNOVATIONS IN CONSERVATION

Nepal has been gradually adopting progressive legislation for biodiversity conservation and PA management. The first such provision was recorded in the 1840s during the autocratic Rana regime, when restrictions were placed on the hunting of certain animals (HMG 2002a). After a long gap, the First Five-Year Plan (1956–1961) recognised the importance of conserving wild species of flora and fauna (HMG 2002b). This was the beginning of a new era of biodiversity conservation, which led to the formulation of legislative procedures in the shape of The Wildlife Conservation Act 1957, under which a rhino sanctuary was established in Chitwan (KMTNC 2006). That Act was followed by The National Parks and Wildlife Conservation Act 1973 (HMG 1973) and a series of its amendments in 1974, 1982, 1989 and 1993. The main objectives of the Act are to manage national parks and wildlife reserves; protect wildlife and their habitats; control wildlife poaching; and develop, promote and manage special areas of importance to maintain harmony and long-term benefits to local people. The Act, however, paved the way for different categories of PA in Nepal. Conservation area as one of the categories of PA permitted local communities to continue their regular livelihood activities, apart from effectively managing and utilising natural resources (HMG 1996; KMTNC 1996). Moreover, the formulation of the National Trust for Conservation (NTNC) (then King Mahendra

Trust for Nature Conservation) Act 1983 indicates that nongovernmental organisations have been recognised as a major stakeholder in conservation and resource management.

Nepal's conservation policies have been evolving from a single species-protection to landscape management, and from strict protection by armed forces to community participation (KMTNC 2006). The Constitution of Nepal 1990 also recognised the importance of protection of natural environmental resources as a means of community development. In response to international commitments, the Nepal Environmental Policy and Action Plan recommends the promotion of private and public institutions and communities for biological resources inventory and conservation. Similarly, the periodic plans of the country have emphasised biodiversity conservation and natural resource management (NRM). The Eighth Plan (1992–1997) outlined the role and involvement of local people in the conservation of ecosystem and genetic resources through equitable sharing of benefits between the government and communities as an integral part of NRM (HMG 1992). The Tenth Plan (2002–2007) and the Poverty Reduction Strategy Paper (PRSP) prioritise the importance of genetic resources and biodiversity conservation in poverty alleviation. Both consider biodiversity conservation as a potential area

for creating additional employment opportunities by encouraging people to take up wildlife farming and related activities (HMG 2002b).

All these are reflected in the Nepal Biodiversity Strategy (HMG 2003), which is the government's commitment to protect and use the country's biologically diverse resources, maintain ecological systems and processes, and ensure equitable sharing of all benefits with local communities on sustainable basis. It emphasises the close links between biological diversity,

communities' livelihoods and economic development, human health and nutrition, indigenous knowledge, gender equality, and aesthetic and cultural well-being of society. To date Nepal has formulated more than a dozen Acts and Regulations and signed a number of international treaties, including The Ramsar Convention 1971, The World Heritage Convention 1972, The Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) and The Convention on Biological Diversity 1992, to promote CBC.

ANNAPURNA CONSERVATION AREA: AN INNOVATIVE COMMUNITY-BASED CONSERVATION MODEL

Background

Annapurna Conservation Area (ACA) is located in the Western Development Region of Nepal. It was established in 1986 to protect the natural environment and to promote tourism through community participation. Covering an area of 7,629 km², ACA is Nepal's biggest protected area, and includes some of the world's highest peaks, deepest gorge, most popular trekking destination, and rich biological, geographic, socioeconomic and cultural diversity. Ranging from subtropical to high Himalayas, ACA represents several eco-regions, including broad-leaf forests, pine forests, conifer forests and alpine meadows. It is an abode to more than 102 mammalian species, 488 bird species, 88 herpetofauna and 1,238 plant species, besides 100,000 human population and their livestock. The economic sources of ACA include agriculture, animal husbandry, trade and government services. Major conservation issues include environmental degradation and deforestation, biodiversity loss, eroding indigenous knowledge and practices, poverty, lack of resources, highly skewed and fluctuating tourism, and lack of preparedness for climate change. Various programmes on natural resource conservation, alternative energy, agriculture and livestock development, tourism development, gender development, community development and capacity building are being implemented through local conservation area management committees (CAMCs).

