

Cooperative management and revenue sharing in communities adjacent to Royal Chitwan National Park, Nepal

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The present paper analyses the various aspects of buffer zone management around the protected areas of Nepal, with special emphasis on Royal Chitwan National Park. The buffer zone development, which is a new 'policy thinking' has emerged in Nepal's policy document only since early 1990s. His Majesty's Government of Nepal initiated this programme around Royal Chitwan National Park in collaboration of various funding agencies with the aim to involve local communities in managing and utilising natural resources around protected areas. With the legal foundation that a part of revenue (30 to 35 percent) earned could be shared for the management of buffer zones, and upon beginning of the first flow of such revenue in the Fiscal Year 1996/97, it was observed that this approach is the key to create stable land uses in the buffer zone. Declaration of buffer zones has given ample of opportunities of promoting ecotourism that benefits the local communities.

Despite encouraging signs, a great deal of efforts have to be put for even better results. The most important step is to prepare and implement a comprehensive buffer zone management plan that addresses forest resource management, community development, community based nature tourism, cooperation and coordination with various stakeholders and social mobilisation, etc.

Keywords: Buffer zone, Protected areas, Royal Chitwan National Park, cooperative management, community forest, Nepal

Compatible land-use patterns in the vicinities of protected areas (PAs) are essential so that they do not become islands amidst growing industrialisation due to rapidly depleting natural forests surrounding them. The buffer zone (BZ) development is a new 'policy thinking' that has emerged in Nepal's policy document only since early 1990s. Unlike traditionally understood buffer zone, which is a partially restricted protective layer (Mackinnon *et al.* 1986). Nepal's buffer zones have been developed to focus on the special needs of the local communities likely to be adversely affected due to the presence of the protected area. It subscribes to the concept of "Impact Zone" developed by Sharma and Shaw (1992), which calls for strict control of forests within the adjacent national park, combined with intensified agricultural forestry operations on public and private lands outside the park with intention of increasing the production of natural resources to meet local demands. Nepal's buffer zones are areas of cooperation where local communities can be mobilised for community development using buffer zone land resources and managing these resources to their maximum sustainable levels. Buffer zones in Nepal, as a result, do not necessarily include forests only; they can

encompass settlements, agricultural lands, village open spaces, and many other land use forms.

Several notable initiatives have been launched in Nepal to reconcile protected area management with the needs of local people (Sharma and Wells 1996). Some of these initiatives have been legislated and institutionalised resulting into several successful projects such as Annapurna Conservation Area Project and Makalu Barun National Park and Conservation Area Project. Legislation for Himalayan national parks guarantees some basic rights of local people on the park resources (HMGN 1979). Successful management of national forests by communities in the Middle hills of Nepal has shown the feasibility to decentralise decision making to village levels. But, all these success stories are for the hills and high mountains of the country. In the Tarai and Siwaliks regions the protected areas are still managed on traditional models without much sensitivity towards the needs of the local people. Even initiative such as annual grass-cutting inside the park was started in 1975, in which local people can buy permits to harvest grasses and reeds from Royal Chitwan National Park (RCNP). Only legal provision that has empowered local people came in 1993; the buffer zone initiative has given legal

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foundation by making provision in the existing National Parks and Wildlife Conservation Act for establishment and management of buffer zones around protected areas, to be financed by a part revenue sharing mechanism.

The government started buffer zone programmes around RCNP in collaboration with various funding agencies such as UNDP, BCN, and several NGOs. A formal start of buffer zone programme in RCNP started only after the government notified its boundaries in Nepal Gazette in 1996 (HMGN 1996 a) and first flow of revenue began in the Fiscal Year 1996/1997. Some preliminary results show that this approach is the key to create stable land uses in the buffer zone. The strategy to direct and facilitate sustainable human activities in the impact zone towards sustainable land uses, even in the face of 242,000 resident growing human population, seems to be the only option for the long-term viability of the park.

Royal Chitwan National Park and its buffer zone

Royal Chitwan National Park is located in the Siwaliks hills and river valleys of Nepal's lowlands. The 93,200 ha park represents a nearly pristine ecosystem providing home for several endangered wildlife species including tiger (*Panthers tigris*), one-horned rhinoceros (*Rhinoceros unicornis*), Gaur (*Bos gaurus*), Gharial (*Gavialis gangeticus*), and Gangetic Dolphin (*Platanista gangetica*). The park is visited by more than 104,000 visitors on which nearly 73,000 are non-Indian foreigners (DNPWC 1998). The park was designated as World Heritage Site for nature in 1984 because of its high bio-diversity and outstanding Churia ecosystem.

