

Linking ecodevelopment and biodiversity conservation at the Great Himalayan National Park, India: lessons learned

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Abstract There are very few actual field experiences of initiatives where fostering a harmonious relationship between conservation and development has been attempted. It is even rarer to find an example of a state-led initiative such as at Great Himalayan National Park (GHNP). The present paper is an attempt to document efforts made at the Park to address the emerging relations between people and the Park. The success of an environmental conservation programme being implemented at GHNP hinges on addressing the imbalances in resource creation or distribution as well as in the allocation of accountability of all the players including the Park management, NGOs, researchers, Friends of GHNP, and community.

Keywords Biodiversity · Conservation · Ecodevelopment · GHNP · India · ICDP · Lessons · Livelihoods · NGO · SAHARA

Introduction

Managing Great Himalayan National Park, or for that matter any other Protected Area (PA) in India, is like a juggling act. It is very difficult to manage a habitat for the wild animals and plants if unsustainable local use and practices continue. In GHNP, the Park management started working with the local people so that the animals and plants could remain safe from their interference. The GHNP is an example of remote and inaccessible rural areas where biodiversity is concentrated, where poverty tends to be pervasive, and where

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the reach of government development programmes is often limited. The poor village women, about 50% of the local population, work the most with natural resources (i.e. water, fodder, fuelwood), but they remain alienated from the processes of rural development/nature resource management. The Ecodevelopment Planning at GHNP for biodiversity conservation and participatory rural development started with the commencement of a World Bank Project (Pandey and Wells 1997). The present paper documents lessons learnt from this Project and how experiences and opportunities gained could further participatory processes for conserving the biological diversity of Great Himalayan National Park.

Ecodevelopment in Indian context

The Integrated Conservation and Development Projects (ICDPs) world over, are major examples where the people friendly approaches were adopted to conserve biodiversity (Machlis and Tichnell 1985; McNeely and Pitt 1985; Larson et al. 1997; Wells et al. 1992; Brandon and Wells 1992; Wells 1992). Published works on ICDPs have critically assessed their role in biodiversity conservation and have made recommendations how best such projects can be implemented (Kellert et al. 2000; Wells and Brandon 1993; Wells 1994; Wells et al. 1999). In the Indian context, eco-development has been widely used as a term that describes efforts to link protected area management with local social and economic development programmes (Panwar 1992). In particular, Project Tiger is often cited in the literature as an application of the concept of eco-development. Various definitions of eco-development have been proposed, including: (1) “a site-specific package of measures, developed through people’s participation, with the objective of promoting sustainable use of land and other resources, as well as farm and off-farm income generating activities which are not deleterious to protected area values” (Panwar 1992); and (2) “limited rural development, designed with the participation of local people, for the purpose of reconciling genuine human needs with the specific aims of protected area management” (Pabla et al. 1995).

The concept of Protected Areas is at crossroads in a developing country like India (Kothari et al. 1989; Reid and Miller 1989; Miller 1999). While the current impetus for the creation of such areas is very strong, past experiences have led to increasing resistance from both local communities and governments to expand the existing PA network. The American model of PAs (home of world’s first National Park, Yellowstone, established in 1872) isolated from human habitation and exploitation has since been replicated in many countries. This model has also resulted in inevitable conflict with local communities. People living in and around PAs have been regarded as a management problem, and historically, little effort has been made to involve them in the design and management of the PAs (McNeely 1988; West and Brechin 1991; Tucker 1991; Western et al. 1994). The management efforts made at GHNP during 2000 and 2006 re-evaluated such exclusionary policies and evolved more socially responsive conservation processes and mechanisms (Pandey 2004a, b).

Great Himalayan National Park Conservation Area

The Great Himalayan National Park has been constituted as a representative area to conserve the unique biological diversity of the Western Himalayas. The 754.4 km² area of the Park is naturally protected by high mountain ridges and peaks on its northern, eastern

and southern sides. However, the western side is inhabited by 2,400 households in 160 hamlets in 265.6 km² buffer zone (or ecozone as it is popularly known) of the Park. These hamlets are part of sixty Panchayat-wards of twelve Panchayats in the Park's ecozone (a Panchayat is an institution of self government under the Constitution of India; it is further divided into Panchayat wards with one or more hamlets, to carry out government development programmes) (Fig. 1).

Most of the population (about 14,000) in the ecozone is poor and dependent on the natural resources for the livelihoods (Pandey 2004b). A 90 km² Sainj Wildlife Sanctuary with three hamlets has virtually divided the Park in two parts (please see Map). Another 61 km² wildlife sanctuary of Tirthan exists on the southern tip of GHNP. Together these two wildlife sanctuaries, ecozone and the GHNP form the Great Himalayan National Park Conservation Area (GHNPCA) of 1,171 km² (WII 2005).

Biotic significance of GHNP

The GHNP is the foremost priority for conservation in the North-West Himalayas (Rodgers and Panwar 1988; Gaston and Garson 1992). The occurrence of temperate and alpine ecosystems in a geographically compact area makes GHNP the largest conservation unit at the junction of the Oriental and Palearctic faunal realms (Pandey and Wells 1997). Deodar, Blue pine, Chilpine, Silver fir, Spruce and Taxus are the main conifers of the Park. Diverse broad leaf forests on moderate slopes include Ban Oak, Moru Oak and Kharsu Oak, Horse chestnut, Walnut, Maple, *Prunus*, Alder, Birch, and Ash. The tree line is mixed with sub-alpine scrub of Rhododendron and Juniper species. Alpine meadows have preponderance of herbaceous medicinal and aromatic plants. About 61 herbs have been identified in the Park (WII Research Report 1999). Some of the commercial value herbs are *Aconitum*

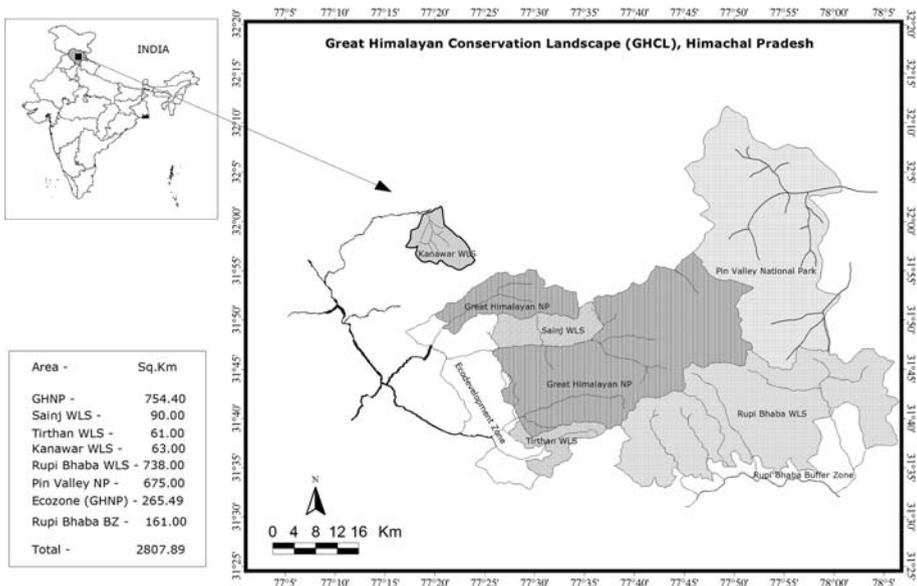


Fig. 1 Great Himalayan National Park and other Protected Areas, Himachal Pradesh

violaceum, *Salvia moorcroftiana*, *Viola serpens*, *Jurinea macrocephala*, *Aconitum heterophyllum*, *Dactylorhiza hatagireia*, *Valeriana jatamansi*, *Rheum emodi*, *Berginia ciliata*, *Picrorhiza kurroo*, and *Saussurea graminifolia* (Singh and Rawat 2000). In particular the area supports critically important populations of the endangered Western Tragopan, Chir Pheasant, Himalayan Tahr, Snow Leopard and Musk Deer (Gaston and Garson 1992). The World Conservation Monitoring Centre has identified the western Himalayan region as one of the five Centres of Plant Diversity and Endemism in India and in need of urgent protection (WII Research Report 1999). The Park falls within one of the globally important Endemic Bird Areas (D02: Western Himalaya) identified by the ICBP Biodiversity Project (ICBP 1992).

