

# Conserving biodiversity

SHEKHAR SINGH

BIODIVERSITY conservation has become an international slogan, especially after the signing of the Convention on Biological Diversity, in Rio, in mid-1992. However, the well-established apathy of most governments towards nature and natural resources, and the machinations of various commercial and industrial interest groups proved to be major obstacles in achieving it. Another significant obstacle is the inability, even the unwillingness, to control opulent and wasteful lifestyles of the national and global riff-raff. The consequent economic inequities prevalent globally and nationally are yet another major impediment to the rational and sensitive use of nature's bounty.

A relatively new obstacle to the conservation of biodiversity is the growing antagonism towards wildlife protected areas (national parks and sanctuaries) from those who see such protected areas as flash-points of the conflict between the interests of 'tigers and trees', on the one hand, and of tribals and poor rural communities on the other. Such persons argue that biodiversity conservation, especially through wildlife protected areas, is against the interest of the local people, whose needs must take precedence.

Since such arguments have substantial justification, especially considering the manner in which wildlife protected areas have been set up and managed in the past, they not only move the progressive elements within governments, but also many 'environmentalists'. What is, however, far less justified is the conclusion that is being increasingly drawn from them: that national parks and sanctuaries

must be denotified or at least opened up to the requirements of local communities.

What is being overlooked by those making such a demand is that the conflict is not really between wildlife and people, but between one class of people and another. It is not the protection of wildlife that is causing the impoverishment of the people, but the protection of the interests of a few rich people. When people and their livestock are sought to be kept out of sanctuaries or forests, a hue and cry is raised to allow them in on humanitarian grounds, even illegally. However, in the region surrounding almost all such protected areas there are huge tracts of agricultural lands owned by rich landlords, in violation of land ceiling laws. But there is no corresponding cry to distribute these surplus lands to the poor people, even though that would be legal.

Wherever there is an ostensible conflict between the needs of the local people and the requirements of wildlife management, the ire of many social activists turns on the managers of the wildlife protected areas, on the concept of wildlife protection and on conservation in general. Whereas there is much that is wrong with the way wildlife is sought to be conserved in India or, indeed, often with the way in which wildlife managers approach the task, the answer does not lie in abandoning the whole effort.

As things stand, even if all the national parks and sanctuaries were denotified today and made available to the people, it would not even marginally solve the problems of hunger, poverty or injustice. In fact, after a few years, the world would be even



worse off than before.

**P**erhaps an alternate and more progressive strategy would be to acknowledge that the right of other living beings to live with dignity and in happiness (animal rights) and the right of future generations for survive (sustainability) are at par with our right for survival. However, our right for survival, and that of the animals and of future generations, take precedence over the opulence and greed of the few and that if anything has to 'give', it must be this opulence and greed. In operational terms this means that we have to:

a) fight for the equitable distribution of productive resources (especially land) in the area adjacent to (or outside) the park/sanctuary. If this land was redistributed, the local people would not need to commit ecological suicide by destroying the sanctuaries and forests, and thereby their own future.

b) Insist that sustainable alternatives are identified or developed for meeting those basic subsistence needs of the local people which were earlier being met from the protected area. These could include: biomass for fuel, fodder, construction, artisanal production (including grasses, bamboo, leaves, wood), food, fertiliser, social and cultural uses. Other natural resources like water, stone, sand, clay, top-soil, and minerals. Incomes through the collection and sale of any of the above. Land for habitation, cultivation and related activities.

