

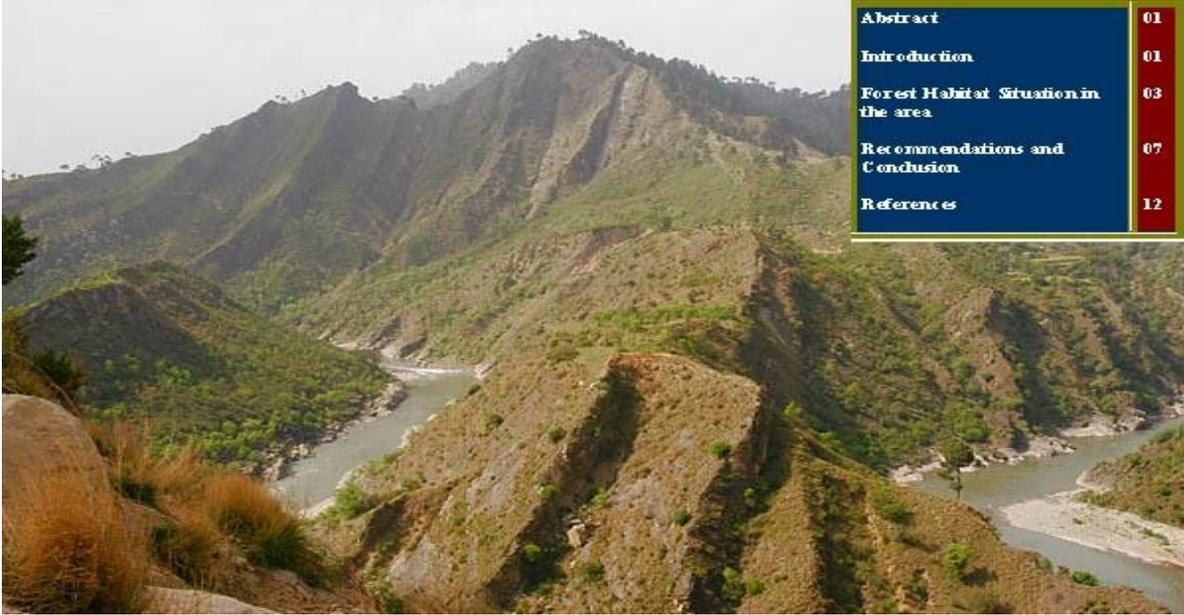
**An Overview of Forest Habitat s` situation in Village Barali Kass,
Kotli Azad Kashmir Pakistan**



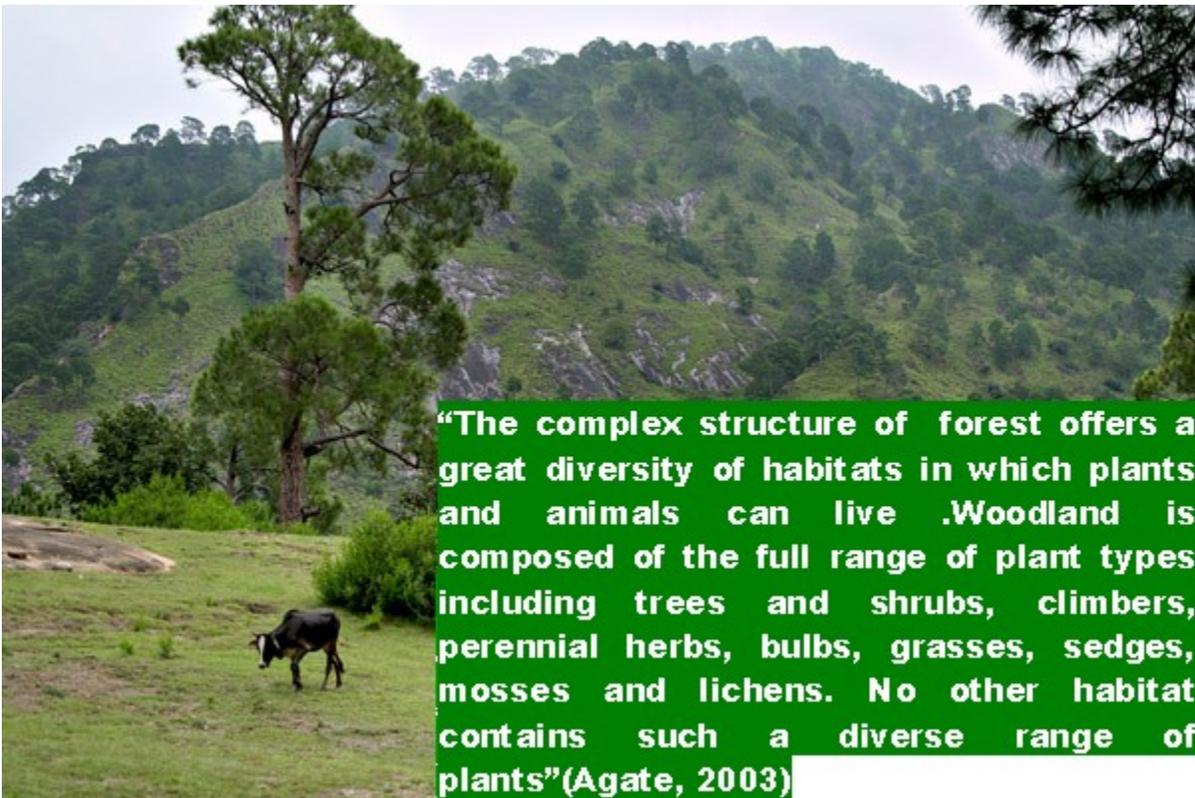
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December 2007