Social profile (Table 1)

Only 26.07 km² (9.81%) out of the total area of 265.6 km² of the ecozone is covered under habitation/agriculture/orchards and rest of the 239.53 km² (90.18%) is under natural vegetation of subtropical chir pine, coniferous and mixed deciduous woods of the temperate zone with green and white oaks, horse chestnuts, and walnuts amidst tall deodar and blue pines (Singh and Rawat 2000; WII Research Report 1999; WII 2005). The Tirthan valley is the most populated area in the ecozone, followed by Jiwanal and Sainj valleys. The villages in Park's ecozone are highly stratified. The Rajputs and Brahmins are the main constituents of the villages. Mostly these are the affluent people belonging to the higher stratum of the society. The Scheduled Castes (SCs) are 27.3% of the total population in the ecozone. The people belonging to the SC are mostly poor and dependent upon the natural resources for their livelihoods (Pandey 2004b). However, due to their low status in the society, they are illiterate and commonly excluded from access to key resources and institutional services. Only 17.9% people in the ecozone are literate while this figure for the state of Himachal Pradesh is 76.5% (Census 2001). Literacy levels are the lowest among the SCs while the school dropout rates are higher among SCs than other castes (Pandey 2004b). Widows and deserted women are almost universally included among the poorest category of people, but coverage under government programmes like widow pension scheme is seen to be inadequate (Tandon 2002a).

Isolated for centuries from the large urban centers, the remote hamlets developed a highly distinctive culture, based on the worship of local deities (devta), which are celebrated in numerous local, regional and national festivals (Tucker 1999). Until the 1960s

Table 1 Census information of the Great Himalayan National Park (Pandey 2004b)

Name	No. of Panchayats	No. of wards	No. of households (HHs)			Total (HHs)	Population						Total		
			Gen.	SC	OBC		Gen.			SC				OBC	
							M	F	M	F	M	F			
														M	F
Tirthan	7	31	1,013	335	14	1,362	3,028	2,883	923	896	33	31	7,794		
Jiwanal	4	22	483	279	10	772	1,337	1,279	706	695	30	23	4,070		
Sainj	3	7	205	69	0	274	665	354	269	145	0	0	1,433		
G. total	14	60	1,701	683	24	2,408	5,030	4,516	1,898	1,736	63	54	13,297		

Gen: (General) includes castes such as Rajputs, Brahmins, etc; OBC: Other Backward Castes

human pressure on the Sainj-Tirthan area grew very slowly. People in the area were primarily living at a subsistence level with very limited export of natural resources. More recently, the state government's commitment to rapid economic and social development of the area put great pressures on the environment (Tucker 1999). The major pressures on GHNP's species diversity have been grazing, collection of medicinal herbs, as well as other forest products, including the commercially valuable morel mushroom (Gaston and Garson 1992; Gaston et al. 1981). Until 1960s there was no significant commercial market for the small timber, major herbs, and no one anticipated that in coming years this would become a critical issue for the Park. Beginning in the late 1960s the commercial market for medicinal plants expanded enormously, giving local people a major new source of income. Before 1999, a survey indicates that 70–85% of households derived cash income from collecting and selling herbs (Tandon 1999).

Settlement of rights

Under the Indian Wildlife (Protection) Act, 1972, the 'final notification' for a National Park can be issued only when the area of the Park is free of biotic pressures. Initially, a 'notification of intention' is issued by the state govt to declare an area as national park on the basis of its zoological, botanical, geomorphological and geological values (Anon 1972). Approximately 20% of the total 96 notified national parks in India, have been finally notified (ENVIS 2000). Presence of villages, habitations, agricultural lands, etc, inside the initially notified national parks is the main reason for delay in their final notifications (Project Tiger Report 2005; Kothari et al. 1989). The boundaries of GHNP were delineated after a very careful survey by the Himachal Wildlife Project team in 1980s (Gaston et al. 1981). The team recommended the present area for a national park for its low levels of habitation, low visitation, and traditional lifestyles of local people. Though the local people had rights of medicinal plants collection, and grazing, there was no habitation in the designated park area. Moreover, the Park remains untouched by any road network and thus provides a unique opportunity for sound conservation efforts (Pandey and Wells 1997).

The Anderson's Settlement Report (1886) is the only available document on the basis of which the local people have been exercising their rights in the area which is now constituted as the Great Himalayan National Park. With the passage of time, a number of non right holders also gained access to the resources of the Park area. Upto 1998, about 4,000 to 6,000 herb collectors and 20,000 to 30,000 sheep and goats have been going into the Park due to unregulated system. This open access to the resources led to unsustainable levels of extraction which threatened the biological diversity in the Park.

In May 1999, the rights of the local people in the GHNP were settled through an elaborate procedure, prescribed in the Indian Wildlife Protection Act 1972. As per Anderson's Settlement Report which is a valid document even now, there were only 349 right holders in the GHNP area whose rights were purchased by the government by giving them a compensation of about Rs. 1,55,00,000 or US\$ 387500. Because of the settlement of rights, the GHNP is the most recent finally notified national park in India. The situation in GHNP is remarkable for having succeeded in making a final settlement of the rights of local people so that, in theory at least, everyone with a stake in the area alienated by the creation of the Park has been compensated. However, given that the settlement was based on a 120-year-old document, it is hardly surprising that not everyone was satisfied with the result.

Recent changes in ecozone

There is a very apt mention of changes in human population along with areas under habitation/agriculture/orchards in the ecozone of the Park (WII Research Report 1999). It shows that between 1961 and 1993, the area under habitation/agriculture/orchards has gone up by 9 km². while the forest area has declined by 4 km². Though there is no similar data for the changes beyond 1993, they are more pronounced after 1993 because of the sudden invasion of mega-hydro electric projects such as Parvati Hydel Project in the ecozone of GHNP. This has triggered a tremendous impact on the human habitations in the area in the last decade. At the same time a big portion of prime forest land, 10.6 km² in Jiwa Nal valley, has been taken away for purposes other than forest conservation (Chhatre and Saberwal 2006). In addition to the Parvati Hydel project, there are a number of big and small projects on various nullahs (rivulets) which are changing the land use pattern in the ecozone in a very big way further restricting the home range for different species. The immediate and long-term impact of these land use changes are immense: already, there is an influx of outside labour force which despite restrictions damages the herbivores of the area and clears the woodland for firewood, etc. The fringe areas of the GHNP where these projects are located represent a degraded landscape. At the moment there are hardly any studies which give quantified data to show this degradation. However, the fact remains that a degraded landscape effects the livelihood options of poor in an adverse manner (Pandey 2003).

Conservation goal

In order to conserve the biodiversity of the Park, the challenge at GHNP has been to reduce local dependence on the Park, mitigate poverty, and create cooperative relations with local people, all on a sustainable basis.

The recent efforts to conserve the biological diversity at the GHNP aim at innovative strategies and action plans involving participatory approaches with emphasis on equitable and sustainable use of natural resources by local people. This has meant a new emphasis on finding ways of deriving new economic opportunities from biological resources which do not lead to further losses of biodiversity (Pandey and Wells 1997). The post-settlement-of-rights situation is going to affect the Park in the following ways:

- (a) the biological processes, when free of current biotic disturbances, are expected to bring positive changes in the status of biological diversity in the Park;
- (b) the restrictions on access to the Park area may have some negative effect on the livelihood of the local community, given their high dependence on herb collection and livestock grazing.

GHNP presents an example of gradual and sometimes alarming attrition of Indian natural heritage despite decades of good intent, want of effective action on the ground and appropriate policy response. Even as more and more species (how many we don't know) and their habitats get pushed towards the threshold of irreversible decline, the state response fluctuates between occasional flashes in the pan at best, but embedded in consistent institutional indifference (Project Tiger 2005). This unfortunately becomes a threat that needs to be addressed with *extreme urgency* because in the case of the state of Himachal Pradesh such species, like the Western Tragopan are involved that do not occur anywhere else in the world in viable populations. The Great Himalayan National Park has become one of the first National Parks in India to receive international development

assistance for ecodevelopment (Pandey and Wells 1997). Starting in late 1994, GHNP received approximately US \$ one million over 5 years for ecodevelopment under the World Bank aided Conservation of Biodiversity component of a larger Forestry Research Education and Extension Project or FREEP (1994–99).

The Conservation of Biodiversity (CoB) project

The CoB project was to implement ecodevelopment concepts at the GHNP and bring in structural/institutional changes in the management to facilitate biodiversity conservation. The following are the interventions during this Project:

Management interventions during CoB

The main PA management intervention during the CoB Project was construction activities such as repair of village and trekking trails, construction of a few watchtowers in the mountain terrain, plantation of a few hectares of forestland and patrolling of the forests. An interpretation centre was constructed at Sai Ropa, though in effect this began to be used for community training and ecotourism only after the CoB project ended. In addition, a number of buildings were constructed at Shamshi (HQ) and in field.

