

# Communities and conservation

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PROTECTED areas have become a cornerstone of conservation efforts across the globe. Beginning with some localized attempts to institutionalize forest protection in the 18th century, 102,102 parks and other protected areas were in existence across the globe by 2003, at least on paper, and protected an area of 18,763,407 sq km, an area equivalent to 12.65% of the earth's land surface.<sup>1</sup> The majority of these parks continue to be managed by national governments, and regional coverages vary widely, with 1,477 protected areas in South Asia reported in 2003, covering about 7% of the land area.<sup>2</sup> However, many of them are in areas close to settled or nomadic populations which rely on resources derived from these areas. Thus, achieving complete government control over their access and use has proved difficult, if not impossible. A variety of management approaches have, therefore, been employed in parks across the world, ranging from complete exclusion to co-managed areas that involve local populations in management, completely community-owned forests, and privately managed areas. Yet, just as achieving complete exclusion appears difficult, it is unusual for local communities to be granted more than limited participation in most areas.

Not surprisingly, this situation has led to people-park conflicts worldwide, which seem to be particularly acute in the densely populated tropics and sub-tropics. South Asia, with highly biodiverse landscapes that have been settled for centuries, provides an illustrative example of these conflicts. There is increasing awareness of the social consequences of creating protected areas in such landscapes, leading to the isolation and exclusion of local inhabitants from traditional ways of life and cultural, social and institutional interactions with nature. Equally, valid concerns have been raised about increasing habitat fragmentation and specie loss in areas where local communities coexist with protected areas.

**T**he relatively small mountain country of Nepal has experimented with various forms of conservation governance in the past. The country displays very distinct physiographic patterns which enable its division into three major zones: the Tarai, the middle hills, and the mountains. Nepal ranks low on the human development index, with a per capita GDP of 1,310 USD in 2001, life expectancy of about 59 years, and adult literacy rates of 43%.<sup>3</sup> The population is predominantly rural, with high population density and accelerated rates of growth. Agriculture is predominantly carried out by small, subsistence farmers who tend to be highly dependent on forests. While state-centred systems of management were extensively promoted in the 1950s, decentralized forms of governance were promoted towards the latter half of the 20th century.<sup>4</sup> A variety of approaches have been adopted over the years, from strict patrolling of national parks by the army, to co-managed buffer areas and community-managed forests. A careful study of the impacts

of these different initiatives can provide valuable insights into the potential benefits and challenges of integrating the needs of communities with conservation in South Asian contexts.

**O**rganized forest management on a large scale began in Nepal around 1880, with establishment of forest inspection offices and timber offices throughout the country.<sup>5</sup> A central forest management office was subsequently opened in 1924 at the national level, and managed by the ruling Rana dynasty. However, although these official structures and institutions did exist, most of the forests of Nepal were not under state control, but rather under *de facto* community control prior to the mid-1950s. Traditional and indigenous practices of forest management were prevalent in the Nepal hills during this period.<sup>6</sup> Since population sizes were small, and forest resources relatively large, the pressures on the forests were nowhere near the levels which exist today.

After the fall of the ruling Rana dynasty in 1950, these traditional land and forest holding systems were de-recognized. The Nationalization Act of 1957 brought all forest land, as well as all trees planted on private land, under government ownership. This control over forest resources was further emphasized by successive legislation, including the 1961 Forest Act, the 1967 Forest Protection Act and the 1970 Forest Product Rules.<sup>7</sup> With this, local control over forest resources was replaced by a central governance system.

Lack of forest ownership resulted in reduced incentives for people to preserve the forest. The state control over public forest lands was, however, rather weak and ineffective in regulating forest access, in some cases, even corrupt, and implicated in illegal extraction. Thus, as is argued for large parts of India, nationalization had the unintended effect of creating open-access resources where formerly limited-access common property existed.

**A**wareness of the negative impact of nationalization on forest cover, a growing appreciation for the capacity of local communities to manage common property institutions, and increasing donor pressure has encouraged the Nepali state to begin to reverse this process since the early 1970s. After unsuccessful early experiments with handing some forests over to local governments in Nepal, extensive attempts were initiated to engage the communities with forest management in the form of community forestry, leasehold forestry, and park buffer zone projects.