Nevertheless, it is not essential to find alternatives for all the needs listed above, but to ensure that the lack of one alternative is compensated by some other. For instance, where economic or socio-cultural activities (traditional or contemporary) involve ecologically or ethically unacceptable practices like the killing of wild animals (for ivory trade or as a part of tribal hunts in many parts of the country), such activities must be phased out but compensated for in other ways. c) Ensure that the management of the protected area is both people and eco-friendly. This implies the involvement of the local communities in the management

of the park. It also implies that the local people, who have sacrificed the most for protecting the park, also be the first recipients of any financial benefits that might flow from the park. Ordinarily, as there is not much forestry-related employment within a protected area, the main financial benefits are in regular and daily wage employment for protection work, and through activities related to tourism. The local people must have the first right over these.

d) Ensure that the sacrifice and concern of the local communities is not negated by the government or by other disinterested people who destroy, or allow the destruction of, the protected area in the name of 'development' or, most often, in order to earn a little profit. This is what happens when activities related to mining, tourism, industry, power generation or defence are allowed to degrade and destroy protected areas. The fallacy of such an approach has already been discussed. What must be remembered is that each of these wildlife protected areas are not only unique repositories of biodiversity but also represent years, sometimes centuries, of sacrifice of generations of local communities. When the cost of these areas is assessed, the accumulative cost of the human sacrifice is never calculated. Such sacrifice must not be in vain.

**S**ome of these elements are sought to be incorporated in a new approach being adopted for the management of wildlife protected areas. This approach is being called 'ecodevelopment' and its essential features are described below. Annexed is a summary of the 'indicative plan' prepared for the Great Himalayan national park, in Himachal Pradesh, as a first step towards ecodevelopment planning and implementation.

Ecodevelopment is a strategy for protecting ecologically valuable areas (protected areas) from unsustainable or otherwise unacceptable pressures resulting from the needs and activities of people living in and around such areas. It attempts to do this by at least three means:

i) By identifying, establishing and devel-

oping sustainable alternatives to the biomass resources and incomes and other inputs being obtained from the protected areas in a manner, or to an extent, considered unacceptable.

ii) By increasingly involving the people living in and around such protected areas into the conservation planning and management of the area, thereby not only channelising some of the financial benefits of conservation to them, but also giving them a sense of identity.

iii) By raising the levels of awareness among the local community of the value and conservation needs of the protected area, and of patterns of economic growth and development which are locally appropriate and environmentally sustainable.

**T**hough, by their very nature, ecodevelopment initiatives will differ from area to area (and even from village to village), the three basic principles defining ecodevelopment are: site-specific, micro-level planning; sectoral integration; and people's participation.

Ecodevelopment is not just rural development, for it is not solely directed at the economic development of the rural population for its own sake, but seeks to protect an ecologically valuable area by eliciting the support of local communities. It is not policing in the sense of seeking to protect an area by keeping the pressures out solely or primarily through the enforcement of laws aimed at excluding local people. Rather it involves the local people in the process of protecting the park from destructive activities. For any ecodevelopment plan to succeed, it must be backed by an appropriate management plan for the protected area.

Such a plan must, in simple terms: define the requirements of conservation, thereby defining limits to human utilisation; make provisions for the institutional structure and processes required to manage the area and implement the ecodevelopment activities; identify ways in which the local population can be involved in conservation planning for, and management of, the protected area and also identify the interface between the management plan and the



ecodevelopment plan, especially details about employment and income generation opportunities for local people and the involvement of the local communities in the planning for, and management and protection of, the area.

Ecodevelopment planning is thus not a once-and-for-all, prior-to-project-implementation, planning process, but a dynamic, ongoing one which is concurrent to implementation. Considering that such a process is essentially participative, using appropriate participatory rural appraisal (PRA) techniques, it involves going into village after village and taking up many days of the villager's time. Whereas this would be justified when there is a certainty that funds are going to be shortly available for responding to the needs of the village, it seems very inconsiderate to waste so much of the villager's time and unnecessarily raise his hopes when funding is uncertain.