The Annapurna region of Nepal is well-known as a major tourist destination since

the 1950s when Nepal opened its door to foreign visitors. Today it is the most visited (trekked) area in Nepal, attracting more than 60% of the total number of trekking tourists visiting the country annually. The expanding tourism generated significant environmental, socioeconomic and cultural impacts (Nepal *et al.* 2002) such as deforestation and land degradation, environmental pollution and inflation. These impacts were most severe during the seventies and early eighties. The environmental impact threatened the area's biological, socioeconomic and cultural systems. Thus, the Annapurna region needed an integrated plan to address these environmental problems. As early as the 1970s, the concept of Annapurna sanctuary was visualized and discussed at policy level.

Several studies show the need for a multi-use recreational area in the region (Mahat 1985; Sherpa *et al.* 1986). These studies emphasise sustainable utilisation of resources, optimisation of tourism potential, protection of the ethnological and cultural heritage, and development of local economy through tourism ancillary industries. Moreover, Late King Birendra, during his visit to the region in 1985, issued a directive to develop tourism by safeguarding the environment (Sherpa *et al.* 1986). In response to the King's directive, the Worldwide Fund for Nature (WWF)-US prepared a formal plan in 1985 which contained a concept and initial development strategy of the region (Mahat 1985; Sherpa *et al.* 1986). Based on a detailed study, a team of experts prepared an operational plan, which recommended the designation of the area as a 'conservation area' with its boundaries,

management priorities and specific strategies for involving local residents in the management of the area (Sherpa *et al.* 1986). The plan stressed a less restrictive and more flexible programme that provided space to local people to involve in conservation and allowed them to live in the area and exercise their rights to use its natural resources to generate their livelihoods.

The goals and objectives of the ACA, mentioned in its operational and management plans, are to conserve biodiversity for the benefit of the present and future generations, to attain sustainable social and economic development, and to develop tourism with minimum negative impact. Similarly, the approaches include maintenance of the management zones, inclusive and integrated community development, empowerment and gender equity, and preparation for climate change. In addition, the plans mention the programmes and priorities, which are dynamic in terms of context. The integrated programmes include conservation education, institutional capacity-building, ecotourism, women empowerment, alternative energy promotion, micro infrastructure development, promotion of cultural heritage, and research and documentation.

The NTNC, a national environmental non-governmental agency, launched the Annapurna Conservation Area Project (ACAP) after receiving a mandate from the parliament (KMTNC-ACAP 1997). The Government of Nepal endorsed the conservation area designation and gazetted ACA on July 20, 1992. It subsequently approved the Conservation Area Management Regulations and the Conservation Area Management Guidelines, which provide legal framework for the management of conservation areas. The Regulations authorises NTNC to collect an entry fee from foreign visitors and use this money in conservation and development of the area. At present, the ACA approach to conservation and development is considered as a successful example of community-based PA management (Bajracharya *et al.* 2005, 2006; Sharma 1998). The success of the ACA approach to PA management encouraged the government to declare new PAs with a conservation area designation rather than a national park or wildlife reserve (Bajracharya 2004). To date, four conservation

areas have been declared in the Himalayan region of the country.

Activities carried out by ACAP

ACA adopted the Integrated Conservation and Development Programme (ICDP) approach to address the problem of conserving the fragile environment while improving the socioeconomic conditions of the local people. In ICDP, community participation in PA management is the primary criterion, which has the dual goal of conserving the biodiversity and improving the socioeconomic conditions of the local people (Kothari *et al.* 1998). The fundamental principle of ICDP is that the protection of delicately balanced habitat and maintenance of its biodiversity can be achieved only with the support of local communities. Although ICDP has been critically challenged (Wells *et al.* 2004), it has indeed contributed to sustainable development (WCED 1987). Conservation of environment, development of human resources, economy and infrastructure, and promotion of alternative energy are some of the effective components of the ICDP in ACA.