Abstract	01
Introduction	01
Forest Habitat Situation in the area	03
Recommendations and Conclusion	07
References	12



“The complex structure of forest offers a great diversity of habitats in which plants and animals can live .Woodland is composed of the full range of plant types including trees and shrubs, climbers, perennial herbs, bulbs, grasses, sedges, mosses and lichens. No other habitat contains such a diverse range of plants”(Agate, 2003)

Photographs by Hanif Ghari

ABSTRACT

An overview of the Forest Habitat s` situation in Village Barali Kass Kotli Azad Kashmir Pakistan revealed that the area facing great forest habitat peril. Habitat loss, degradation and fragmentation are an issue of primary concern in the area of Village Barali Kass. The purpose of this study was to look at the causes which exploit these meagre and fragile forest resources in the area and what are the measures to nullify this situation.

Key Words: Habitat, forest, conservation, degradation, indigenous peoples, illegal, awareness.

Introduction:

The peoples of Barali Kass who for centuries have lived in this area– have long depended on the forests as their main source of income, revenue and also for their timber, fuel wood and livestock s`need .This area is located at the distance of about 15Km from the district head quarter Kotli, which is the southern side of city(Rehman,2007).Barali Kass is the far-flung village of district Kotli and one of the poorest village in the rugged of District. This area is little more than a huddle of houses located on one slope of the barren, rocky hills. Here its some adjacent areas like fafeel ,mankal,seri,dakhari and dahar water is so scarce that young women used to spend from four to six hours per day to fetch water from the tiny natural springs that are located higher up or down in the hills . During the sweltering burning summer months, the women would be forced to go twice a day with their plastic pail loaded onto donkeys. This constant fetch for water would leave them with little time to do anything else with their lives. Now the small water supply schemes and hand pumps constructed in some area nearby, with the joint collaboration of the village communities and the Government departments (Natura, 2004).There is no even basic health facilities at village level and some indigenous peoples rely on herbal medicines to cure diseases. The average height of the areas ranges from 740m to 1200m. It includes in sub tropical zone. Temperature is very sizzling in summer and chilly in winter. June and July are the hottest months (max.37C and Mini.25C) while December and January are the coldest months (Max.17.5C and Mini.4c0) of the area. The velocity of the wind is high in the morning and evening. The wind blows from north-east to south-west. The average annual rainfall of the study area is 114.42 millimeters .The average annual humidity at 8am is 77.16% and 5pm is 56.66%.Study area consist of Nagri formation of Siwalik group of rocks which contain sand stones and shale. Mostly the soil is loamy, clayey and sandy clay. The soil is acidic with pH ranges from 6.1-6.4.The percentage of Phosphorus ranges from 10-20 ppm and percentage of potassium ranges from 40—120ppm.This area is very appealing due to the presence of forest along with the main road, which is a link