**T**herefore, detailed, micro-level, ecodevelopment planning, for this and many other reasons, is seen as starting as soon as the project is approved and running concurrently with the first phase of the ecodevelopment project implementation. For the purpose of determining the broad thrusts and the budget required, and to avoid raising unnecessary expectations, a small sample of villages is visited and the costs worked out and extrapolated for the whole area. The village visits are conducted by non-governmental organisations selected and trained for the purpose, using PRA methodology, and the findings are incorporated into a preliminary, indicative, plan. The planning process involves detailed discussion with the village communities on various aspects, including:

- i) Negative impacts of the protected area on the village (wild animals causing human or livestock death or injury, crop depredation; restriction of access to natural resources, or culturally or religiously significant locations; denial of traditional routes; ban on hunting; etc.)
- ii) Negative impacts of the village on the protected area (illegal or unsustainable grazing; collection of timber, fuelwood

and non-wood forest produce; setting fire or otherwise degrading the habitat; poaching or disturbing wild animals.)

iii) Possibilities of minimising both types of negative impacts through ecodevelopment (measures for protection of humans, livestock and crops, and for compensating death, injury and damage; generation of biomass like fuel, fodder and small timber; soil and water conservation activities, both to generate employment and to conserve the environment; income generation activities like bee-keeping, mat and rope weaving, poultry rearing, visitor facilitation and hospitality, manufacture and marketing of other artisanal goods; education and awareness; participation in protected area planning and management.)

iv) Village-level institutional structures and processes existing and required (ecodevelopment committees, panchayats, mahila mandals.)

v) Finances, training, research and other inputs required for implementing ecodevelopment activities.

vi) Constraints, if any, to the success of such activities

vii) Strategy for the transitional process and period, between the stopping of use of protected area and the establishment of the ecodevelopment initiative.

viii) Strategy for the withdrawal phase so that even after the completion of the project, when funding has stopped, the approach is sustained.

ix) Strategy to ensure that ecodevelopment activities in the surrounds of the PA do not result in attracting more people to the region and thereby increasing rather than decreasing the pressure on the PA.

x) Perceptions of the villagers about the protected area, its value and management strategy.

**T**here would be three main actors in the planning and implementation of ecodevelopment.

1. The protected area (park/sanctuary) management authority, who should have adequate staff, preferably exclusive, to look after their part of the work.

2. Local, regional or national level NGOs who are interested and capable of work-

ing in the area.

3. The village community, especially women, who need to operate out of existing institutional structures (like panchayats or mahila mandals) or, where necessary, organise themselves into ecodevelopment committees.

In addition, there need to be district level coordination committees to coordinate between the various field agencies and departments. Some regional and central research and training institutions also need to be identified and involved with the planning, training, research, monitoring and evaluation activities. For the planning process, a team consisting of local wildlife officials (Rangers), local NGO representatives and some local community leaders needs to be set up. They would have the task of going from village to village and finalising village level plans in consultation with the people. They would be supported by a regional/national institution which would provide regional and macro-level data, and help prepare the consolidated plan for the area.

**D**epending on the major thrust of ecodevelopment activities identified for the area, specialist groups, comprising of members from local NGOs and specialised government agencies, will be set up to advise on specific issues (ground-water harvesting, water conservation, bee-keeping, horticulture, poultry, to name a few). These specialist groups will assist both in the planning process and in the implementation. Only in rare cases would there be a need to bring in experts from outside.

Independent institutions will be identified to monitor and evaluate the project, periodically and at the end. In addition, there might be a need to set up a trust or a society, involving the local wildlife officials and NGOs, in order to:

- (a) Provide an alternate process for financially supporting some of the ecodevelopment activities.
- (b) Raise additional resources for ecodevelopment activities.
- (c) Undertake various tasks, like the training and appointment of tourist guides, development and sale of local handi-



crafts, development of appropriate tourist facilities, through the involvement of the local people, and to their benefit.

(d) Develop educational and awareness programmes for visitors and local communities.

Many, perhaps most, ecodevelopment activities have a gestation period of one to three years before they start giving the intended benefits to the local people. For ecodevelopment to succeed as a strategy, it has to be ensured that people are not put through unnecessary hardship during the gestation period (transitional phase), nor the protected area allowed to degrade. Measures aimed at tiding over this period could include making available alternate sources of biomass to the community on terms and conditions no worse than what they were getting earlier. However, care should be taken to ensure that they do not compromise (for example, by making people dependent on free handouts) the chances of success of sustainable ecodevelopment initiatives.