The first significant step towards adoption of community forestry approaches was taken during the ninth forestry conference held in Kathmandu in 1974. With support from international donor agencies, including the World Bank, the Nepal government initiated this process by promulgating panchayat rules. The National Forest Act of 1976, and its subsequent amendments of 1977 and 1978, attempted to return some degree of ownership and control over forest resources to the people. However, this attempt at decentralization, despite formal links with centrally defined local government structures, was not really successful in practice and unsurprisingly did not achieve much.

The attempts at decentralization were supplemented by the introduction of the Community Forestry Act in 1993. These policy changes represent some relaxation of government control over forests, and coincide more generally with larger political changes within the country – from absolute to constitutional monarchy and democratic rule. Despite these encouraging changes, the existing models of community involvement have been conceptualized by the state with formal expansion of the programmes largely funded through external donor agencies. Local actors had at best limited control over the planning or implementation of these efforts.<sup>8</sup>

Despite these critiques, in general the expansion of community forestry has greatly improved overall relations between the Forest Department and local people. Community forest user groups are self-governed autonomous entities and can independently manage their forests based on approved management plans, with the proviso that they spend 25% of their income on forestry development and conservation. This has contributed to an overall feeling of ownership of forests by local communities. By the end of 2003, 18% of Nepal's forested area was being managed by local communities.<sup>9</sup>

Nepal displays very distinct physiographic patterns which enable its division into three major zones: the Terai plains, the middle hills, and the high mountains. There has been substantial regeneration of forest cover in the middle hills as a consequence of community forestry, albeit patchily. This has resulted in increased access to forest products and provided a greater flow of economic benefits to local communities, strengthening local institutions and contributing to the renewal of ecosystem services.<sup>10</sup> Yet, these positive reports remain mostly confined to the middle hills, where local indigenous systems of management have been in existence for decades, in some locations centuries. In the Terai plains, vociferous policy debates have raged about the suitability of community forestry approaches, citing obstacles such as the large size and increased ethnic heterogeneity of forest user groups, the high timber value of these forests, and the need to create and support new local institutions for forest management.<sup>11</sup>

Alongside these initiatives and policy changes, Nepal's first formal efforts at conservation were initiated in 1973 with the passing of the National Parks and Wildlife Conservation Act. The act led to the establishment of the Department of National Parks and Wildlife Conservation (DPNWC), provided broad legislation for the protection of areas and species, and began the process of formal declaration of protected areas in the country. Currently, there are a total of 16 protected areas in Nepal. Along with designated and proposed buffer zones, these areas cover an astonishing 18% of the total area of the country.<sup>12</sup> They have remained relatively well protected from the waves of deforestation and degradation that took place across the country after the 1960s.

The distribution of these protected areas is, however, not well spread across the major ecosystem types in the country, and is skewed towards high altitude

areas, with comparatively lesser representation in the Terai, and areas in the densely populated middle hills remaining highly under-represented. There are large tracts of forests in some areas outside the protected area network which are under the legal jurisdiction of the department of forests. These forests play a critical role in wildlife conservation, serving as corridors to connect some isolated wildlife reserves, as well as providing important additional habitat for animal and plant species.

While the National Parks and Wildlife Conservation Act of 1973 was fairly restrictive in permitting the exercise of customary rights and extraction of forest products, the third amendment to the act in 1986 relaxed some control, allowing for the designation of conservation areas managed for conservation as well as for development, and permitting greater use of forest products by people living around these areas. In 1993, the fourth amendment to the act was passed, allowing for the establishment of buffer zones surrounding parks or wildlife reserves that permit the extraction of forest resources on a regular basis by local people.

While these amendments represent a significant step towards more participatory forest management policies by the Nepal government, turning over limited control to local community user groups, the structure remains largely top-down and hierarchical, with government officers maintaining control over the functioning of the user groups and retaining the power to dissolve the committees at any time. An interesting provision within this programme is that a significant proportion – 30% to 50% – of the revenue generated by protected areas (mainly through tourist fees) is given to user groups for community development.