Biodiversity Conservation Society (BiodCS)

The BiodCS, though set up during the CoB Project, was actually made operational in post CoB period (Table 3). The governing board structure of BiodCS is sufficiently powerful to provide autonomy at the Park management level. The Director, Great Himalayan National Park is member-secretary of this governing body and does all the works concerning management, financial and administrative works duly approved by the governing body. The govt of Himachal Pradesh has authorized BiodCS to get receipts from Park entry fee; Nature Parks (at Manali) entry fee, rent of field equipment, camping gear, camping grounds, and rentals from all Forest Rest Houses/Inspection huts/Community Training and Tourist Center at Sai Ropa/Information Center at Larjee/stores at Aut and other places. Sale proceeds from posters, booklets, books, stickers, souvenirs, and other like items also add to the funds of Society. The Society can receive grants, donation or assistance from foreign governments and other external agencies with prior approval of the central government. The BiodCS shares responsibility for the management of the GHNPCA. The provisions of the BiodCS are in order to (i) provide functional autonomy in the running of the Society to create an incentive to utilize the staff and assets more productively, and (ii) ensure that it results in economy for the government by lessening the pressure for budgetary support (Pandey 2004b).

Research and monitoring

During the CoB project, a research programme was executed at the Great Himalayan National Park in collaboration with the Wildlife Institute of India, Dehradun. This has contributed in providing baseline information on the floral and faunal diversity, land use, historic development, socio-economic conditions, people's attitudes and perceptions. The GHNP is one among the few conservation areas in the country where different taxonomic groups were studied simultaneously (Pandey 2004a). They included vertebrates (mammals, birds, reptiles and amphibians), invertebrates (insects, annelids and mollusks) and plants

(angiosperms, gymnosperms, pteridophytes, bryophytes and lichens). The research results from 1994 to 1999, were published in a six-volume report titled 'An Ecological Study of the Conservation of Biodiversity and Biotic Pressures in the Great Himalayan National Park Conservation Area-An Ecodevelopment Approach' (WII Research Project 1999). The WII also accomplished a Long Term Ecological Monitoring system for the Park to develop integrated management strategies and ecodevelopment guidelines.

Microplanning under CoB

Under CoB Project, 16 microplan units were developed, in order to involve the various stakeholders in the ecozone of GHNP. Each microplan unit was to have its own Village Ecodevelopment Committee (VEDC). By and large, the microplan involved all the villages in a particular micro-watershed. Such a big unit was practically un-manageable (Pandey and Wells 1997). The livelihood and conservation issues involving water, fuelwood, fodder and NTFPs are deeply related to the poor, and especially the womenfolk in the ecozone. There was no specific mechanism evolved to ensure their participation in the project. Due to wide gap between the micro level planning and its actual implementation local people started loosing interest in the programme (personal observations).

The CoB project appraisal

The World Bank prepared an Implementation Completion Report (World Bank 2002) for the FREE Project which closed after 2 years extension on December 31, 2001 with the following comments on the CoB Project at GHNP (the World Bank stopped financing the CoB Project at GHNP on December 31, 1999):

In the GHNP, achievement of project objectives during the project period was unsatisfactory when provision of bank financing ceased due to difficulties over legal ruling that compromised the ecodevelopment programme. However, during the post Bank-financing period, some promising innovations have been established at GHNP. At GHNP, the processes in formation of local level institutions and micro planning left much to be desired. There has been little or no impact on the ground from ecodevelopment investments. The 16 village committees formed during project period are defunct. However, in the post Credit closure period, women's saving and credit groups have been established covering poor families and a Biodiversity Conservation Society is in place.

At GHNP, women's saving and credit groups have been successful. However, because project financed GHNP investments tended to be routine forestry works without imagination, without community involvement and without clearly targeted linkages to conservation, those ecodevelopment investments have not proved cost effective.

At GHNP, the performance of implementing agency remained unsatisfactory for much of the project period. However, performance started to improve in the last year of the project prior to the Government action on settlement of rights, and in 2000 and 2001, after project closure on December 31, 1999.

The CoB Project was expected to contribute significantly through village level organisation to the biodiversity conservation of the GHNP. Such an approach would necessitate that the professional capacity of GHNP staff is built up, and organisational structures, and procedures are established. At GHNP, the concept of ecodevelopment was new both to the

field staff and the neighbouring communities. The Project at the Park faced problems of establishing mechanisms of a process-approach, micro level planning details, local communities involvement, and coordination among various developmental agencies, NGOs in the area (see Table 2 for a comparative statement of formation of VFDCs and Microplans during CoB and Post CoB phases). The project also suffered at the GHNP for reasons like unduly lengthy government procedures to obtain financial sanctions for the proposed works. Quite often, the efficiency of the Park Director to spend allocated funds in a year became more important rather than adjudging his effectiveness of relating conservation issues to expenditure (personal observations).

The post CoB interventions

For 8 years I have been involved with Park management and poverty reduction at the GHNP as it's Director since mid-1998. I executed the CoB project for only last one and a half years (upto 1999). Acknowledging that the Village Forest Development Committees are mostly male dominated; realizing that poverty is the main opponent of conservation, and recognizing that the women, who constitute nearly and significantly, half the total population are poorer of the poorest in the buffer zone of the Great Himalayan National Park, I made efforts to organize poor womenfolk of natural resource dependent households into small Women Saving and Credit Groups (WSCGs). These group members save their own money (one rupee a day) and earn credits within the WSCG to invest money in natural resource-based enterprise development. This rural development programme in combination with environment awareness education, women empowerment, and Joint Forest Management is leading to a decline in biotic pressures upon the forests/biodiversity of the GHNP. The WSCGs, are now being federated into Village Forest Development Society at Panchayat (village council) level, providing the rural poor and women an opportunity of decision-making through the village level micro-plans.

The activities at GHNP, particularly the settlement of rights of the local people and issuance of final notification of the Park in 1999, have been subject matter of discussion of a recent book, 'Democratizing Nature' by Ashwini Chatre and Vasant Saberwal (Chhatre and Saberwal 2006). This book uses example of GHNP to comment on 'environmental politics in India entwined with a certain kind of development discourse'. The book looks at creation of GHNP as a political issue, however, it remains silent on the efforts made by the Park administration to bring people and Park together or in other words to make the government system work to the advantage of conservation within the limits of law of the land. The lessons learnt from here may be of great advantage for similar efforts of conservation in the developing countries.

With the help of experiential learnings from the CoB Project, the following management efforts were made between 2000 and 2006 at the Park which need to be highlighted to understand the dynamics of involving local communities in the conservation of biological diversity of GHNPCA.

Setting up of new mechanisms of management

Very innovative systems of the Park management have been set up at the GHNPCA.

They include two types of institutional arrangements:

- (i) to integrate local people in Park management
- (ii) to manage the Park

Table 2 A comparative statement of formation of VFDCs and Microplans during CoB and Post CoB phases

	CoB project	Post CoB interventions
Village Forest Development Society (VFDCs)	<p>A Village Forest Development Committee is an informal body</p> <p>Too large VFDCs; committees unrepresentative</p> <p>Over-reliance on Park official (Forest Guard) as animator and secretary of the VFDCs</p> <p>VFDC as Forest based body with weak links to Panchayats or other community institutions</p>	<p>A Village Forest Development Society (VFDS) is a formal body registered under the Himachal Pradesh Govt's Joint Forest Management Rules 2001. The villagers show more confidence and trust in a VFDS</p> <p>Formation of homogeneous interest groups/user groups at the sub-hamlet level empowered the poorest and women. WSCGs came together to form Village Forest Development Society (VFDS) under the HP JFM Rules, 2001 (HP PFM 2001)</p> <p>Forest Guard as one of the members of the Village Forest Development Society comprised of key front line staff from a range of departments and appropriate NGO/CBO facilitators where available. So reliance on the Forest Guard has been reduced considerably</p> <p>WSCGs is a User/Interest Group which is formed after a livelihoods-based Participatory Rural Appraisal (PRA) in the community. It facilitates processes to take account of and respond to the range of livelihoods priorities. The Gram Panchayat, here, is the key coordinating body to ensure that efforts are integrated and that funds and support flow from the most appropriate government schemes, departments or other sources</p>
Microplans	<p>Too long and complex</p> <p>Park staff and community new to concepts of microplanning</p> <p>Long gap between microplan preparation and its implementation; VFDC activities dependent on CoB project funds for microplans</p> <p>Microplan prepared by outside agencies with little participation of local people; No reflection of livelihood consequences for the poorest</p> <p>Villagers heavily reliant on Forest Guard for expertise and cohesion. Very little sustainability of microplan</p>	<p>Shorter, simpler, microplans prepared at the user/interest group (WSCGs) level and consolidated at the Ward level. Elements of these microplans reflected in the Gram Panchayat microplan and VFDS microplan as appropriate. User/interest (WSCG) group microplans livelihoods-focused, incorporating a wide range of activities which may or may not include a forest management based input</p> <p>Special training courses were arranged for the Park staff and selected community members and members of WSCGs to understand and implement participatory processes of microplanning</p> <p>Attempts were made to reduce this gap. The members of User/interest (WSCGs) groups were encouraged to approach for funding through existing government schemes (such as savings and credit, livestock improvement, education and other poverty alleviation initiatives) through the Gram Panchayat microplan or directly by the department concerned</p> <p>The microplanning was a logical culmination of formation of the WSCGs in a Panchayat Ward, then integrated at the Ward and Panchayat level through the process of microplanning. User/interest group microplans reflected the needs of small homogeneous groups (see Appendix 2)</p> <p>The WSCGs initially received intense support from a 'Group Development Support Team' which equipped them with key analysis, planning and management skills. At an early stage of microplanning, an 'animator' was selected by the members of WSCGs at the Panchayat Ward level whose training was facilitated by the Park to assist in maintaining group processes and cohesion as well as in the appropriate technical skills for the group's priorities. This enhanced the sustainability of the microplans</p>