Environmental conservation

ACA has had extensive environmental conservation programmes designed to conserve the species and ecosystem of the region and promote resources for the benefit of local communities. These programmes adopted the community participation and multiple land use approach, which largely reflected the other programmes and activities of the area. One of the main objectives of participatory conservation is to address local issues, which may include maintenance of socio-cultural traditions and generation of livelihood resources. Deploying traditional eco-friendly knowledge, skills and practices is also a prime concern, which not only rationalises the conservation cost by ploughing back the revenue generated (HMG 1996, 1997) but also justifies local people's right and responsibility to be involved in the management of local resources.

The operational plan of ACA makes provision for the formation of a village-level non-political conservation and development committee (CDC) to explore and decide local issues. This provision has drastically reduced people's burden to get permission for timber and forest products for

construction of houses and livestock shelters. Gradually, the CDCs enriched their experience, and developed rules to protect the village development committee's (VDC) forests. They even started to fine rule-breakers (KMTNC-ACAP 1997). The Conservation Area Management Regulations 1996 and The Conservation Area Management Directives 1999 empower the CDC and have renamed it as conservation area management committee (CAMC). The CAMC prepares a VDC-level conservation and development plan, which it implements in collaboration with local government and other line agencies. Although CAMC and its subcommittees are authorised to collect fees and use them for the conservation and development of the area, they were not authorised to exercise judicial power. The ACA experience, however, suggests that, for effective conservation, the CAMC requires adjudicative authority to some extent to penalise rule-breakers. To date, the roles and responsibilities of the CAMC are limited to a VDC. There is, however, a growing need for an institutional mechanism that ensures local people's access and authority at the whole conservation area level.

ACA is a composite of different ecosystems and landscapes with diverse resources, which largely meet the demands of local communities. Traditionally, local communities have had different level of intervention on the resources according to their usage and physical distance. Some resources close to human settlements and those that fulfilled daily needs of communities were overstretched because of their intensive use. Such resources required strict conservation to protect them from further degradation and depletion, which would have a long-lasting impact on the local socio-economy, culture and environment. Other resources with relatively low usage and located away from human settlements were underused. The ACA Operational Plan 1986 recognises this situation and devises an integrated multiple land use concept. It categorises the whole ACA into five distinct zones: intensive use zone, special management zone, biotic and anthropological zone, protected forest or seasonal use zone, and wilderness zone. Furthermore, different management strategies and intervention options are designed for different zones. This approach

has strengthened the inherent ecological linkages between various management zones.

Human resource development: capacity building

To enable the local human resources to contribute to conservation efforts, the operational plan of ACAP envisions both formal and informal education programmes, which include conservation awareness, educational tours, workshops and training, and conservation education in schools. The social development activities for communities include adult literacy and awareness camps. Conservation education was introduced in schools for sixth to eighth grades, particularly focusing on PAs and natural resources of the area, local development activities and environmental impacts, and rights and responsibilities of local people in conservation and development. Besides forestation, clean-up and conservation and development activities in schools and villages were main awareness-creating activities. The database of ACAP shows that, during the last two decades, it prepared a good pool of local human resources of various scopes and capacities. Moreover, it has provided a fertile ground for national and international researchers in biodiversity conservation, PA management and related fields. More than 100 researchers have conducted studies on various aspects of mountain ecology and environment for their higher degrees and generated new knowledge and information, which are very important for sustainable development.

Economic development

The economic development programme primarily focuses on poverty reduction through the promotion of income-generating activities, skill development for quality improvement of existing products and services, and manufacturing and marketing of new products. Since tourism is the mainstay of ACA, its promotion is considered a viable option for economic development. It can fetch ample benefits not only by flourishing service industries but also by commercialising poultry and agriculture such as cultivation of tea, fruit, vegetables, etc. It offers incentives for local communities to conserve the nature.