between two villages Barali and Mansooh. The people of the area have empirical and pragmatic observations and knowledge about nature. The most common occupation of these people is forming and cattle rearing. Main dominated trees in the areas are *Pinus roxburghii*, *Olea ferruginea*, *Acacia modesta*, *Albizia lebbeck*, *Ficus bengalensis*, *Ficus carica*, *Morus alba*, *Eugenia jambolana*, *Dalbergia sissoo*, *Grewia vilosa*, *Bauhinia varigiata*, *Emblica officinalis*, *Pyrus pashia* and cereal crops are wheat and maize (Rehman, 2007).

Some areas those nearer settlements, on lower slopes, nearer water and nearer transport routes will be individually owned, while some forest up hill slopes, further from Stream (Kass), are forest owned. There are biased and legal boundaries between private and Government land. These boundaries may be very important locally, since they may impose different land-uses from those chosen by local inhabitants, but may at first glance present less of a challenge to larger scale landscape analyses. There is a stream called "Kass" which separates the Government owned and private owned land. In the area Forestry' projects have not worked much with the concept of landscape (Shepherd, 2002). Living condition of the peoples in the area is very poor, poverty and the environment are two of the most critical issues affecting mankind. Poor communities in the area usually suffer the worst effect of environmental problems. Poverty also forces these communities to exploit natural resources and exacerbate problem like deforestation and desertification (Veen, 2006). The Barali Kass people are an agro-pastoral tribe. The area is predominantly semi-arid. Rainfall is erratic and poorly distributed with high variability between seasons. Barali Kass region was extensively forested with woodland and bush land species, and good cover of under storey grasses. However woodland degradation in this area have been and is being caused the clearing of forests (Rehman, 2006). Inhabitants of Barali Kass are able to collect fodder, fuel wood, timber wood and other wood products in their farms and from forests which is not far away from their residential areas (Kaale, Mlenge and Barrow, 2002). The complex structure of this forest offers a great diversity of habitats in which plants and animals can live. One of the main aims of forest management for conservation should be to create, maintain or restore structural diversity where it has been lost in the area or where, without management, it would decline. Woodland in the area is composed of the full range of plant types including trees and shrubs, climbers, perennial herbs, bulbs, grasses, sedges, mosses and lichens. No other habitat contains such a diverse range of plants. Nearly every plant species has its own invertebrate fauna which feeds on it more or less exclusively. Other animals depend on these invertebrates, building the complex web of organisms which make up the woodland community. Deadwood supports a huge range of invertebrates and other organisms (Agate, 2003).

Barali Kass is my native area and I am the witness that this area was very green and rich with forest resources but now the situation is quite different. This essay is based on my own observations, indigenous knowledge; transect walk, analysis and literature review. In this study I tried to discuss the factors causes' forest habitat loss and what is the rational behind this ethics, and the measures to reverse this adverse situation.

Forest Habitat s` Situation in the area:

“With one of the highest rates of deforestation in the world, Pakistan's forests are in urgent need of protection and conservation” (WWF-Pak, 2007).The deforestation in area of Barali Kass is not merely an environmental, economic or a technical problem. It is a sociological and behavioral phenomenon (Cernea 1988).According to (IUCN Pak,1998) “No citizen, whether living in one of our mega cities or in the remotest rural area, can be unaware that our living environment is rapidly changing—for the worse. Most individuals feel helpless to act: the problems are beyond their control; others are responsible for the problems and therefore for the solutions. There’s always a ‘they’ to blame: ‘The government should do this, the NGOs should do that”.

Replacing diverse natural habitats in the area with monocultures of arable crops drastically reduces the range of plants and animals that an area supports. Forest loss has eliminated or endangered many species(Righelato, R.2007).The conservation of our natural resources, habitat management, and their proper use, constitutes the fundamental problem which underlies almost every other problem in the area. What we must realize is that to skin and exhaust the habitat instead of maintaining it efficiently. The wastage of soil by water erosion, deforestation, and by human activities, for instance, is among the most dangerous. The present annual consumption of lumber is three times greater than the annual growth, and if this consumption rate continues, practically all our lumber will be exhausted in the near future(Natura, 2004).Escalating human impact on forest habitat in the local area is increasingly affecting their capacity to provide services that are critical to human well-being. Such services include provisioning, regulating, supporting and cultural services such as provision of food products, fresh water, genetic information used for biotechnology, crop pollination, maintenance of hydrological cycles, flood and drought mitigation, erosion protection, and air and water purification. The loss of forest services is often directly or indirectly connected with the loss of biodiversity (Kettunen and Brink, 2006).