**T**wo national parks in Nepal have been locations of significant and well-publicized efforts to involve communities with conservation efforts and mitigate park-people conflicts. In the Terai, the Chitwan National Park (CNP) is a Unesco World Heritage Site, and one of the few remaining vestiges of the Terai region which formerly extended over the foothills of Nepal and India. Despite being a former hunting ground, the park constitutes one of the last bastions of the Asian one-horned rhinoceros, and is also a critical location for conservation of the Bengal tiger.<sup>13</sup> Buffer zone projects were first initiated in the Chitwan in the mid-1990s, supported by the UNDP People and Parks Project. This was subsequently extended to other parks in the Terai and in the mountains.

The Annapurna region of Nepal contains some of the world's highest peaks, and an impressive range of ecological habitats from sub-tropical sal forest to perennial snow-covered areas. An integrated conservation and development programme was initiated in this region in 1986, and formalized after the legal establishment of the Annapurna Conservation Area (ACA) in 1992. A careful examination of the experiences of these two programmes, located in regions of Nepal that are very different in their biophysical, ecological, and cultural attributes, can provide valuable insights into the potential and pitfalls for future integrated initiatives in South Asia.

**T**he CNP, established in 1973, is Nepal's oldest protected area. It was formerly managed as a hunting reserve for the royal family, and is now strictly protected by the Nepal Army. Local people are allowed to enter the park for a short period every year, but for the most part entry and extraction of forest produce is heavily restricted. The park is surrounded by a population of over 300,000, and there were fairly severe park-people conflicts that ensued from rigid park protection policies prior to the mid-1990s.

The DNPWC began implementing the buffer zone parks and people programme in the Chitwan and in other protected areas of Nepal in early 1995 to fulfil two primary objectives: socio-economic well-being of the buffer zone communities, and biodiversity conservation of the parks and surrounding forests. This programme received financial and technical assistance from the United Nations Development Programme (UNDP) until 2004, and was later rechristened the Participatory Conservation Project.<sup>14</sup>

Following the initiation of the programme, buffer zone forests were delineated by wardens, and handed over to user group committees with the authority to manage these forests in accordance with the buffer zone management guidelines. These communities have the apparent potential to earn significant incomes from eco-tourism. Two of the most 'successful' cases of buffer zone forestry (Baghmara and Kumrose forests), which are much publicized as success stories of this policy intervention, have received substantial technical and financial inputs from several national and international conservation agencies, including the Biodiversity Conservation Network and the World Wildlife Fund.

These forests are located near the main entrance of the park in Sauraha, and are easily accessible to tourists. Though the user groups which manage these forests do gain significant incomes from ecotourism, the forests located at a distance from the park entrance have much less tourist traffic and struggle along with lower incomes, unable to hire external guards or engage in community development activities to the same level.

**T**hus the real impact of the programme in terms of improving participation and forest conservation equitably across the park is questionable. Recent satellite image analysis has shown that while there has been substantial regeneration in the buffer zone after the mid-1990s, equally there was substantial degradation and loss in forest quality within the park boundaries due to continued human pressure from the surrounding settlements.<sup>15</sup> There have also been reports of continued poaching of wildlife, especially in the recent past following the breakdown of government control during the height of the Maoist insurgency.

The ACA is the largest protected area in Nepal, covering 7629 sq km. In the ACA, the Conservation Area Management Regulation ratified in 1996 officially recognized the formation of conservation area management committees, which were given the authority to oversee conservation and development activities at the level of village development committees (the smallest administrative unit in Nepal). The formation of these committees had, however, already begun in 1986 when the initial pilot project was started in the region. The committees comprise a mix of elected representatives and

members nominated from various disadvantaged and special-interest groups, with a term of five years. The ACA staff provide technical inputs to the committees, and assist in enforcing regulations in situations of conflict. The project intends to hand over complete management control to the committees within the next few years.

**S**ome interesting patterns in the behaviour and development of these committees over time have been discerned.<sup>16</sup> The longer a committee is in place the greater is its institutional strength, showing an increase in the number of meetings held, greater autonomy in decision-making, and greater representation of women on the committees. Interestingly, while more recently formed committees focused on development related activities that presented themselves as urgent, short-term imperatives for the community, the older, established committees focused on institutional organization, rule-making or capacity building. More critically, those committees in existence for longer periods, between 10-16 years, focused on conservation related activities such as planting, managing plant harvest and wildlife population management.