The number of tourists visiting ACA increased steadily from the 1980s, reaching more than 37,000 by the early 1990s and more than 76,000 by 2000, after which it declined drastically due to the insurgency in the country. Although tourism has generated some adverse social and environmental impacts (Stevens and Sherpa 1992), it has been the focal programme for ICDP and sustainable development of ACA for several reasons. The revenue from tourism provided financial sustainability for conservation and development activities. For example, trekking revenue covered more than 85% of the total budget during 1996-2001 (Bajracharya 2004). In addition to supporting local entrepreneurs in income generation, tourism has motivated them towards environmental conservation. Furthermore, it has introduced new skills and technology and updated relevant information through volunteer and self-help programmes, including establishment of funds for several activities such as scholarships for schoolchildren. It has also helped diversify conservation programmes, in addition to changing the attitude of the local people towards conservation and development.

ACAP has imparted to the local entrepreneurs the knowledge and skills in hotel management, food preparation, guest relations, sanitation, and communication and information programmes through a number of formal and informal training (KMTNC 1997). Now, there are more than 700 teashops and hotels with skilled human resources, alternative energy sources and environment-friendly products from local resources. Economic indicators such as lifestyle, purchasing capacity, possession of household appliances, schools, health posts, etc. suggest that the economic status of the local people has been rising. Tourism is largely responsible for such positive changes in the economic status of the residents of ACA. Experiences, however, show that ACA should give high priority to development of sustainable tourism in the future.

Infrastructure development

Infrastructure development is an integral and crucial component of ICDP to meet the basic needs of local communities. Before the initiation of ACAP in 1986, ACA did not even have basic infrastructure such as drinking

water, schools, health posts, and so on (Sherpa et al. 1986). From the very beginning, the project gave high priority to the development of infrastructure and encouraged local communities to identify their needs on priority basis. The local communities came up with their prioritised development programmes, which were taken up by various governmental and nongovernmental agencies for intervention and support through ACAP. As a result, 145 primary schools, 14 health posts and 149 drinking water schemes were launched in the area during the last two decades (KMTNC 2006). The crux of the ICDP is infrastructure development, which boosts the economy, facilitates environmental conservation, prepares human resources, and generates technology and policies (Brown and Wyckoff-Baird 1992; WRI 1993). It is the most effective way of convincing people and gaining their support for the project. The infrastructure support package of ACA has had manifold effects on meeting the basic needs of local communities and motivating them for conservation activities. The case of Mr. Tamang is one such evidence:

*Siding village in Kaski district is situated right next to a biologically rich forest in the foothills of the famous Machhapuchhre mountain range. Mr. Ganesh Tamang, an ex-British Gurkha serviceman, is a resident of the village. He was a famous sports hunter of ACA. Mr. Tamang had several records of successful hunting expeditions, killing many animals such as Himalayan Tahr (*Hemitragus jemlahicus*), Ghoral (*Nemorhaedus goral*), Musk deer (*Moschus moschiferous*) and other mammal species. The village had a severe shortage of drinking water. ACAP approached the village with a proposal to establish a piped drinking water system in the village if the villagers were willing to contribute to conservation. There was a series of long and heated discussions among the community members in the village meeting regarding contribution to conservation. As usual, no concrete decision came out of the discussion. But, out of the blue moon, Mr. Tamang stood up and said: 'We have serious scarcity of drinking water. Therefore, we are ready to contribute to any conservation activities, if ACA project assures us of a drinking water scheme.' The project approved the drinking water scheme right away and everybody in the meeting applauded. With the successful completion of the scheme, Mr. Tamang*

completely abandoned hunting. Instead, he led the village conservation committee as its chairperson. Consequently, Mr. Tamang became a powerful force for conservation in the area for a long time.

From: Siddhartha B. Bajracharya's Diary 1991.

