9. CONSERVATION STRATEGY

9.1 Protected area coverage and management of oak patches

The barking deer, sambar, goral, serow, Himalayan tahr and musk deer in Kumaon Himalayas are important elements of biodiversity of Himalayan landscape and some of these species are major prey item for endangered leopard which is distributed widely throughout much of the area. Therefore the conservation of these is of paramount importance. The Kumaon Himalaya, particularly the middle-altitude oak forests and higher altitude coniferous forests, has a very low protected area coverage. Currently only two sanctuaries Binsar Wildlife Sanctuary and Askot Wildlife Sanctuary covering an area of approximately 700 km² (3.4% of total area) exist in Kumaon. There is, therefore, a need to create more protected areas in the Kumaon Himalaya in order to conserve the different ungulate species and their predators. Hussain et al. (1997) have suggested creation of two protected areas in Nainital and Almora districts. The protected area in Nainital district will include Kilbury, Binayak and Kunjakharak areas, which have excellent populations of leopard, barking deer, goral and Sambar. These areas still have low human and livestock population. The protected area recommended in Almora district include Pindari and Sunderdunga reserve forest which apart from serow (Capricornis sumatraensis) and Himalayan tahr (Hemitragus jemlahicus) will conserve the highly endangered musk deer (Moschus moschiferus) and Himalayan black bear (Selenarctos thibetanus).
Apart from declaration of two protected areas, it is also recommended that the managers must evolve the guideline for conservation of patches of oak forest outside the protected areas. These patches are under tremendous lopping, livestock and poaching pressure, and the ungulate community is under heavy poaching pressure which need to be regulated. The lopping of the oak trees to provide fodder to livestock has assumed alarming proportions throughout the Kumaon Himalaya. This threaten the very existence of oak species and hence of all faunal elements inhabiting in these forests. Sound eco-development planning should be done to provide alternatives of fuel, fodder and timber to the people staying inside the protected areas in order to reduce the dependency on resources of Protected Areas. The dependency of local people on the resources of protected areas has often given rise to conflict between the local communities and the wildlife managers. The clash between the dependency of local people and the conservation interest of the protected area has been more counterproductive than to achieve conservation of biodiversity through protected area coverage. It has been long recognised that in developing world where the protected areas have high dependency of local people, the conservation of biological diversity is possible if the interests of local communities are taken care of. Also increase in conservation awareness of local people is of fundamental importance for long term conservation of protected area values. However in India the protected area managers have ignored the importance of conservation education and eco-development (a term synonymous with removal of dependency
of local communities by providing alternatives) activities until recently. It is time that government should take initiative for the constructive and sustainable conservation of biodiversity. If the managers take the eco-development activities as part of routine management of protected areas, these should be with a thorough understanding of nature, magnitude and level of dependency and also keep the interest of the locals in view. This is possible if the locals are involved willingly. To preserve the Himalayan ecosystem and sustainable conservation it is necessary that government and the locals should have similarity in views.

9.2 Reduction in dependency of local people outside protected areas

Following are some recommendation to reduce the dependency on the oak patches in Kumaon Himalaya which are not included in protected areas.

9.2.1 Fuel and energy conservation

In rural India, fuelwood is the main source of energy for domestic use and fuelwood extraction is one of the major dependence of local people on oak forests. Fuelwood use can be reduced by promoting use of improved chulhas (stoves), which can easily reduce at least 40-50% consumption of fuel wood, promoting afforestation, and improving and democratising forest management which has already started under the Joint Forest Management Schemes. The government should promote villagers to use LPG cylinders and it can be made available to them on subsidised rate. The Ministry of Non Conventional Energy Sources should provide solar panels as well as solar cookers under the government sponsored eco-development schemes.
9.2.2 Fodder

No solution of hill problems is possible until the large cattle population is reduced. The problem of excessive livestock grazing is widespread in entire Kumaon and all patches surveyed under this study suffer from livestock grazing and excessive lopping of oak species. Excessive dependency for fodder has to be reduced in the long run if oak patches and the biodiversity these contain have to be conserved by replacing cattle population by good cattle breeds, providing fodder on subsidised rates and pasture land development.

9.2.3 Reforestation

Planting trees is one alternative for rehabilitating land and it could be a good solution to fulfill the timber requirements of local people. The plant species selected for reforestation should be indigenous, fast growing and should be compatible with land use of each area.

9.2.4 Environmental awareness

Environmental awareness is the most effective way to reduce conflict between local people and conservation interest in Kumaon. Environment awareness campaign should start at the school level and must involve women from villages as they are worst affected by depletion in forest resources in Himalaya.