Thus while integrated conservation and development programmes tend to first focus on development and institutional needs which may appear more pressing, attention shifts to conservation once these developmental requirements have been attended to. This indicates that many researches which suggest that development is taking place at the expense of conservation, may have been because of unrealistic expectations of the time it takes to build the capacity and institutions required to address such seemingly disparate and complex objectives.

**P**olitical conflict in the country has also affected these initiatives. Nepal has witnessed significant political instability in the past several years, with the Maoist insurgency having major impacts on conservation.<sup>17</sup> These impacts manifest themselves in various ways. The Nepal Army has been responsible for patrolling parks and wildlife reserves in the country since their establishment in the 1970s. With their reassignment to fight the Maoists in 2001, and increased insurgent attacks on government, national and international agency offices and guard posts, several of the more isolated protected areas remained completely unstaffed during the conflict years; some estimates claim that as few as a third of the guard posts were staffed across the country.

A second issue is that park entry fees significantly declined by as much as 40 to 60% owing to a decline in the number of tourists visiting these areas. Since income from tourism represents a major source for funding development in these areas, this decline created significant obstacles to the sustained functioning of these projects. Problems of top-down implementation of these programmes persist, and there have been contentions that tourism revenues have not flowed back to local communities as promised, leading to significant resentment in some regions, including even the CNP and ACA flagship buffer zone projects of the Nepali government.<sup>18</sup> Finally, development pressures remain an ever-present external danger to conservation activities, and one well beyond the control of local

communities. This will become increasingly relevant as the security situation in the country stabilizes, and economic development becomes a critical thrust area.

**I**nterestingly though, despite these stories of gloom and doom, the basic conservation infrastructure has not completely collapsed in Nepal, as has been the case in other parts of the world that have experienced significant political conflict. Community based conservation areas, though by no means immune to this conflict, appear to have proven more resilient to the frequent collapse of law and order when compared to government administered protected areas. For instance, by 2005 most official posts in the ACA region were abandoned.<sup>19</sup> Nevertheless, many of the community forest committees set up under the ACA programme continued to operate through this time, as have some of the buffer zone committees near the CNP, and indeed as reports indicate for community forestry user groups from several parts of Nepal – indicating the potential for sustainability even in the face of violent conflict, and the uncertain nature of funding from tourism.

This provides broader insights into the potential for the integration of communities with conservation. Community forestry programmes across Nepal appear to have achieved reasonable success with regard to the long-term sustainable management of forest resources.<sup>20</sup> In contrast, the conservation and development programmes in Nepal's protected areas, including the ACA and the CNP, have proved more flexible than government administered areas, but still face challenges of survival beyond the funding period of international projects since they have largely been dependent on external technical, financial and administrative support from the government and from international and national conservation agencies. They face challenges that include largely top-down management, low accountability to local communities, lack of effective distribution of finances to user groups, and external pressure from development projects taken up by the government.

**I**nstitutions need to have the time and opportunity to learn and grow, as also the flexibility to modify rules based on changing local environments and circumstance.<sup>21</sup> Upwardly accountable and externally enforced rules tend to be relatively inflexible and appear unable to adapt to changing social or biophysical conditions that require changed management practices. Rarely is this taken into account, given the tendency of national governments including India to create relatively inflexible one-size-fits-all rules, thereby limiting the capacity of local communities to adapt to change – a factor essential for long-term sustainability.

Further, externally implemented institutions do not make their way in a vacuum but are instead transplanted into a pre-existing social context of norms, customs and rules. Local cultural differences act in conjunction with geographic peculiarities, and lead to situations where even neighbouring communities can face dissimilar pressures on their forests, necessitating the adoption of different institutional rules for effective management.

At a time when the Nepal government is considering expanding the programme to cover several other national parks, this raises doubts about their long-term sustainability. International and national conservation agencies have invested significant amounts of money, manpower and technical support into integrated conservation and development initiatives in Nepal. However, the high degree of external financial and technical inputs provided by government and international aid agencies, short project funding cycles and planning periods, limited ability to adapt within these time periods, lack of provision for variability in management or adaptation to different geographic, ecological and cultural contexts – all restrict the long-term sustainability and viability of these programmes.