Alternative energy technology: introduction and innovation

One of the objectives of the ICDP is to develop and introduce new energy technology or improve the existing ones to suit the local needs and prevent environmental degradation. Biomass energy consumption is one of the prime examples of environmental degradation in the ACA. The forest area was shrinking and there was an acute shortage of firewood during the seventies and eighties. There was a burden, particularly for women and children, to search firewood. There was no alternative

source of energy for heating and cooking. ACAP took up this issue seriously, and introduced various alternative energy sources such as micro-hydro, solar, biogas and improved cooking stoves to curtail the use of firewood and other biomass energy. Starting from 1987, it has installed 2,183 improved cooking stoves, 906 biogas plants, 254 solar units and 20 hydropower projects as of 2006. Introduction of energy technology was accompanied by awareness and community forestry programmes. These programmes effectively substituted the use of firewood, which generated multiple positive impacts in ACA, viz. regeneration and increase of forest area, reduction of environmental pollution, better health and sanitation, and availability of extra time for women and children for productive work such as income generation and school.

DISCUSSION

All these aspects contained in the management plans of ACAP worked simultaneously, producing a synergetic effect on each other to achieve sustainable development in ACA (KMTNC 1997; Sherpa et al. 1986). The impact of local people on biodiversity in the Annapurna area was primarily from the collection of timber, firewood and fodder, and overgrazing, which were the major causes of deforestation and depletion of resources. This indicated an immediate need for forest management to reduce the pressure on the existing forests and increase its area by restoration. In order to address these issues, CAMCs, with the support of ACAP, developed forest management plans with strong policies and strategies for three supplementary actions: a) reduction of firewood harvesting; b) introduction of alternative energy sources; and c) restoration of deforested and degraded forests through forestation. For reduction of firewood harvesting, the forest management plans proposed to: a) identify the types of forest products for firewood collection; b) collect firewood on rotational basis by dividing forest areas into a number of blocks; c) limit the number of months for firewood collection to reduce the total firewood collection in the area; d) introduce and promote alternative energy sources to compensate the reduced quantity of firewood harvesting; and e) plant trees on private and

community lands. These efforts substantially increased the forest area by halting deforestation and restoring deforested and degraded lands, thereby increasing the quantity of firewood available to households.

Similarly, the overall policy and legislative provisions for biodiversity conservation and PA management of Nepal created a congenial environment for implementing the ICDP in conservation areas and buffer zones. The Conservation Area Management Regulations 1996 and The Conservation Area Management Directives 1999 provide the ICDP with legal backing for sustainable development of the ACA. Furthermore, the leadership of local community has been unusually committed to the area's development, and their commitment has been recognised nationally and globally. For example, the Ghandruk Forest Management Committee was awarded the J. Paul Getty Wildlife Conservation Award by the WWF-US in 1992; the Ghandruk CAMC was awarded the Global 500 Award in 1994 by United Nations Environmental Programme (UNEP). Similarly, the Conservation Merit Award-WWF was awarded to Mr. Min Bahadur Gurung, Chairperson, CAMC, Ghandruk, in 2000. These efforts of ACAP have set a new direction in biodiversity conservation by changing people's attitude, approaches and

mode of actions required for the new millennium.

The ACAP approach to PA management has offered substantial social, economic and conservation benefits, and has proved to be a successful model of biodiversity conservation in many ways. Particularly, it has encouraged the government to involve local communities in conservation and development by accepting them as 'partners'; provided good opportunities to integrate conservation and development by widening the scope of PA management; and guided the top-down model of PAs to introduce buffer zone management in and around them. Furthermore, it has influenced the thinking, attitude and behaviour of government as well as local communities, which have developed positive perceptions of conservation (Bajracharya 2004). It has also contributed to significant reduction of firewood harvesting from natural forests through a visible level of planting of firewood species in community and private farms, apart from provision of

alternative energy sources. Besides, it has reduced wildlife poaching by which their populations have either increased or remained stable (Bajracharya *et al.* 2005). Furthermore, the project has maintained the forest structure with higher basal area and species diversity.