(i) To integrate local people in Park management

During the last year of the CoB Project (i.e. 1999) at GHNP, the new leadership of Park management commenced efforts to involve community participation (Chandar 2001). Programmes focused on creating equitable and sustainable use of natural resources by local people. A major goal was to develop new economic opportunities from biological resources that would increase land productivity as well as provide alternative livelihood sources. For doing so the Park management undertook a detailed capacity building and monitoring programme of twelve selected women Group Organizers (G.Os.), one each from the twelve Panchayats of the ecozone. The following facts about this new mechanism of community participation deserve attention (Pandey 2004b):

- (i) Ability of communication, educational qualification (at least High School pass), and trainability were some of the criteria for selecting a G.O.
- (ii) A number of training sessions were organized to train G.Os. in various aspects of surveying the villages in ecozone of GHNP for poor households (HHs) which had their male members going into the Park area for herb collection and grazing their sheep.
- (iii) The G.Os. were to organize the women members of the identified HHs in groups. For effective participation, the group size is small (about 10–15 poor women) and of homogenous nature (e.g. women of similar social and economic conditions grouped together).
- (iv) Such small groups of poor women are known as Women Saving and Credit Groups (WSCGs). A micro-credit programme has been introduced to bring the poor women together. Each woman is to save one rupee a day. In extreme cases, the women were given daily wage jobs in the medicinal plant nurseries so that they are able to bring up their families and save money.
- (v) The G.Os. and WSCGs have organized themselves as a Non Government Organization, SAHARA (Society for Scientific Advancement of Hill and Rural Area) which is a registered body under the Society Registration Act, 1886.
- (vi) The members of the WSCG choose an animator who facilitates the record keeping and depositing of collected money in the nearest bank. The group members pay for the services of the animator.
- (vii) Each of the WSCGs is getting developed into a Production Center. The group members discuss an income generation activity. The group being small, and members knowing each other's capabilities, the decision of 'who will undertake which activity' is taken within the group. The most important of the activities of these groups in the current year are vermicomposting, apricot oil production, medicinal plant propagation (in the ecozone), and handicraft making (Appendix 1) which to some extent will be able to compensate for the loss of their herb collection rights in the GHNP.

The Park officials provided most of the wage-oriented work such as preparation of nurseries, plantation work, path repair, etc. to the women groups on priority basis. This in turn enhanced earning and saving capacity of the women.

Microplanning

(See Table 2 for detailed comparison between CoB and Post CoB Period).

A WSCG was considered as starting point to develop a livelihood based participatory Panchayat microplan in association with a local NGO called Rural Technology

Development Center (RTDC 2003). The microplanning at WSCG was consolidated at the Panchayat ward (about five wards constitute one Panchayat). Fifty-eight microplans had been prepared in corresponding numbers of Panchayat wards of twelve Panchayats in the GHNP ecozone. A WSCG functions as pressure group for their livelihood based needs within a Panchayat. Support for doing so has been gained from the Participatory Forest Management Rules of H.P. Govt, 2001 which provide for the organizing of user groups at the ward level and their federation into a Village Forest Development Society (VFDS). These rules also provide that all the voters (everybody above 18 years of age in that ward) are the members of the VFDS, and the executive committee of VFDS will have 50% representation of women. On an average, there are about 200–250 voters in one Panchayat Ward in the GHNP ecozone (HP PFM 2001). The federation of WSCGs into VFDS at the ward level is to integrate them directly and organically with the Panchayat (Appendix 2). The linkages of WSCGs with the Panchayati Raj system, also ensures that their microplans get funded through regular state schemes and are not dependent on project funds from the PA management.

The members of WSCGs participated in the training workshops for microplanning exercise. It took about 4–6 months time to prepare one microplan. It was emphasised that a microplan is an institutional contract or arrangement to bring benefits (to the local communities through ecodevelopment programmes) and responsibilities (of the local communities to help protect, conserve the biological diversity of GHNP) (Pandey and Wells 1997). This programme is expected to address the issues of sustainability through its inherent strength of empowerment of womenfolk within the hill society.

Training inputs

The Park management established a Community Training and Tourist Center at Sai Ropa in Tirthan Valley to organize training programmes and workshops for the Group Organizers and animators. Protocols have been set up for periodic reviews of G.Os. and animators.

Most of the training inputs in post-CoB period are related to developing skills, such as:

- (a) approaching the local communities to organize villagers in small, homogenous user groups (such as WSCGs, herb collectors group, ecotourism group, etc.),
- (b) communication within the groups and between groups,
- (c) making sustainable use of locally available natural resources (very low cost income generation activities),
- (d) monitoring a Group's activities within a timeframe,
- (e) taking advantage of microcredit scheme for biodiversity conservation,
- (f) record keeping for savings, and credit amounts,
- (g) marketing, and
- (h) leadership skills to become a good Group Organizer or animator.

WSCGs and VFDSs

A WSCG is an important institution, which strives to promote an equitable access to the natural resources, and supports the important aspect of social/environmental justice and gender sensitivity. It provides the rural poor and women an opportunity of making a CHOICE (decision-making) in income generation activity and raising their VOICE in preparation and implementation of the VFDS (Ward) level microplans. These smaller scale

Table 3 Funds raised under the BiodCS

Amount raised	Projects
Rs. 50,00,000 or 1,25,000 US\$	“Conservation & Cultivation of Medicinal Herbs in Sainj and Tirthan Ranges of GHNP” (Funding agency: the Medicinal Plants Board of India, New Delhi); Year 2002–05
Rs. 3,50,000 or 8,750 US\$	“Conservation of the Western Tragopan through wider support of the local community and Community Based Organisations” (Funding Agency: National Hydel Project Corporation, Bhuntar, Kullu); Year 2004–05
Rs. 5,00,000 or 12,500 US\$	For conducting a national workshop on “Ecotourism in Himalayas: Prospects and Challenges”—Product development and Marketing for Ecotourism in December, 2005 (Funding Agency: The Ford Foundation, New Delhi)

At BiodCS, I have set up an ongoing fund raising programme for the management of the GHNP through Park entry fee and incomes from the facilities created for Community Based Ecotourism. This sum is about Rs. 10,00,000 (25,000 US\$) per annum; Year 2002 onwards. These funds are used to maintain the community related assets (such as Community Training and Tourist Center at Sai Ropa) and run training programmes for the staff and villagers

initiatives in post CoB period have positively contributed to the forest management/biodiversity conservation at the Park and have helped to improve the economic livelihoods of local people (More details given under the “Discussion”).

Society for Advancement of Hill and Rural Areas (SAHARA)

The Park management facilitated the WSCGs and their Group Organizers to form NGO SAHARA. Registered in July 2001, SAHARA provides continuity and mass support to biodiversity conservation in GHNP. The NGO in collaboration with the Park administration organizes poor and women, empowers them with asset building, rationalizes use of natural resources, helps in socio-economic development, provides market support and raises funds, all these actions in support of reducing the dependencies on the Park’s resources.

Jujurana Jeeve

Some of the responsible and senior members of the community are in the process of organizing themselves in an informal Community Based Organization called as Jujurana Jeeve. They associate with the Park officials in providing useful information against poachers/defaulters, assist in monitoring/census operations in the Park. The Jujurana Jeeve performs the most important function of creation of a constituency among the local people in favour of wildlife protection and conservation.

(ii) To manage the Park

The BiodCS set up during CoB project was made operational from 2000 onwards. The new management at Park could use BiodCS, as a vehicle for receiving, generating, and managing funds in ways not possible through normal government procedures. New projects were developed and funds raised for their implementation (Table 3).