Ensuring true community participation is crucial for continued success of programmes that attempt to integrate the needs of communities with those of conservation even in the absence of sustained international donor support. Else, while these efforts may be successful in maintaining biodiversity in limited protected park areas, they will neither prove sustainable without large funding, nor capable of the eventual goal of expansion to cover all protected areas in Nepal.

**Footnotes:**

1. L. Naughton-Treves, M.B. Holland and K. Brandon, *Annual Review of Environment and Resources* 30, 2005, 219-52.
2. S. Chape, S. Blyth, L. Fish, P. Fox, M. Spalding, '2003 United Nations List of Protected Areas', IUCN – The World Conservation Union and UNEP World Conservation Monitoring Centre, IUCN, Gland, Switzerland, 2003.
3. United Nations Development Programme, *Human Development Report 2003*. Oxford University Press, New York, 2003.
4. A. Agrawal, C. Britt and K. Kanel, *Decentralization in Nepal: A Comparative Analysis*. ICS Press, Oakland, CA, 1999.
5. S. Palit, Comparative Analysis of Policy and Institutional Dimensions of Community Forestry in India and Nepal. Mountain Natural Resources Discussion Paper Series No. MNR 96/4. International Center for Integrated Mountain Development, Kathmandu, 1996.
6. D.A. Messerschmidt, 'Conservation and Society in Nepal: Traditional Forest Management and Innovative Development', in P.D. Little, M.M. Horowitz, A.E. Nyerges (eds), *Land at Risk in the Third World: Local Level Perspectives*. Westview, Boulder, CO, 1987, pp. 373-397.
7. J.T. Heinen and S.K. Shrestha, 'Evolving Policies For Conservation: A Historical Profile of the Protected Area System of Nepal', *Journal of Environmental Planning and Management* 49, 2006, 41-48.
8. A. Agrawal and E. Ostrom, 'Collective Action, Property Rights, and Decentralization in Resource Use in India and Nepal', *Politics and Society* 29, 2001, 485-514.
9. A.P. Gautam, G.P. Shivakoti, E.L. Webb, 'A Review of Forest Policies, Institutions, and Changes in the Resource Condition in Nepal', *International Forestry Review* 6, 2004, 136-148.
10. Ibid.
11. H. Nagendra, 'Tenure and Forest Conditions: Community Forestry in the Nepal Terai', *Environmental Conservation* 29, 2002, 530-539.
12. J.T. Heinen and S.K. Shrestha, op.cit., 2006.



13. N. Bhatt, 'Kings as Wardens and Wardens as Kings: Post-Rana Ties Between Nepali Royalty and Park Staff', *Conservation and Society* 1, 2003, 247-268.
14. H. Nagendra, B. Karna and M. Karmacharya, 'Cutting Across Space and Time: Examining Forest Co-management in Nepal', *Ecology and Society* 10(24), 2005. [online] URL: <http://www.ecologyandsociety.org/vol10/iss1/art24/>
15. Ibid.
16. N. Baral, M.J. Stern and J.T. Heinen, 'Integrated Conservation and Development Project Life Cycles in the Annapurna Conservation Area, Nepal: Is Development Overpowering Conservation?' *Biodiversity and Conservation*, Online First, DOI 10.1007/s10531-006-9143-5, 2007.
17. N. Baral and J.T. Heinen, 'The Maoist People's War and Conservation in Nepal', *Politics and the Life Sciences* 24, 2006, 2-11.
18. P. Budhathoki, 'Linking Communities with Conservation in Developing Countries: Buffer Zone Management Initiatives in Nepal', *Oryx* 38, 2004, 334-341; Baral et. al., op. cit., 2007.
19. B. Campbell, 'Nature's Discontents in Nepal', *Conservation and Society* 3, 2005, 323-353.
20. E. Ostrom and H. Nagendra, 'Insights on Linking Forests, Trees, and People From the Air, on the Ground, and in the Lab', *Proceedings of the National Academy of Sciences of the United States of America* 103, 2006, 19224-19331.
21. Ibid.