Areas of high population density border most parts of RCNP, and many communities are dependent upon park resources for their subsistence, especially for firewood, fodder, and non-timber forest products. Despite the presence of nearly one thousand armed guards deployed from Royal Nepalese Army, conflicts over these resources continue until recent times. Opening RCNP for 15 days (now reduced to 10 days) in a year was the only mechanism, by which the local people can collect park's resource. During this period an average of 60,000 people harvested thatch grasses, reeds, binding materials, and the stems of the shrub *Helicteres isora* (used also as a binding material) bringing home resources worth half a million US dollars (Sharma 1991). Collection of firewood and any other resources inside the Park are legally prohibited (HMGN 1974). Despite this provision, offences related to the harvest of firewood, fodder,

and other miscellaneous products continued enormous pressure on the park resources. Similarly trespass grazing in the nearby park grasslands and forests is a major law enforcement problem.

Pressures on RCNP are further accentuated by the growth of human population in Nepal, which is 2.73 per year. But, the annual population growth rates of Chitwan and Nawalparasi districts that adjoins part of RCNP are still significantly higher (3.11 and 3.45 respectively) than the national average, (HMGN 2000).

His Majesty's Government of Nepal made a bold decision in 1993 by enacting legislation, which provided opportunity to the park manager to deal with these problems. The amended Act provided provision to retain 30-50 percent of the revenue generated by the park to be retained for community development (HMGN 1973). The money thus received could be used through user committees after allocating a share to compensate for property losses due to floods and landslides at the boundaries of the park. The Buffer Zone Management Regulations came into effect in 1996 to facilitate the provisions of the Act. These legislative measures allowed the BZ warden to mobilize local communities to manage BZ land resources to its maximum sustainable limits. The committees formed under the regulation could also be entrusted with the management of fallen trees, grasses, and driftwood inside the protected areas.

Boundaries of the buffer zone of RCNP were gazetted in 1996, and it covers an estimated area of 75,000 ha. The buffer zone covers whole or portion of a total 34 VDCs of Chitwan, Nawalparasi, Parsa and Makawanpur districts. A total of 128 village wards are represented in the buffer zone, having an estimated population of 242,000 (PPP 1997).

Resources of buffer zone and social mobilisation

Land-based resources

A recent study has shown that a good half of the buffer zone is under forest cover (table 1) (Banskota *et al.* 1997). But, because the forest is not evenly distributed in the buffer zone, not all forests can be made accessible to the residents. The household survey in and around the declared buffer zone has shown that 27.8% of the total forests are potential community forests (Banskota *et al.* 1997). These potential community forests, which total to about 12,000 ha can significantly provide local needs of forestry products as well as an opportunity for community based eco-tourism programmes.

Table 1: Land use pattern of the 36 VDCs in the surrounds of RCNP.

Land use	Area (ha)	Percent
Forests (Total)	30,920	50.2
Sal	(8,301)	(13.5)
Degraded Sal	(10,396)	(16.9)
Tropical Mixed Hardwood	(11,467)	(18.6)
Khair and Sissoo	(756)	(1.2)
Grazing land	2,172	3.5
Agriculture	28,509	46.3
Total	61,601	100.0

(Source: Banskota *et al.* 1997).

The total figure does not match with the area of buffer zone because these data do not completely cover the existing buffer zone.

The community forestry programme is established in Nepal. This model to protect and manage forests for the benefits of local communities has shown many successful results. It seems the deforested plains of buffer zone will gradually be reforested because of the tremendous interest shown by the local communities in planting trees in the recent past and the increasing involvement of NGOs and INGOs in promoting the community forestry programme.

Local peoples' interest in private plantation can be further promoted by helping them to choose suitable species and to establish community-run nurseries at appropriate locations. Planting trees in single rows along property boundaries, around houses or other under-utilised lands are attractive propositions to the landowners.

Nepal's lowlands have been going through a forest loss of 1.3 percent per annum (DFRS 1999). The loss is primarily due to encroachment of forest for agriculture expansion. Usually, forests are degraded due to over-cutting and over grazing, which then are gradually encroached into agriculture. This slow but consistent process has been deforesting most of the Terai forests of Nepal. This process is visible in the buffer zone of the RCNP also. Chitwan BZ forests are denuded and poorly stocked due to over-cutting for fuel wood, logging for fodder, and theft of timber to meet the local timber demand. The process still continues even after these forests have been declared as buffer zone in 1996.