The govt funds at GHNP are mainly for the payment of staff salaries. The annual govt budget for the Park management works is about Rs. 30,00,000 (75,000 US\$) which include habitat management, Park protection and construction activities. The funds raised under

the BiodCS are very useful for diverse activities for the community, such as training of WSCGs in income generation activities, Community Based Ecotourism, social welfare programmes of nutrition, education and awareness generation.

Livelihood Based Management Plan of the Great Himalayan National Park (2005–2010)

The Management Plan of GHNP is based on the livelihood approach. The fact that the biodiversity conservation is possible only through an active support of the local communities, the Management Plan gains support from a more informed understanding of the livelihoods of different stakeholder groups and the major influences that shape them. Such an approach is primarily based on analysis of local livelihoods with a focus on poor people who have been dependent upon the Park's resources. The traditional planning for Protected Areas in India emphasizes management of natural resource or wild habitats/species as basic approach towards conservation (Sawarkar 1995). However, the need of the hour is to have a second look at the management of natural resource, which has more to do with the 'management of people'; involvement of women/poor in the conservation efforts; and adoption of a livelihood approach towards conservation. The GHNP Management Plan revisits the planning sequence as following:

- It prioritizes working with the local communities (their livelihoods) to reduce their dependencies on the PA's natural resources, and
- the interventions to manage, monitor and protect the natural habitats/species and resources are facilitated when the local communities cooperate.

The process of planning and implementation should continue on a regular basis, because consensus cannot be reached on all issues and options in one term of a Management Plan. Experimental approaches and flexibility will be needed, demanding subsequent review and adaptation by stakeholders. The present Management Plan with a livelihood approach, is a precursor to ongoing strategic planning for biodiversity conservation, and is thought to be a leading example of such processes in India (Pandey 2004b).

Friends of GHNP

The Friends of GHNP come from all walks of life (mostly the foreign visitors/tourists who have visited the GHNP) and believe that GHNPCA should have international support for its efforts to protect a part of the unique environment of the Western Himalaya. The Park needs to get its message out to the world. As a volunteer group donating their time and energy, they are always eager to have new "friends" to help. The Web site <http://www.greathimalayan-nationalpark.com> has been created and developed by the Friends of GHNP. A short movie, "Voices and Choices in the Great Himalayan National Park" has been made by Friends. They also prepared most of the educational and promotional print work for the Park including brochures, posters, flyers, etc. There have been a number of slide shows and talks on GHNPCA in USA and Europe. All these efforts have given the Park world wide publicity. The SAHARA ecotourism group in the ecozone of GHNP hosts the visitors that Friends of GHNP send to GHNPCA which becomes yet another source of income generation activity.

Discussion

The strategy of integrating conservation and development through sustainable non-forest dependent livelihood of local communities living in and around PAs has been debated

extensively in recent decades (Saberwal and Rangarajan 2003; Saberwal et al. 2000). Many authors have been emphasizing nature protection, advocating importance of the protected areas, viewing critically the role of local communities as saviors of ecology, questioning the effectiveness of conservation linked to development, thus ultimately prescribing strict enforcement measures for biodiversity conservation (Terborgh 1999; Oates 1999). Scientists have been defending nature protection for its utilitarian importance or as a moral imperative (Kremer et al. 1997). Yet another set of scholars look at the socio-political aspects of nature conservation and elaborate upon the mechanisms which can be evolved through concerted negotiations with the local communities (West and Brechin 1991; Brandon 1996; Wells et al. 1999; Brechin et al. 2002).

Lessons learnt from GHNP experiment

How can conservation in a developing country happen when vital natural resources necessary for human survival are protected in a National Park? This is perhaps the most important question that needs to be answered, particularly under the India's Wildlife Protection Act 1972 which prohibits any kind of habitat use in a National Park. All the mechanisms set up in the post CoB period were expected to contribute significantly to find an answer to this important question. The WSCGs, Park administration, and NGOs made efforts towards sustainable livelihoods of the rural poor in a participatory mode to reduce their dependencies on the Park's natural resources. Such an approach would necessitate that the WSCGs are strengthened, professional capacity of GHNP staff is built up, and institutional structures, procedures are established. In this regard, the following are some notable observations on the three main stakeholders at GHNP (i) local communities, (ii) Park administration, and (iii) NGO:

(i) Community

Assumption: It is an assumption that the dependencies of the local communities for their livelihoods on the biodiversity of the National Park (in form of herb collection, sheep grazing, etc.) will get reduced if they are provided with the alternative source of income.

In practice

- (I) *WSCGs, a small scale initiative in Post CoB period:* In a span of three years (2002–05), about 800 women have been organized in 80 WSCGs in the ecozone of the Park covering almost all such households from where the male members used to go for herb collection into the Park. This is also as per recommendations of CoB Project Research Report (Tandon 1999). The members of these WSCGs saved about Rs. 8,00,000 in these three years and could do business worth Rs. 34,00,000 (see Appendix 1 for various Income Generation Activities). The women could earn about Rs. 6,00,000 from Vermicompost; Rs. 5,50,000 from sale of Apricot oil; and Rs. 2,00,000 from sale of agricultural produce. In addition, they earned Rs. 7,50,000 from wage work in Park's medicinal plant nurseries; Rs. 3,50,000 as wages to work for campaigning for wildlife protection in a Kala Jatha or a street theater; and Rs. 10,00,000 earned by the male members of the WSCGs to work for the Community Based Ecotourism (SAHARA records). Though these amounts do not match significantly with the incomes from medicinal plant collection of pre-settlement period, the fact remains that upon closure of the Park, these households in the ecozone

- started getting additional incomes through the alternative income generation activities (personal observations).
- (II) *Size and affinity of WSCGs*: Organizing the local poor people in small identifiable, homogenous groups of about 12–15 individuals (such as Women’s group, herb collectors group, basket-makers group, and like) is helpful in forming a larger federation or an organization such as SAHARA. This is particularly important in mountain terrain where smaller group size is linked to the members (especially women) not have to cover long distances in difficult terrain to attend meetings. The size of the group/organization is linked directly to its performance and its efficacy (Table 2). This facilitates holding of meetings with adequate quorum. In a smaller group it is possible to listen to their voice and concerns and include in action plans. Thus a smaller group is more sustainable.
- (III) *Empowerment of WSCG members*: The existence of an organized group of women in the Panchayat ward seems to relate better with the Panchayat structure and dynamics (In 1995, the Indian Constitution was amended to provide for one-third of the total number of Panchayat seats reserved for women. One-third of the offices of chairpersons of Panchayats at all levels have also been reserved for women). A persistent complaint in the government sector has been that several government programmes meant for the poor do not reach them. An organized women’s group(s) in GHNP ecozone that consists of primarily the poorest households in the Panchayat ward becomes difficult to be ignored in surveys, census operations etc. and gradually acquires social and political significance. Four Pradhans (chiefs) of Panchayat, and 22 Panches (a Panch is head of a Panchayat Ward) have been elected from amongst the WSCGs in the Panchayat elections in December, 2005 (personal communication).
- (IV) *Experiences of microcredit scheme in WSCGs*: The concepts of WSCGs, microcredit scheme are very new to the villagers, especially in the remote areas. For some of them this is the first time that they are participating in market systems through production (income generation activities) or consumptive (personal/family requirements) loans. Only one-fourth of the total savings of Rs. 8,00,000 was circulated within the WSCGs as loans (2002–05). It shows that saving money is easier part than giving loans within a WSCG. The group members initially feel skeptical towards production loans and are more inclined to take consumptive loans to meet with their family requirements. The Park management has been organizing training workshops for the group members to facilitate internal lending within the groups for productive loans. This will further strengthen the link between savings and livelihood security.
- (V) *Low investment income generation activities*: Poor villagers participate in income generation programmes, which have very little investment, very low level of technological inputs and ready markets for the sale of produce, such as production of vermicompost in WSCGs which was readily bought by the Park management. The WSCGs show a preference for such medicinal plants which fetch more incomes and easy to grow. The diverse income generation activities in WSCGs provide the members with more security. Because it is their own savings that the women are loaning for ‘production activities’, the recovery of such small loans is almost 100%. In long run, such WSCGs are going to be sustainable and will contribute to the conservation of the biodiversity of the Park.
- (VI) *Change in attitude of males*: There has been a definite change in attitude of males towards the women of the household participating in the WSCGs. The initial skepticism of males towards WSCGs is now changing into a pragmatic approach.

There are reports of males sharing the household jobs to provide time to the women of HH to attend WSCG meetings (Tandon 2002b). The male members of the WSCGs are being organized in income generation activities. Ecotourism is one such activity (DeCoursey 1999) by which the male members are earning livelihoods (jobs of porter, cook and guides for the males of the WSCGs).

(ii) Park administration

Redrawing mental maps of the Park officials from enforcement to participatory management was an underlined assumption. The mechanism to bring such changes is mainly training, exposure visits, monitoring, and evaluation, and interactions with the WSCGs.