The Azad Jammu and Kashmir (AJ&K) government is committed for sustainable forestry practice. There is broad consensus among Government, local communities and NGOs that the area of forests in AJ&K should be doubled during the next century, but this will only be acceptable in nature conservation terms if mechanisms are developed to encourage new forests in the right places, where they will not degrade existing valuable wildlife habitat but will help to reduce the isolation and fragmentation of existing woods. The setting of targets for different aspects of the sustainable forestry program must be matched by the implementation of a monitoring program to tell whether or not they are being met, with adjustments to policy, incentives or regulations if they are not. Forestry in AJK is in a state of flux: the opportunity should promote to ensure that conservationists and foresters are able to work together more constructively in the future (Kirby, and Rush,1994).In area of Barali Kass sustainable forest management and conservation is the source of conflict between the government and dependent communities. The respondent group comprised members of local forest communities, forest exploiters and forest Officers. The forest habitat management in the area is alarmingly unsustainable and lacks popular participation. The top-down command and control system support massive resource abuse. Poverty and unawareness coupled with lack of education are the major causes of deforestation and habitat loss. The freelancer mafia and corrupt junior foresters generate anti-conservation anger in the area. The forest clearance, especially of ancient woods, in the area yields a financial profit but has many adverse side effects: soil erosion, nutrient loss, water pollution, landslides, flooding, reduced wildlife habitat, loss of recreational value, loss of species diversity, increased fire hazards, and increased risks from insects and disease (Butt,2006).By considering this area loggers, and rural communities all exploit forests in unsustainable ways in search of profits and means of subsistence. These are the primary actors in forest decline and their immediate motivations are the direct causes of deforestation and degradation. These agents clear forest lands or selectively exploit forests for agricultural expansion, to subsist, to obtain forest products and fuel and timber wood, etc. By building some roads and facilitating access, loggers open vast areas to other agents such as landless migrants. Their interventions also cause forest degradation as they remove the most valuable species of

trees and the logging operations generally produce substantial damage to the remaining stands (Hermosilla,2000).

Illegal logging, fires and forest conversion are driving much of the destruction. These are complex issues in the area, often with social and economic roots(WWF International 2005). According to (Kettunen and Brink,2006)“if private decision-makers are not given the incentive to value the larger social benefits of conservation, their decisions will often result in inadequate conservation”.Currently, topsoil is eroded annually in the area and arable land shows signs of erosion (Potstone, 2006).Indigenous communities has private owned lands and involve in timber wood trade without any authorization and due to this rationale ,old and broad leaved trees are cut down. There is an other strong notion has been developed in peoples minds that if they cut and chop up all the shrubs and trees from their own lands it will improve grass production for their domestic animals and now the area is totally nudes and under the great threat of soil erosion and degradation(Rehman ,2007).



Human induced denuded area (Source Gharib, 2007)

It also observed that local peoples haul out stones by digging and blasting for construction purpose and this also cause swerve land erosion and biodiversity loss. During my last visit to Pakistan in February 2007, I asked and inquired a local school teacher about the current intensity of deforestation in the area, according to him “we hear every day tree felling sound and monitor about 10-12 timber wood loaded trolleys passed by our houses”.

In this area conservation and the well-being of indigenous people are intrinsically linked, you can't have one without the other. Existing conservation initiatives would be better-served by having more integration between indigenous populations and other forest preservation efforts (Butler, 2006).