Such measures could also include developing alternate systems of income, for example long-term employment as forest guards or occasional employment in the various management activities in the protected area. Training programmes, with stipends, intended to develop the skills required for pursuing various ecodevelopment activities can also be scheduled in the transitional period. Efforts must also be made to find employment in construction and other activities related to the ecodevelopment project and to schemes of district agencies.

**T**ransitional planning must attempt to make accessible to the local people other areas in the region, especially waste, common and forest land. Whereas ecological regeneration and afforestation work in such lands can provide almost immediate employment to a significant number of the local people, forest land outside the protected area can support Joint Forest Management (JFM) initiatives. The development of appropriate tourism can also provide almost immediate employment to the local people, especially as tourist guides or through the

provision of food and accommodation to the tourists. The Environment (Protection) Act might also need to be invoked in the buffer areas for ensuring the success of ecodevelopment initiatives.

The timely release of ecodevelopment funds to the park director and, further, to the concerned voluntary agencies and village committees has to be guaranteed. There also has to be adequate decentralisation of financial powers to ensure that sanction of activities and expenditure are not delayed and that the required flexibility of decision making, at the field level, is retained. It also has to be ensured that field officers have the flexibility to respond to all of the various ecodevelopment needs. There must also be an ability to release funds to voluntary organisations and village-level committees.

**F**rom the protected areas in India, a list has to be developed of those which are threatened by the types of pressures that can be tackled by ecodevelopment. Ecodevelopment, as a strategy, is appropriate only for those areas where the threats are due to pressures from local (rural) communities. In areas where the major threat is from a national highway, or from commercial logging or industrial pollution, strategies other than ecodevelopment might be more appropriate. Of course, an area can have both types of pressures. In such cases, ecodevelopment can become the means of tackling pressures from local communities while other strategies can be employed to tackle the other problems. After a selection has been done of potential areas for ecodevelopment, they need to be classified as follows:

I. Areas where current, local community needs for biomass (grass, fuelwood, fodder, non-timber produce) are the major threats and these can be sustainably met from available resources, once these resources are better managed (closing/rotation of grazing areas, regeneration/plantation of fuelwood and other species, soil and water conservation activities).

II. Areas where though current

local community needs for biomass cannot be completely met, in a sustainable manner, from local resources, there is potential for reducing local needs for biomass to sustainable levels through indirect methods.

Such indirect methods could include minor interventions like stall-feeding of livestock, replacement of local breeds of cattle with high-yielding breeds, or introduction of smokeless chullahs, to major interventions like setting up schools and training programmes to enable villagers to seek non-biomass based employment, minor irrigation, water harvesting and soil conservation schemes to enhance agricultural productivity, development of cottage industries and artisanal skills.

III. Areas where even the combination of direct (biomass regeneration) and indirect (diversion of biomass needs) strategies would not be adequate to remove the threat to the environment and where larger, perhaps regional, interventions would be required.

**W**ithin each category, the areas should be graded in accordance with the severity of the problem. A decision has, then, to be made on which areas are to be selected. In the long run it might be possible to cover all areas, but in the short run a priority has to be established. Given the circumstances, in some cases it might be preferable to first take up the easier areas (category I), especially if experience needs to be accumulated and resources are scarce. On the other hand, the more difficult areas (category II & III) might require attention more urgently and any further delay might cause irretrievable damage. Though the final decision would have to be made case by case, depending on the experience, training and confidence of the persons concerned, the resources available and the ecological value and level of threat pertaining to each area, as a general principle it is advisable to go from the simpler to the more difficult areas as the experience and confidence gained would help in facing increasing levels of difficulty.

Another factor that should influence the choice of the area is the willing-



ness and ability of the local communities to participate in the process. Even simple problems cannot be tackled without involvement of local communities, while the most difficult ones can be overcome if the people are willing to cooperate. Initially it is advisable to deal with each area separately, though at a later stage it might be advantageous to link up the various ecodevelopment initiatives in a region.

