

# Forestry

## 1. Introduction

Forestry is one of the leading sectors contributing directly and indirectly to livelihood, local and national economy, and sustaining the biodiversity and environmental health of Nepal and beyond. The forward and backward linkages of this sector in the development of Nepal are substantial. The Forestry Sector policy of Nepal has evolved over time based on the principles of sustainable development, polycentric institutions, decentralization and people's participation in natural resource management. The classical approach of control and command policy of the government in the management of forests and watersheds is being replaced by a facilitative policy regime. This sector has been, and will continue to be a source of life, and an essential building block in the development of Nepal.

Forestry provides multiple products and services to the majority of Nepali citizens. It interfaces with other sectors, and policy externalities emanating from other sectors also have implications on the performance of Forestry Sector development. For example, watershed protection helps in increasing the even flow of water from streams and lengthens the life of hydroelectricity generation dams. Yet, this is not incorporated into Nepal's national accounts. Fuel wood from forested areas provides more than seventy percent of the total energy requirement of the country. It is estimated that about forty percent of the livestock feed comes from the Forestry Sector. Forest litter and dung is the main fertiliser to replenish agricultural fertility. Herbs and medicinal plants collected mainly from forests are the sources of health care and income for the rural poor. Forests are also important watersheds. They regulate the flow of water, conserve soil, and reduce down-stream sedimentation and flooding.

A vast number of flora and fauna found in Nepal are conserved within and outside the protected area system of Nepal. A total of 118 ecosystems, 75 vegetation and 35 forest types have been identified. They contain over 6,000 species of moth and over 640 species of butterfly, 180 species of fish, 247 reptiles and amphibians, 836 species of birds and 175 species of mammals. A substantial portion of the country's land is covered by national parks and reserves. Still others are registered as conservation areas and buffer zones. Protected areas, and moreover the natural flora and fauna, are the repositories of genetic resources and bio-diversity. Furthermore, parks, reserves and conservation areas are the destination of about half a million tourists a year.

Forests are also the sinks of carbon sequestration. They harbour globally endangered and rare species, and are global heritage sites. It is not only the citizens of this kingdom benefiting from the Forestry Sector, the value of Nepal's forests cross beyond national boundaries.

Forests, shrub lands, watersheds and biodiversity generate both private and public goods and services. Designing institutional innovation for sustainable extraction and use of these resources is a difficult task for the Forestry Sector. It is specially challenging because major products and services generated from the forests are either undervalued or produced yet have no market. The upstream and downstream relationship inherent in watershed management programs creates coordination and cost recovery problems for the implementation of this program. Conservation of biodiversity provides intergenerational and trans-boundary benefits. Most of the benefits from Nepal's biodiversity flow outside Nepal. Yet, the opportunity cost of its conservation is borne by the citizens of Nepal.

It is estimated that the contribution of the Forestry Sector to the Gross Domestic Product (GDP) is about a quarter of the value attributed to agriculture, fishery and forestry. This amounts to little more than ten percent of the total GDP. The contribution of the Forestry Sector to the development of Nepal is undervalued though, as reflected in the low level of investment in this sector.

The increasing demand of forest-derived goods and services, and the competing demand for forested land both at the national and local levels, has exerted tremendous pressure on forests, protected areas, and watersheds. Through various policies, institutional regimes, and management schemes, His Majesty's Government (HMG) of Nepal is managing forest resources, protected areas, and watersheds to sustain the supply of forest-derived goods and service. Although these are renewable resources, they must be managed in a way that does not deplete them. Continued production of goods and services from the Forestry Sector can only be sustained provided (a) the resources are secured from depletion and degradation; (b) the institutional capacity of various polycentric organisations involved in this sector are strengthened; (c) technology employed to produce, process and market goods and services are developed and transferred; (d) both national and external financial allocation for Forestry Sector development and management are substantially enhanced; and (e) above all, the Forestry Sector is recognised as a priority sector. Development partners are supporting some of the programs under forestry. This support needs further expansion.

This paper highlights the ongoing efforts to manage and conserve these important resources and assets. It proposes important measures that are needed to tap opportunities. The gaps in policy, programs and finance are identified and strategies are proposed to close present gaps.