Although the ICDP appears to be an innovative approach to community-based conservation, its contributions to the livelihoods of the poor, equity and justice seem insufficient. The approach doesn't fully recognise community's heterogeneity and differentiation within the community. The agendas of conservation are primarily set by outsiders and people, particularly the poor and marginalised, are not provided with a space in the decision-making process. Benefit-distribution mechanisms are yet to be democratised as it is mostly the rich, local elite and the middle class that benefit from the economic and infrastructure development, including eco-tourism, in the area.

LESSONS LEARNED

The implementation of the ICDP in the ACA during the last two decades has generated some important lessons. These lessons are summarised below:

Leadership in the community is very important for a successful CBC. ACA experience shows that traditional leadership, having the knowledge and experience of local environment, socioeconomic conditions and culture, is very effective. Traditional leaders should be helpful, trustworthy and committed to people, conservation and development. New emerging leaders with similar leadership qualities should replace the old ones.

Conservation should generate local employment and livelihood options. Since people's judgment of conservation is based on what benefits it brings to them, their participation is possible only if conservation enhances the local economy. In addition, it is important that local people invest in development projects that generate economic benefits, such as forest management, hydropower and tourism. Distribution of conservation benefits among local people is equally important. Quite often

such benefits are more likely to be captured by influential people in the community. Therefore, institutional arrangements with positive discrimination should be set aside for disadvantaged groups, particularly for poverty reduction.

Another lesson learned from the ACA is that there are legal complications for prosecuting the individuals involved in illegal activities, including poaching. Efforts were made to involve the local District Forest Officers since there was no presence of government park officials. At present, the Ministry of Forest and Soil Conservation has deployed a liaison officer. There is lack of clarity of the role of local communities against intruders. It indicates that, in spite of honest efforts on the part of the community, the legal instruments are still with government authorities.

Community participation with their traditional knowledge, system and practices should be the starting point in any PA management. However, all traditional systems are not necessarily good. Therefore, one should adopt and improve the good systems and avoid the bad ones. Traditional

Talukdar system of ACA, for example, was perceived to be less equitable than the new system of forest management committees (FMCs), which offered a more participatory approach to resource management and higher potential for sustainability (Brown and Wyckoff-Baird 1992). Similarly, hunting of wildlife species, a common traditional practice in ACA, has been discouraged and discontinued because of the threat it posed to conservation.

Human-wildlife conflicts, generated mainly by crop and livestock depredation by wildlife species, have always remained a matter of

dissatisfaction for local people (Bajracharya et al. 2006). Local farmers who live near forests are basically affected by such problems. Effective management practices are essential to keep the economic loss from wildlife depredation under tolerable limits. Alternatively, such wild animals can also be used directly or indirectly for the benefit of the communities who suffer from them. For example, wildlife harvesting in certain areas with high premium could be introduced with appropriate technical, socio-cultural and revenue-sharing criteria.

CONCLUSION

CBC is the current demand and the ICDP is the roadmap for biodiversity conservation and sustainable development. Both of these accommodate innovation and policies in a package for the present and the future. Therefore, all large-scale conservation approaches focus on the ICDP to involve local communities in biodiversity conservation and use their knowledge and practices for their benefit (Sharma and Yonzon 2005). Even the conventional approaches have been slowly shifting and narrowing the gap between the 'conservation in isolation' and 'conservation with people' in Nepal and worldwide (Kothari et al. 1998; Western et al. 1994; WWF 2001). This is an

indication that the CBC approach is superior to the conventional conservation practices. ACAP has become a 'synonym' for CBC as well as an example of the ICDP. Therefore, conservation area management has become a good model of biodiversity conservation and PA management in Nepal (Bajracharya 2004; Bajracharya et al. 2006).

Nevertheless, the agenda of conservation is yet to be fully accepted by the local people. Outside actors still appear to be active and, therefore, the local people, particularly the poor, women and marginalised groups, must be provided with spaces in decision-making process and benefit-distribution mechanisms.

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