“Following are the great threat of habitat depletion in the area:

- The unsustainably high rate of human population growth and consumption.
- Economic system that fails to value the environment and its resources.
- Inequity in the ownership, management and flow of benefits from both use and conservation biological resources.
- Deficiencies in knowledge and its application
- Legal and institutional system that promote unstable exploitation and utilization.
- The steady narrowing spectrum of traded products forms agriculture and forestry” (IUCN PAK)

Over-grazing, smuggling of forest resource, uncontrolled bush fires both intentionally and unintentionally, clearing of land for agricultural expansion, removal of shrubs and ruthless cutting of trees for improvement of grass for fodder. Soil Erosion, malpractices, lack of trained staff and education and also lack of local community participation in management are the main factors for habitat loss and degradation in the area of Barali Kass(Rehman,2006).“Habitat fragmentation is a primary issue of concern in the area.This concern centers around the disruption of once large continuous blocks of habitat into less continuous habitat, primarily by human disturbances such as land clearing and conversion of vegetation from one type to an-other. The classic view of habitat fragmentations the breaking up of a large intact area of a single vegetation type into smaller intact units. Usually, the ecological effects are considered negative” (Alan, Franklin, Barry, Noon and George, 2002).

The key soil characteristics in the area that affect yield are nutrient content, water holding capacity, organics matter content, soil reaction (acidity), top soil depth, and soil bio mass. Change over time in these characteristics constitutes “degradation”. Degradation processes include erosion, compaction and hard set ting, acidification, declining soil organic matter, soil fertility depletion, biological degradation, and soil pollution.(Scherr, 1999).Soil supports agriculture, wildlife and the built environment, filters water, stores carbon, and preserves records of the ecological and cultural past.(Potstone,2006).The main stream (Kass) banks in the heart of Barali Kass, long ago deforested, are given over to farms and villages. Later, abandoned timber concessions begin to appear. It is also observed that illegal logging is not the cause of all deforestation. Some trees are cut down to make way for plantations or ranching, or to provide farmland or firewood for the poor. But in most cases, farmers and developers follow in the loggers' wake, taking advantage of the roads and exploit forest resources (Illegal Logging info

2006). Landless peasants in search of public forest lands to grow crops for survival and cattle ranchers, in some cases supported by governments, are important agents of deforestation. (Hermosilla, 2000). Some Government owned forest areas are occupied by local peoples without any authorization and there is a great clash among peoples for their permanent and long term domination on these areas.

Recommendations and Conclusion:

Woodland encompasses a rich and diverse range of habitats for plants and animals, some of which require management for their creation and maintenance (Agate, 2003). According to (Alam, 2007) "Population and industrial growth, economic activities and political system are not the causes of environmental problems, these are the human attitudes and values which motivates the human decisions".

Tree planting activities play a minimal direct role in re-inserting biological diversity into degraded areas. There is need to increase the understanding of forest landscape restoration (Davison, 2002). In area a number of experiments have been made and fast-growing, short rotation trees have been cultivated. A relatively new—but so far unsuccessful—introduction has been that of the *Eucalyptus camaldulensis*. There are both proponents and opponents of the tree. One view is that *eucalyptus* trees are one of the most reasonable options for cultivation where the soil and water are moderately saline, second view, however, mounting criticism of its potentially harmful ecological, economic and social effects. Some of the reported harmful effects of the tree include soil degradation, reducing land productivity (Haider, 2002). After detail study about this plant it will better to cover denuded places.

Barali Kass has unique forest habitat dominated by pine tree (*Pinus roxburgii*) and is under serious threat. Furthermore, corruption is still entrenched within area whereby official involvement in illegal logging is widespread and the Ministry of Forestry in AJK has also trying to combat the problem of over-exploitation and this blatant deforestation. However trees are still cut and exported illegally. This is not helped by the fact that the laws regarding forest governance are still in disarray. There is great need to increase local co-operation in combating the illegal trade. There should be broad sets of actions should be undertaken by governments concerned with illegal logging: reducing demand by replacing it with a demand for legally produced material; reducing supply which concentrates on the underlying economic, social and political drivers behind the illegal activities and controlling the illegal trade by instituting specialized enforcement units or with the active participation of local communities (Timber mafia). Forest guards has

beuracatic approach and they little know about the value of timber wood but totally unaware and ignorant about the role of forest in ecological processes, ecosystem and other benefits for the living organisms. Forest department should develop the capacity building of these field guards because they has direct link with local communities (Butt, 2006).Illegal logging can be stop in the area through the intergovernmental Forest Law Enforcement and Governance process. (WWF International, 2005).