In practice

- (I) *A third perception:* Whenever a government official (from Park Management or Rural Department) visits a village, the villagers perceive the visit in only two ways, either the official has come to book the villager for some offence or the official is there to give out doles or subsidies under some new govt scheme or Project (Personal observation). At GHNP the third perception was tried i.e. let the villagers feel at home when “someone” visits them for their involvement in participatory natural resource management or in Asset Building activities. This “someone” in case of GHNP experiment has been a local lady (from the same Panchayat) and never ever a Forest Guard or any other official. There being twelve Panchayats in the GHNP buffer zone, hence, we had twelve of these local ladies or Group Organizers. Special training courses were arranged for the Park officials and G.Os. to learn how to interact with each other (all the Park front line staff being male and not conversant with participatory management, they were not able to work with the women in the villages).
- (II) *Marketing facilitation by Park staff:* The Park management provided training inputs to G.Os. to make vermicomposting or handicrafts or about apricot oil production or work in medicinal plant nurseries, who in turn go to the members of the WSCGs and pass on the knowledge for the new skills. As a strategy, the Park management acted as market for the WSCGs who started vermicomposting in their homes. About 450 sites of vermicomposting have been established among the WSCGs (SAHARA records 2005). Developing one vermicomposting site requires an investment of only Rs. 1,200 or US\$ 30 which is affordable by most of the poor members (through internal credit within the group) of the WSCGs. Initially, the GHNP bought vermicompost for its nurseries. The members of WSCGs also sold vermicompost to local orchard-owners. At present, the Park management is facilitating training courses in organic farming for the WSCGs. In 2004–05, the total vermicompost production in one month in thirty WSCGs was more than six tons which could fetch an income of about Rs. 40,000 per month to these groups (SAHARA records). This is for the first chance that the Park staff experienced a direct link on the issue of marketing with the local community. However, at this juncture, continuation of handholding support is critical for firming up marketing and quality control.
- (III) *Advancing work by the Park field staff:* The field level functionaries such as Forest Guards, Range Officers have started recognizing the fact that they need to provide the wage jobs to the members of WSCGs which is ultimately going to reduce the dependencies of the poor villagers on the Park’s natural resources. These daily wage

- jobs include working in the medicinal plant nurseries, planting the plants in Medicinal Plants Propagation Areas (MPPAs), and the protection of MPPAs.
- (IV) *Dilemma of the Park staff*: The front line staff of the Park administration often gets caught in between the diagonally opposite approaches of participatory management and enforcement. The learning from GHNP experiment is that both these approaches can work in tandem provided they are used judiciously. The formation of Kala Jatha or street theater from the members of WSCGs and their regular performances in the ecozone villages helped a lot in spreading the message of benefits of working in a WSCG, relevance of Park's conservation efforts, along with the provisions of the law of the land. After the final notification of Park, the situation became very volatile in the years following May 1999 as the people were stopped by the Park administration from entering the Park. For next 4 years, the villagers were persuaded not to enter the Park through street theater shows, and consistent and continuous dialogue. Since 2005 the violators of the provisions of Indian Wildlife Protection Act are being punished.
- (V) *Drudgery Reducing Intervention*: Realizing the collective impact of several hundreds of women engaged in firewood collection from the forest/vegetation that often leads to degradation of the resource, the Park management introduced "Drudgery Reducing Intervention", among the WSCGs. This scheme was to provide energy and drudgery-reducing devices like LPG stoves (for cooking), pressure cookers etc to the selected members of the WSCGs. This is a one-time support. In order to avail such a facility, a woman member was required to contribute at least 50% of the total cost. She was free to raise her contribution either from her own resources or a loan from her group or both. Between 2002 and 2006, about 400 women had been covered under this programme (SAHARA records).
- (VI) *Facilitation of Ecotourism group*: In many cases the male members of the WSCGs who were earlier herb collectors have now organized themselves in an Ecotourism group. This group has helped the Park staff in managing the tourism into the Park as well as in patrolling the area to protect the wildlife. They are earning through the jobs of porters, cooks and guides as well as gaining a sense of being a responsible part of the Park's set-up. The wages earned from Community Based Ecotourism for 2006 were more than Rs. 6,00,000 or 15,000 US\$ (SAHARA records).
- (VII) *Capacity building by the Park staff*: The PA management has intervened actively (from 1999 till now) in the formation, training, capacity building and follow up support (quality control, marketing) of the women's savings and credit groups (WSCGs). It has played a major role in promoting SAHARA to help the fledgling WSCGs in all aspects of their functioning.
- (VIII) *Future planning for WSCGs*: The process of linking WSCGs to the formal banking system would be encouraged only after the WSCGs have been strengthened up to a level where they can handle external funds in a responsible manner. Concrete indicators will be worked out for monitoring and evaluation of the WSCGs, as well as identification of further capacity building needs, so that the WSCGs can move towards such bank linkages over time.
- (IX) *Compensation for wildlife damage*: If creation of a National Park is justified in the larger benefit of the society, there is an immediate need to provide adequate compensation (and building capacity to cope) for the poor families living close to

- the Park and getting adversely affected by the wildlife damage. Justice for those lower down on the socio-economic scale can be guaranteed only when fair allocation of accountability is made and fair and prompt compensation for the consequences takes place (Pandey 2003). The WSCGs and SAHARA could successfully facilitate such a process.
- (X) *Scaling up of learnings from GHNP experience*: The Himachal Pradesh Forest Department (HPFD) so far sees the WSCGs as an isolated effort of SAHARA and Park leadership, even though the Himachal Pradesh Participatory Forest Management notification of 2001 has included many of the learning from GHNP experience. Involvement of women/NGO is yet to be integrated as an approach of HPFD. While the HPFD is totally male dominated, there is a predominance of women in WSCGs in GHNP ecozone. The present intervention demonstrates the experience of working with poor women, which is very new for the forest staff. However, this important learning may be a beginning of realization on behalf of the HPFD to give proper representation of women in its recruitment policy, service rules, etc.
- (XI) *Need for new research initiatives*: Over years, the Park has accumulated a large amount of data through various wildlife surveys and research work by the three phases of Himachal Wildlife Project (Gaston and Garson 1992), and CoB Project (WII Research Report 1999). Many of research findings have been incorporated in the Park's Management Plan (Pandey 2004b) which also recommends for collaboration with the state based Himalayan Forest Research Institute (HFRI, Shimla) to implement Long Term Ecological Monitoring (Davis 1989; Noss 1990). There is a need to draw together information from disparate studies, to interpret common patterns of occurrence, and to extract the information most relevant to future ecosystem monitoring. A collaboration with HFRI will help setting up a Park level computerized biodiversity database (using Geographical Information System or GIS) and work on new areas of potential research (Pandey 2004a, b) such as
- Impact of global warming on the snow areas and glaciers in the park
 - Impact of prevention of use of park's pastures, and other resources
 - Access to other potentially relevant databases (e.g., forest inventories, regional development, database of the Wildlife Institute of India, etc.)
 - Facilitation of interaction between database systems
- (XII) *Facilitation, main role of a govt department*: The GHNP example is a model which can certainly be taken to higher level by the following suggestions:
- Let the HP Forest Department or the GHNP management be the "*facilitator*" of the community based efforts. The community itself is the best "*doer*" of the works at the level of User Group, Community based organizations, local NGOs, Mahila Mandals (village based women organizations), Yuvak Mandals (village based youth organizations), Ward Development Committees, and Panchayats. The GHNP management can *facilitate* the following activities:
 - Training of User Group, Community based organizations, local NGOs, Mahila Mandals, Yuvak Mandals, Ward Development Committees, and Panchayats in the matters of asset creation, livelihood generation, issues

such as role of poor and women in community development, leadership, natural resource management, micro or village level planning

- Monitoring of livelihood activities and related issues for which training has been provided by the Park management or otherwise
 - Marketing of products developed by the User Group, Community based organizations, local NGOs, Mahila Mandals, Yuvak Mandals, Ward Development Committees, and Panchayats
 - Microplanning at the Ward Panchayat and Panchayat level
 - Nature Conservation Education at all the levels for community and Park staff
 - Relationship between the community related work and its effect on the biological diversity of the Park
 - Feeding of experiences of the community level work into the development of guidelines, rules and policy at the state level.
- (b) Let the “*Process*” be the mainstay of working at the Park management and community levels. Process hereby will mean “small-small do-able steps in a sequence”. This is very essential for the involvement of community as well as the Park staff.
- (c) *Scaling up* of the community based effort so that the model set up may be emulated by others and the total effect of a big effort (state wide) will show up the cumulative results. For example, the effort of Medicinal Plant Propagation Areas (MPPAs) at GHNP ecozone will be more effective if more and more buffer zones of PAs and Forest Divisions undertake such activities to produce the medicinal herbs in bulk (which can be exported) as part of a livelihood based approach.