Fuelwood scarcity is becoming a major problem in the park vicinities especially in areas that are now distantly placed from the buffer zone forests. The scarcity, however, has not yet reached the magnitude of the deficit found in other areas of the

country because local people are depending illegally, on the national park forests to meet their supplies (Sharma 1991). By providing suitable alternative opportunities in the buffer zone, by promoting tree planting, and by providing firewood depots, such illegal entry into the park for subsistence can gradually be phased out. The driftwood left behind on the river beds bordering village after annual floods and wood thus collected could provide an important source of fuel wood and small timber to the local people. Prevailing collection practices could be made more systematic and equitable.

Eco-tourism potential

Declaration of the buffer zone of RCNP has given opportunities and challenges to the park managers to promote eco-tourism in the buffer zone. Especially since the buffer zone encompasses tourist hot spots like Sauraha, where almost all hotels and lodges are operating park-related tourism business, appropriate interventions could bring out desirable changes.

Given the fact that RCNP's 90 percent of the total revenue is due to tourism activities and the amount is growing annually by 22.5 percent (Banskota *et al.* 1997), the tourism management in and around Chitwan demands special attention. Tourism in Chitwan must benefit local communities while balancing the requirement of biodiversity conservation in a National Park setting and growth in wildlife tourism. The current signs are not very encouraging. According to recent visitors' surveys two thirds of the visitors perceived the problem of crowding and congestion in Sauraha and in the park (Banskota *et al.* 1997, Lipscombe 1998). The Sauraha area seems to have reached its capacity of tourism growth considering the existing level of infrastructure and management. There is a wide spread agreement among conservationists that pressure due to tourism activities, especially due to elephant safari, jungle walk, canoe ride, and jungle drive on the park resources in Sauraha area have already led to habitat degradation of several endangered wildlife species. The present practice of tourism management is largely through spontaneous and uncoordinated private sector initiatives. The park's present practice permits only the seven concessionaries who have been awarded privileged long-term renewable contracts to take benefits from the wildlife tourism. The local people residing in the densely populated buffer zone have not been able to participate in the park-related tourism benefits to any considerable extent. The management seems to be unprepared for the extraordinary growth of visitors to the park (Table 2).

Table 2: Visitors in the Royal Chitwan National Park

Fiscal Year	Nepali and Indian	Foreigners	Total
1998	13,518	72,528	10,046
1997	26,598	69,464	96,062
1996	37,288	46,610	83,898
1995	Na	Na	64,749
1994	23,477	35,517	58,994

The provision of buffer zone has given tremendous opportunity to organize the tourism sector to financial benefit the local communities. Some successful examples such as of Baghmara Forest and Kumjor Forest in the buffer zone have shown that local communities see the benefit of community plantations that can serve dual role, the source of firewood and fodder and site for nature-based tourism. In some of these areas, it has already been seen that the money raised due to visitor's entry fee and elephant safari can be substantial. This opportunity to benefit from tourism creating small wood-lots has sparked imagination in the minds of residents of Chitwan and has already started a drive to reforest barren land in the buffer zone.

Unique natural sites in the buffer zone of RCNP are available to develop them for ecotourism purpose. The Barandabhar forest, the last remaining corridor of government forest to connect the Churia forests with the Mahabharat ranges on the north, has given one more opportunity to involve local communities for its protection. Local communities are mounting severe exploitative pressures on its natural resources and pressure of visitation from the nearby town is also degrading the site. But, the situation can be completely reserved by giving the peripheral areas of the Barandabhar forest as community forests and by entrusting the group of users of community forests to develop the inner area for ecotourism activities without having to compromise the biodiversity values of the area. Similarly, the Madi area an isolated Churia valley on the southern side of the park with an extensive stretch of forest can be promoted for ecotourism activities through community based organisations. Strategies that promote balance tourism growth in the vicinities of RCNP can reduce pressures on the park while benefiting local communities more equitably.

Financial resources

After the buffer zone management regulations (HMGN 1996) came into force and the buffer zone boundary of RCNP was declared in Nepal Gazette in 1996 (HMGN 1996b), the provision of the act to share revenue with the local communities could

begin. His Majesty's Government of Nepal decided to allocate 50 percent of total revenue of the park for this purpose. The act has made provision of 30-50 percent and government had the authority to decide the exact percent.

The BZ management regulations has also made provision to form user committees and BZ council in the buffer zone. These bodies could formulate programmes and policies of funding the community development activities.