<p>Table 1: “Anti-poaching brigades, established in collaboration with government, business and WWF, are successfully fighting illegal logging on the ground in Russia. An example is the “Sobol” brigade, created in 2003 with support from the WWF and IKEA Cooperation on Forest Projects, and reporting to the Department of Natural Resources and Environmental Protection of the Ministry of Natural Resources. The brigade has helped reduce illegal logging and curb corruption within the State Forest Service of Russia Far East province. Its six members alone are responsible for a quarter of all reports of violations. This has dramatically reduced the logging problem, raising hopes that the habitat of the endangered Amur tiger might be restored. “The brigade has been operating for only a year, but the results are already impressive.” said Goran Sundberg, IKEA Wood Procurement Coordinator, during a visit in 2004”(WWF International,2005).</p>
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“As long as our governments and business leaders do not know how much nature we use or how resource use compares to the existing stocks, overshoot may go undetected—increasing the ecological debt of society”(Wackernagel,2001).

Habitat management in and around the area involves a complex of inter-related environmental, economic and social issues and there are a number of ways that might be used to overcome forest degradation. All require certain pre-conditions be met before they can be implementing. Perhaps the most important of these is that further disturbances are prevented and that the site is protected from the events that caused degradation in the first place. One group of methods can be referred to as *restoration*.These methods focus primarily on biodiversity protection and the re-establishment of the original forest communities. These methods range from passive approaches where weeds or pests are controlled and the site is protected from further disturbances through to approaches involving dense plantings of many species.

The second group of methods can be referred to as *rehabilitation*. These seek to achieve improvements in biodiversity while also yielding some direct financial benefit to land owners as well. Methods include mosaics of monocultures of indigenous species as well as mixed-species plantations. Restoration or rehabilitation at a landscape level necessarily involves trade-offs between ecological and socio-economic systems. A process of trial-and-error or adaptive management will be needed to develop methods appropriate for particular circumstances (David ,2002).

Landslip prevention and control usually requires a combination of vegetative measures and engineering structures. Where landslips have occurred after tree clearing, regeneration of cleared

areas with densely planted tree species above the slip zone is required to de-water and stabilize soils and remove soil water by evapotranspiration.

- Dense tree planting above susceptible areas
- Surface drains within and above affected area
- Sub-surface drains.

In some cases engineering structures such as soil pins, retaining walls, rock filling and slope grooming may also be required to prevent or control landslips (Mass Movement Landslips and

Slumps) . Single most effective way to protect the type of forest that indigenous people inhabit is to involve them in the conservation process. They have a lot vested in the preservation of the forest ecosystem. That's where to get their water, their medicines. Forest guards are often not from that area, in fact they are from somewhere far away and sometimes they don't even live in the local area. The best way to protect ancestral rainforests is to help the local peoples hold on to their culture, is to help them protect the forest. People who best know, use, and protect biodiversity are the indigenous people who live in these forests. Local forest house hundreds of thousands of species of plants, many of which hold promise for their compounds which can be used to ward off pests and fight human disease. No one understands the secrets of these plants better than indigenous peoples -medicine men and women - who have developed boundless knowledge of this library of flora for curing everything from foot rot to diabetes. But like the forests themselves, the knowledge of these botanical wizards is fast-disappearing due to deforestation and profound cultural transformation among younger generations. The combined loss of this knowledge and these forests irreplaceably impoverishes the world of cultural and biological diversity (Butler,2006).

The rural communities can play an active role in conservation and need to develop mechanism:

- (a) Generating knowledge based on a sophisticated understanding of their environment.
- (b) Devising mechanisms to conserve and sustain their natural resources.
- (c) Establishing community-based organizations that serve as forums for identifying problems and dealing with them through local-level experimentation, innovation, and exchange of information with other societies (Warren,1992).

Effective action against forest decline requires an understanding of the underlying causes and their distant impacts on forests. Underlying causes originate in some of the most basic features of society, such as the distribution of economic and political power, attitudes towards corruption,

population growth, and flaws in the market system and also in seemingly unrelated government policies. They may originate in other areas and transmit their effects through trade and the operation of transnational corporations. Underlying causes are many and operate in numerous and variable combinations. Forest decline is a complex socio-economic, cultural and political event. Thus, it is mistaken to attribute forest decline to a simple cause-effect relationship or assume that a relationship will remain unaltered over time(Hermosilla,2000).It has the potential to democratize forest landscape restoration by giving the weight to spatial aspects of local people's understandings of landscape and encouraging outsiders who wish to support local's peoples to build on their capacities rather than tending to destroy them. (Shepherd,2002).