The GHNP experience demonstrates that the economic empowerment through the livelihood approach alone cannot influence nature conservation. Such an approach needs to be further strengthened by a back-up of effective policy and legislation (such as HP PFM Rules 2001), enforcement, socio-political empowerment, conservation education, collaborative management, etc.

(iii) NGO/community based organization

Assumption: It is assumed that a locally rooted NGO like SAHARA, the formation of which was facilitated by the Park administration, would be sufficiently sensitized to the issues of accountability and justice and it could easily relate to the local problems.

In practice

- (I) *Collaborating with Park authorities:* The critical learning from SAHARA experience is that such an organization as compared to the well established environmental NGOs from outside depends on the Park support for its structural as well as functional aspects. The issues of leadership, transparency over finances, maintaining records, and developing reproducible and constant procedures at all levels (SAHARA, Group Organizers, Marketing/Sales, etc.) need to be addressed on a continuous basis through an effective monitoring and evaluation system. There have been problems of marketing and sales which include finding consistent markets, quality control of products produced, reliability of product producers, and

foreign markets and issues such as organic certifications, etc. SAHARA in collaboration with the Park administration and Friends of GHNP is trying to find solutions to these issues. One remarkable intervention has been from the Friends of GHNP who took the message of conservation efforts at GHNP to the foreign lands. It resulted in groups of environmentally conscious tourists coming to GHNP, and the SAHARA ecotourism group conducting them. This resulted in good incomes for the ecotourism group.

- (II) *Collaboration with partners*: SAHARA also needed support to develop strategic partners and find markets for its income generation programmes such as vermicomposting, apricot oil production, ecotourism and street theater. Similarly, without continuous support, the programmes related to social empowerment such as literacy, health and veterinary care could not be successfully introduced in WSCGs though they have great relevance and potential. Towards that end, the Park administration facilitated SAHARA forming a relationship in 2006 with My Himachal, a non-profit organization based in the USA (<http://www.myhimachal.com>). Working with local doctors, the goal is to help bring child healthcare and health care training into remote villages of GHNP ecozone.
- (III) *Complementary and supplementary efforts of SAHARA and Park*: It is important to note that the efforts of SAHARA and Park administration have to be complementary and supplementary to each other in the pursuit of nature conservation. This will help building credibility of the voluntary sector through creation and promotion of norms of good governance and public disclosure. Such experiences at GHNP would be very helpful so that other NGO groups and funding agencies can become aware of the details that help or hinder in the creation of successful linkages between conservation and livelihood.
- (IV) *Educational role of SAHARA's street theater*: Through G.Os of SAHARA, and special training courses an attempt is being made to increase the levels of understanding of issues related to nature awareness, nature conservation education, and Joint Forest Management. The street theater as part of SAHARA, is an important communication and educational tool and has given more than 375 performances in last four years (SAHARA records). However, the members of street theater do not get employment for full year. Some important aspects that need to be addressed include diverse income generation options for the street theater, getting regular feedback on effectiveness of street theater, and developing a well-thought out programme to keep the messages coming in a timely fashion.

Conclusion

The efforts made at settlement of rights of local people at the Great Himalayan National Park, as well as the creation of income-generating activities in adjacent villages to compensate for the lost income from collection of medicinal plants and other forest produce within the Park, have become a prominent example of ecodevelopment attempts in India. The WSCGs in the Ecozone of GHNP were set up to enhance the asset building capability of women from poor households so that the dependence of such households on the natural resources of the park is reduced. The PA management has intervened actively in the formation, training, capacity building and follow up support (quality control, marketing) of the women's savings and credit groups (WSCGs), and has also played a major role in

promoting a support organization, SAHARA, to help the fledgling WSCGs in all aspects of their functioning. Perhaps one of the lessons from GHNP is that large sums of money spent over short periods in backward areas as happened during the CoB Project are largely wasted and that more targeted, smaller scale initiatives over longer periods are more productive. Such an insight has been shared by many examples of ICDPs all over the world (Wells et al. 1999; West and Brechin 1991; Kellert et al. 2000).

A future perspective

1. Greater Himalayan Conservation Authority (GHCA)

There is a cluster of two National Parks and four wildlife sanctuaries including Great Himalayan National Park (754.4 km²), its Ecozone (265.6 km²), Sainj Wildlife Sanctuary (61 km²) and Tirthan WL (90 km²); the Pin Valley National Park (675 km²), Rupi Bhaba Wildlife Sanctuary (738 km²), Kanawar WL sanctuary (61 km²) and Parbati Forest Division (2,000 km²) right in the heart of Himachal (please see map). Presently, the different components of this cluster (about 4,600 km²) are managed under separate jurisdictions and management priorities leading to sub-optimal gains in terms of wildlife and biodiversity conservation and consolidation (WII 2005). The present proposal is to bring the different protected and buffer areas comprising this cluster together, under a single administrative and management institution called the Greater Himalayan Conservation Authority (GHCA). Together, all these protected areas comprising the GHCA have varied wildlife habitats, and the full range of western Himalayan biodiversity, from tropical to alpine and Tibetan. Furthermore, a very low rate of tourist visitation, in addition to local economy based on traditional undertakings, and low population make this whole area quite suitable to become a single conservation unit. This bio-geographical area has been identified of foremost priority for biodiversity conservation in India (Rodgers and Panwar 1988).

2. Eco regional planning

Because of its complex geography and its great variations in altitude, the area of the GHCA encompasses an enormous range of species, which span the subtropical to the alpine and include those characteristic of the south-east Asian forests as well as those found across Siberia and the Asian steppe. Few ecological sanctuaries present such a variety of wildlife habitat and biological diversity in such a small area, anywhere in the world (WII 2005).

An eco-regional planning for the larger conservation unit such as the GHCA needs to take into account the common and unique aspects of species, area, wild and agricultural biological diversity, and measures for conservation and sustainable/equitable use (Soule 1983; Wilcox 1984; Green and Paine 1999). A rational and dialogue based prioritisation involving a wide section of society including local community, panchayats, gram sabhas, women's groups, various user groups, experts, politicians, officials of government and others can help in preparation of an eco-regional plan for a larger GHCA. Such an effort is expected to integrate biodiversity into various sectoral plans, and reorienting developmental planning to make it more sensitive to ecological concerns on a larger regional basis. Hence there is a need to have a wholesome planning approach (Dudley et al. 1999), which can amalgamate the distinct cultural and management aspects of local communities, and at

the same time which is able to bring the intricacies of biodiversity conservation and rural development together.

3. *Livelihood approach towards conservation*

As a caution, it is very important to be clear about the livelihood support which can be used along with some rural development inputs (DFID 2002) in the biodiversity rich areas. The biodiversity conservation remains our all pervasive goal and livelihood as tool to achieve that cherished goal. Hence this is very important to find linkages whether livelihood and rural development inputs led to improved conservation of biodiversity or not. Simultaneously, this is to see that the people who live in and around high biodiversity value areas are enabled to lead an improved quality of life, but as defined by themselves (and not by people from consumerist metropolis). In the new paradigm, biodiversity conservation becomes a mean to help people to achieve better life quality (Salwasser 1995).

4. *Rethinking conservation*

There is a growing need of rethinking objectives, scope & priorities for conservation oriented development leading to effective natural resources management. The recent Tiger Task Force makes a very apt comment, “*while the good news is that not every tiger reserve in India is facing a Sariska-type crisis, it is also clear that a Sariska-type crisis haunts every protected area in India. The tiger is also under siege from the people who co-inhabit its land, who have never benefited from conservation and continue to face daily harassment*” (Project Tiger 2005). One of the major reasons for the wide gaps between policy prescription and its implementation on ground lies with training. The training programmes conducted by the institutes of repute like the Indira Gandhi National Forest Academy or by the Wildlife Institute of India are still oriented towards conservation and management of wild habitats/species and say little on human-WL issues (Saberwal and Kothari 1996). This entails that there would be effective contribution to the biological diversity conservation if the socio-economic issues are resolved on priority. Hence the best practices and modern thoughts on the livelihood based conservation must be integrated in the management training of the PA managers (Appendix 3). This puts greater emphasis on social aspects for sustaining conservation gains which in turn make the livelihood approach to wildlife management quite relevant.