**H**aving discussed the conceptual frame for ecodevelopment it is appropriate to consider an ecodevelopment plan for a national park. The illustrative case is of the Great Himalayan national park (GHNP) in Himachal Pradesh. The area of the park is 62,000 ha. and currently is only a proposed national park with the intention to constitute it into a national park having been declared. At present, the southern 8396 ha. is a part of the earlier notified Tirthan sanctuary. The remaining area is either reserve or protected forest. The state government is proposing to, initially, declare the middle portion (Sainj valley) a sanctuary, pending the final declaration of the whole area as a national park.

There are only four villages inside GHNP and recent reports suggest that two have been abandoned. The remaining two are in the Sainj valley and have a population of 66 persons (12 families). The project does not anticipate the need to disturb them, especially as they can be a great help in management and tourism related activities. Adjoining the western boundary of the park are 18 revenue villages in an approximate radius of 10 km. These 18 villages are subdivided into about 200 hamlets. The total population of the 10 km. belt along the western boundary is 16,618 and the area is about 38,500 ha.

The major pressures on GHNP come from these 200-odd hamlets where many of the people have traditional grazing rights in the park. It is estimated that around 35,000 sheep and goats graze in the park during the summer months. In addition, around 2500 people collect herbs and mushrooms from the park each

year, again during the summer months. There is also the disturbance to wild animals and the habitat, and the use of firewood, by the grazers and herb collectors. Some fodder is also collected by villagers, from the periphery of the park, for their winter requirements. There are no significant pressures of the park on the people as, currently, no restrictions are being imposed on the traditional uses in the area of the park. Some of the villagers complain about crop damage by bears and monkeys, but this does not appear to be widespread.

The project area, comprising of the area outside the western boundary of the park up to about 10 kms, is remote, with almost no motorable roads. Though almost all the hamlets have electricity, there is not much other evidence of 'development'. The people have enough to eat and live well and, therefore, in a real sense are not poor. Their major constraint is cash income and not having easy access to markets for their goods. Also, traditionally, they seemed to have met their minimal cash requirements through the sale of herbs and mushrooms that they collected in the forests. There do not appear to be many other cash-related activities in the region. Even the sheep and goats they keep, the honey they collect, or the shelas and pattus (local cloth) that they make, are for their own consumption.

**T**he lack of access to markets also affects the effort to set up sustainable income generation activities under the project. This is aggravated by the fact that some of the local people, influenced by the pattern of development in the Kullu valley and in some other parts of Himachal Pradesh, seem to want the setting up of apple orchards and the construction of motorable roads to be the major strategy of development for the area. The absence of active NGOs in the area is another constraint.

The income generation activities suggested as part of the project include the promotion of eco-tourism, organised by and for the financial benefit of the local people, production and marketing of honey and wax, wooden furniture, poul-

try, handloom items, organically grown indigenous vegetables and fruits. It is also proposed to set up sheep farms, in the last two years of the project, and to cultivate local herbs and mushrooms. The effort is to build upon skills traditionally available in the region for establishing alternative, environmentally sustainable, income generating activities. These activities would be supported and facilitated through appropriate training programmes, a marketing organisation, a tourist facilitation organisation, visit-cum-training centres, production centres and by the provision of start up loans and seed money, apart from other financial and material support.

**T**he communication needs of the region would be met by the provision of bridle paths, to be built and maintained by local people, and mules, to be operated by the villagers. Biomass needs of the villagers are sought to be met through fuel and fodder plantations in revenue common lands, by managing some of the degraded forests in a joint participatory manner, by improving local and village grasslands and meadows, and by providing irrigation water. There would also be an effort to improve the agricultural lands, mostly terraced, and to take up soil conservation measures in the region.

The project would be implemented through village level committees, and along with a JFM agreement, there would be an agreement renouncing the collection of herbs and mushrooms from the park. There would also be an agreement to regulate and restrict grazing activities according to management requirements. Adequate short-term income generating activities have been identified and provided for in the project to tide over the transitional period. Some support is also being provided from the project to improve the management of the reserve and to provide better amenities to the reserve staff. The increasing involvement of the local people in the protection and management of the park, and in the process of decision making, is being seen as an important outcome of the new management strategies and plans.