Table 3: Amount set aside for buffer zone council for community development in the buffer zone of the RCNP

Fiscal Year	Total revenue accrued	Amount set aside for community
1995/1996 (2052/2053)	46,316,681	About 250,000
1996/1997 (2053/2054)	48,290,672	24,145,321
1997/1998 (2054/2055)	48,150,192	24,075,096
1998/1999 (2055/2056)	54,543,778	27,279,889

The actual disbursement to the communities began only after all user committee were officially formed, which took about 1 year after the declaration of the buffer zone boundaries. The buffer zone council meetings (met before June 1999) disbursed more than 15 million Nepalese Rupees for the purpose of community development.

Table 4: Amount spent until 8 June 1999 for community development in buffer zone of RCNP

Districts	User Committees	Amount distributed to UC
Makawanpur	1	245,148
Chitwan	19	9,262,738
Parsa	2	485,000
Nawalparasi	15	5,068,051
Total	37	15,060,937

Social mobilisation

The buffer zone management regulations require that a specific social mobilisation process be followed to facilitate the formation of village based organisations. These organisations, then, can be empowered to receive government revenue diverted for community development as envisioned in the Act. King Mahendra Trust for Nature Conservation (KMTNC) has prepared buffer zone development guidelines for this purpose (Banskota *et al.* 1999).

The Parks and People Programme (PPP), since the beginning of the project in 1993, has been practicing a slightly different process of social mobilisation in the buffer zones around the low land national parks and reserves including RCNP. Its process is not as per the BZ management regulations, which has created confusion and ambiguities among the villagers and park officials. The user groups formed through PPP, for example, cannot receive the government revenue, which is the major funding source for community development in the buffer zone of RCNP. Department of National Parks and Wildlife Conservation and UNDP, nevertheless, are trying to bridge the gap by adopting a separate set of guidelines.

The process of social mobilisation is that the buffer zone be divided into several units for management purpose. All heads of the households become automatic members of the user group in each unit and elect their own User Committee (UC). The chairman of the unit from the Buffer Zone Development Council. The UC can launch community development projects, mobilize participation of people, levy fees for using resources on public lands, and encourage tree planting. The UC can form subcommittees for specialised work such as managing community woodlots and undertaking income-generating activities. The development proposals prepared by UCs are discussed in the council meeting. The council sets criteria for funding and is the overall governing body for the disbursement of the park revenue diverted for community development purpose. The BZ warden is the member secretary of the buffer zone development council. The representative(s) of the respective District Development Committee is also an *ex-officio* member.

The outcome of social mobilisation process in RCNP's buffer zone has been that 37 user committees (19 in Chitwan, 15 in Nawalparasi, 2 in Parsa and 1 in Makawanpur district) have been formed. In the fiscal year 1996/1997, RCNP allocated 24.4 million Nepalese Rupees for community development. Another 24 million has already been committed in the year 1997/1998 and 27.2 million of the year 1998/1999 would be committed again for this purpose (table 3). The buffer zone development council met several times and set criteria for fund allocation and programme approval. Until the end of fiscal year, 1998/1999 17.3 million Nepalese Rupees were spent on community development (table 4). The money was spent mostly on rural infrastructure, conservation activities, compensation to livestock losses, and on overhead expenses. Contrary to earlier belief, only about 10% of the amount spent was for

compensation; relief funds were set aside in each units to provide money for emergency purposes related to human injuries and casualties. Similarly, less than 10% of the total amount spent was on overhead expenses including office expenses of the UCs.

Conclusion

Preliminary results of the implementation of the impact zone concept are encouraging and have worked in Chitwan to reduce human pressure on RCNP. It has given the park managers a tool to minimize and forestall development of adjacent lands and promote the development of sustainable local economies that are not dependent on park resources. The involvement by park management in promoting sustainable development of local communities can only help to achieve stability on these neighboring lands and support for the park.

Nevertheless, a great deal has to be done before the approach of impact zone management can show visible results. Efforts should go for undertaking well planned community forestry programmes in the buffer zone. Large tracks of forests having unique ecological significance should be brought under proper management by seeking community involvement and support. It is important to make a special provision for the landless and marginal farmers by providing them income-generating opportunities. For example, the policy of granting small parcels of public land to groups of poor households as practiced by the Forest Department should be introduced in the buffer zone also.

The most important step that needs to be taken is to prepare and implement a comprehensive buffer zone management plan that addresses forest resource management, community development, community based nature tourism, and cooperation with line agencies of the government, non-governmental organisations and interested donor communities. On the other hand, capabilities of user committees should be improved in order for them to function effectively in proper organizing themselves in the form of group, mobilizing resources and developing human resources to undertake income generating activities.

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