5. *Policy interventions*

In India, a debate about establishing community based conservation areas aims at Collaborative Managed Protected Areas (CMPAs) or Community Conserved Areas (CCAs) whereby the land is sought to be handed over to the community for conservation as has been done in a few cases in Nepal (Chhatre and Saberwal 2006). However, the Indian Wildlife Protection Act or Indian Forest Act does not allow such an arrangement. In GHNP the Park Management has taken up role of a “Facilitator” which is the farthest that a PA management may come to within the given laws and policies. In order to go onto CMPAs and CCAs, the civil society has to evolve first so that the govt can be persuaded or made convinced to bring in changes in laws and policies for handing over the forests or PAs to community. At the moment there do not appear to be many voices or a movement in this country which can shake the legislature/bureaucracy into a big jolt of handing over even

budget/funds to Panchayats for which there are already so many laws, policies in place and very few of them are being actually implemented. Asking for handing over forests to community is an extremely big task in the current milieu.

Acknowledgements The present paper is based on my experiences at the Great Himalayan National Park where I served as Director from mid 1998 till mid 2006. It is an important effort to document the experiences of Park management's work around livelihoods and conservation which can be of use for the practitioners of biodiversity conservation in developing countries. I wish to thank Payson R. Stevens, a Friend of GHNP to help me improve the text. Many-many thanks to Dr G.S. Rawat, Wildlife Institute of India and Dr Sejal Worah, WWF-India who have agreed to be my Ph D guides on livelihoods and biodiversity conservation at GHNP. A word of special gratitude to my wife Anita and sons Siddharth and Abhimanyu who encouraged me to take up the writing work and complete it in time.

Appendix 1

Income generation activities that the WSCGs are undertaking

Vermicomposting: About 400 sites have been established among the WSCGs (SAHARA records). Developing one vermicomposting site requires an investment of only Rs. 1,200 which is affordable by most of the poor members (through internal credit within the group) of the WSCGs. The GHNP has been a ready buyer of the vermicompost for its nurseries. In 2001, the total vermicompost production in about 20 WSCGs was more than one tonne which fetched an income of about Rs. 7,000 per month to these groups.

Organic farming: Vermicomposting is in fact the first step towards the organic farming. The WSCGs are now using the surplus vermicompost to manure their fields. Long time use is expected to produce quality fruits, vegetables and cereals.

Medicinal plant cultivation: In 1990–2000, the GHNP established ten major nurseries for medicinal plants. The main species here are of very high-value such as Karoo (*Pycrorhiza karoo*), Patish (*Aconitum* spp.), and Hathpanja (*Dactyloriza heterogeria*). The Park management is encouraging the WSCGs and the old herb collectors to undertake the medicinal herb propagation in the ecozone of the Park. The Park is providing forest land for such medicinal plant propagation (Medicinal Plants Propagation Areas or MPPA) to these groups (HP PFM 2001). A WSCG or any other group can enter in a contract with the Park to propagate medicinal plants on the already enclosed forest land. About 22,500 plants are planted on 1 ha land. Till 2006, about 180 ha of MPPAs were established by the members of WSCGs. All the 100% produce from this will go to the groups (HP PFM 2001).

Stone oil extraction: Earlier the stone fruits such as hill apricots, walnuts, almonds were being bought by the local traders at a cheap rate. Now the WSCGs are giving money on credit to their members to buy the stone seeds and produce oil. The Park management is helping in marketing of oil.

Handicrafts/Souvenirs: Training workshops are being organized for WSCGs to make hemp or grass based handicrafts/souvenirs. The GHNP has organized sale of such material through departmental shops as well as various local fairs and exhibitions.

Wage labour: The GHNP gives priority to WSCGs for working as wage labour in its ten medicinal plant nurseries, construction work, repairs, etc. This is to encourage savings by the women in their groups.

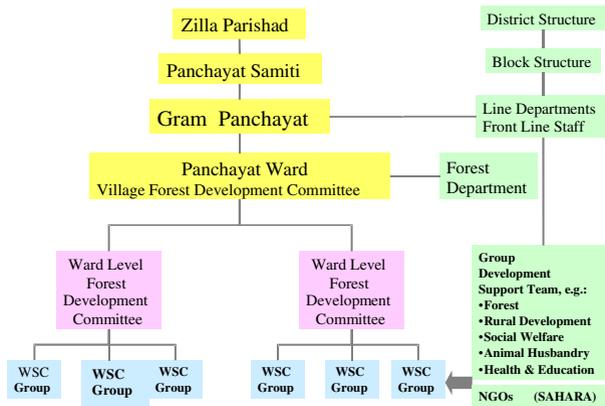
Ecotourism: The members of WSCGs have encouraged the male members of family to undertake such activities. They are being organized in an ecotourism group to work as

guides, cooks, camp organizers, and porters. Ecotourism activity in year 2006 alone could fetch Rs. 6,50,000 in the respective WSCGs.

Street theater: This activity is based on the local folksongs which are sung by the local villagers. Twelve boys and girls have come together to form a street theater which earns daily wages from the HP Forest Department for giving regular shows on nature awareness in the villages close to the Park and forest areas.

Appendix 2

Integration of Women Saving and Credit Groups (WSC Groups) in the Panchayati Raj System



Appendix 3

Elements to link Park managers to the local community (based on GHNP experiences)

- At present a management plan for a PA puts emphasis on the mechanisms which directly affect the species/habitat. However, as emphasized in case of GHNP, the planning sequence needs to be revisited with priority given to the working with local communities (their livelihoods) to reduce their dependencies on the PA's natural resources, and then come the interventions to manage, monitor and protect the natural habitats/species and resources. "Livelihood based Management Plans for a PA" is an entirely different exercise than writing a chapter on ecodevelopment or livelihoods in a Management Plan which is mostly happening at the moment.
- Buffer zone is the key to wildlife management in Indian scenario. Let it be a legal requirement to have an effective buffer zone with each PA.
- The effectiveness of the Livelihood Approach does not lie in the economic empowerment alone. It needs to incorporate a back-up of effective policy and legislation, enforcement, socio-political empowerment, conservation education programme, and collaborative management.

- The efforts of other players in conservation such as rural development, health, veterinary, education department, NGOs, need to be integrated to realize meaningful integration of conservations and development.
- Anchor conservation in the Panchayats (let there be User Groups such as Women Saving Credit Groups in GHNP, or Bamboo user groups, or weavers, etc. which should be empowered by the Park Management so that they become a “Pressure Group” for conservation within a Panchayat).
- The Park management or the govt. departments need to play a role of “FACILITATOR” and the local people be “DOER”. Becoming a “facilitator” is an entirely different skill for the govt. officials or PA managers who consider themselves as “authority”.
- At field level recruit at least one third of the staff with women candidates (Basically change the complexion of the Park Management). Take conservation into a FEMININE domain in mountain areas.
- Train forest officials in issues such as leadership, communication skills, synergies, managing the changes, gender sensitivities, interactions with NGOs, marketing people, etc.
- Open up Park management to outsource the specific jobs related to income generation activities, marketing to specific people such as NGOs, CBOs, etc.
- Let Participatory management and Law enforcement go hand in hand.
- Systems/Mechanisms (Innovations) for effective staff and community participation.

The best learning at the GHNP is to contribute to biological diversity conservation by resolving the socio-economic issues of the local people on priority. The habitat of wild animals and plants will be better conserved if the local Panchayats (villagers) stand by the forest guard and assist him/her in protection of natural resources.

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Web Sites

<http://www.greathimalayannationalpark.com>

The unique ecological aspects of the Western Himalaya led to the creation of the Great Himalayan National Park (GHNP) in the Kullu district of India's mountain state of Himachal Pradesh. These features include biodiversity, sparse human populations, inaccessibility, little tourism, and a local economy based on traditional livelihoods. Globally, as well as locally, the Great Himalayan National Park has a very high public profile. The international community regards it as a pilot site where the community based Biodiversity Conservation approach is being tested. The local people in the Ecozone (or Buffer Zone adjacent to the Park) of GHNP recognize the fact that they have overexploited the medicinal herbs and NTFPs, and their sheep and goats have overgrazed the pastures

<http://www.myhimachal.com/>

My Himachal, a non-profit group of Himachalese Non Resident Indians (NRIs), residents and supporters, dedicated to uplifting Himachal Pradesh people and environment.

http://www.youtube.com/results?search_query=GHNP&search=Search

The film "Voices and Choices in the Great Himalayan National Park" has been created by a group of volunteers who are part of the "Friends of GHNP." As a volunteer group donating their time and energy, the Friends of GHNP have made this film to explore the delicate balance between dependencies of local people on the natural resources and need to conserve the valuable resource base. No one can question the need to improve the quality of life for impoverished people living in the buffer zone of the Park. At the same time, there is an obligation to recognize the value of this wondrous habitat and speak for the animals and plants that can't defend themselves. The spiritually renewable values of what nature offers should also be respected

The "Voices and Choices in the Great Himalayan National Park" is on *DVD* which is of about 21 min duration