On very small basis in the area trees are being planted around homesteads, schools ,on farm land and along borders. Important naturally regenerating indigenous trees are being left and managed on farm and grazing land. More importantly this example of forest landscape restoration is demonstrates that rural people and communities can restore such lands, do see the importance of natural trees and vegetation in their lives and have strong institutional mechanisms for their management(Kaale,Mlence ,Barrow ,2002).

Following are some management options for Forest Habitat:

- Improved understanding of the need for expansion of and links between native woodlands.
- Identification of the scale and location of areas where forest clearance for open habitat restoration is desirable.
- Description and accounts of likely success of restoration of replanted ancient woodland sites.
- Better definition of the criteria for allocating sites to different management regimes.
- Research into the consequences of minimum intervention.
- Implication (including problems) and desirability of coppice restoration on particular sites.
- Where and how we should be restoring wood-pasture treatment
- Research into ways of reducing habitat fragmentation in a cost-effective manner.
- Definition of acceptable levels (from nature conservation point of view) of disturbance in forests where wood production is also important.
- Better understanding the effects of alternative forestry system in ancient wood.

- Research into indicator species.
- Biodiversity measures for large coniferous plantations.

It is important that these ideas are developed jointly by forestry, nature conservation organizations and indigenous communities and not by either in isolation, if progress is to be made (Kirby and Rush,1994).

Following options also need to combat Habitat Degradation:

- There should, whenever possible, be an obligation to provide employment and other opportunities for local people. This is one way in which a site can make a very significant contribution to a local community. There will often be considerable benefits for the site.
- Conflicting interests within a community can also be a serious issue. For example, one group may be able to benefit from forest, while another may be prevented from carrying out what they consider to be legitimate activities.
- Site management is often reliant on traditional or local management practices. The necessary skills are often available within the local populations.
- On many sites, volunteers, individuals or local support groups can make a significant contribution to management.
- Reserve managers should make a contribution towards providing environmental education, at least for local children. This can result in significant local, and wider, benefits for conservation and environmental issues, but can be very demanding on staff time and other resources.

Conservation management is mainly, if not entirely, concerned with maintaining, controlling or removing the influence of people. Simply in order to survive, humanity has exploited wildlife. Conservationists can resort to the argument that, unless we protect our environment, our ability to survive in the long term is uncertain. Sophisticated, wealthy, informed individuals, enjoying a privileged existence, must not assume any right to dictate to less advantaged people. If we want to maintain conservation areas, we must be prepared to pay for the privilege.

The apparent conclusion is that we must protect this fragile habitat, and we must maintain biodiversity on local basis(Alexander,2005).Government must be to provide reward or substitute means of support like developed world. For example; in the UK there are several agri-environmental support schemes.This moral responsibility needs to be recognized in all

management plans. In this approach, Government makes payments to those land owners that supply the ecological services to society (See Table 2).

Table 2: Agri-environment schemes were first launched in England in 1987. A number of schemes are now operated by the Ministry of Agriculture, Fisheries and Food that invite farmers and landowners to enter formal agreements to change their management practices in order to achieve a range of nature, landscape and archaeological conservation objectives. Agreements are based on payments to compensate for loss of income incurred by adopting less intensive, low-input practices that offer potential benefits for biodiversity conservation within agricultural landscapes (Ovendon, Swash, Smallshire, 1988).

The situation within the Barali Kass calls for an urgent overhauling of the forest management system besides an efficient multi-sectoral intervention for sustainable livelihood provision, habitat destruction and the rampant poverty (Butt, 2006). We require taking a very broad and long-term view to restoration, seeing the forest as part of a larger social, economic and ecological picture. A landscape approach would aim to restore all these key forest functions. Unless the causes of forest loss are tackled effectively, we face an increasingly insecure area-socially, environmentally and economically (WWF International, 2005).

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