## **2. Present Vision, Policies and Objectives**

The Forestry Sector recognises the interdependent relationship between natural and human systems. The interaction between these two systems constitutes to the foundation for the Forestry Sector's development vision, policy and objective formation and implementation.

### **2.1 Vision of the Sector**

The Forestry Sector strives to enhance and expand its contribution to poverty alleviation, environmental security, good governance, social justice and intergenerational equity through sustainable, equitable and effective management and responsible use of nation-wide Forestry Sector resources. This will be achieved by maintaining harmony with a variety of other sectors and actors in the society. Efforts will be made to maintain the existing 40% forested land through sustainable management and utilisation.

### **2.2 Policy of the Sector**

The Master Plan for the Forestry Sector approved by the government in 1989 still serves as the basis of forest policy formulation, informing the Ninth and Tenth (2002-2007) Five-Year Plans.

#### **The long-term goals of the Forestry Sector are the following:**

- ?? to meet the people's basic needs for forest-derived products on a sustained basis
- ?? to contribute to local and national economic growth and livelihood
- ?? to conserve ecosystems and genetic resources
- ?? to protect land against degradation and other effects of ecological imbalance

The Tenth Plan focuses on reducing deforestation, soil erosion and degradation of biodiversity as well as solving the problem of poverty and unemployment. Therefore, Forestry Sector policy aims to meet twin track objectives:

1. to provide a sustainable supply of forest products and environmental preservation through conservation, management and enterprise development of forests, watersheds,

- plant resources and biodiversity; and
- 2. to alleviate poverty by creating employment and income opportunities for poor, women and disadvantaged groups through participatory approaches.

These objectives are also compatible with the four long-term goals of the Master Plan. The Master Plan and the Tenth Plan guide forestry development within the comprehensive framework of six primary and six supportive programs to achieve the above objectives. These programs are as follows:

#### ***Primary Forestry Development Programmes***

1. Community and private forestry
2. National and leasehold forestry
3. Wood-based industries
4. Medicinal and aromatic plants
5. Soil conservation and watershed management
6. Conservation of ecosystems and genetic resource

#### **Supportive Forestry Development Programs**

1. Policy and legal reforms
2. Institutional reforms
3. Human resource development
4. Research and extension
5. Forest resources information system and management planning
6. Monitoring and evaluation

The Master Plan is characterised by its integrated and program-oriented approach, laying the groundwork for a sector wide approach to forestry development. The idea to employ a program-oriented approach to support the six primary programs and six supportive programs was a turning point in Nepal's history of Forestry Sector development.

### **2.3 Major Strategies**

Major strategies related to the attainment of the twin objectives (sustainable resource management and poverty alleviation) are:

- ?? Conserve biodiversity and genetic resources of forests, plants, insects and wildlife;
- ?? Focus soil and watershed management on Siwaliks by promoting people's participation;
- ?? Implement government forest management for the provision of raw materials, scientific supervision, and piloting collaborative forest management;
- ?? Strengthen forest research, monitoring, information and statistics systems;
- ?? Promote eco-tourism by leasing forests to organised units and enterprises that will sustainably manage forests, wildlife and other plant resources;
- ?? Expand community, leasehold, and collaborative forest management to improve women's, the poor's, and other disadvantaged groups' access and contribute to poverty reduction.

Implementation mechanisms to achieve Forestry Sector policy as laid out in the Tenth Plan, are as follows:

- ?? Organise poor households within Community Forest User Groups (CFUGs) into sub-user groups to increase their access and benefits from community forests;
- ?? Initiate second generation reforms in Community Forestry Programs focusing on livelihood promotion, good governance and equity, and sustainable forest management;
- ?? Initiate farming of Non-Timber Forest Products (NTFP) and Medicinal and Aromatic

- Plants (MAPs) in government managed, community, and private forests;
- ?? Initiate biodiversity registration to maintain the rights of the local people to local natural resources;
- ?? Initiate integrated conservation farming, linking forestry, agriculture and livestock especially in Siwalik watersheds;
- ?? Channel some resources from irrigation and hydroelectricity generation projects to the conservation of watersheds;
- ?? Promote biodiversity conservation at the landscape level and implement the Nepal Biodiversity Strategy;
- ?? Provide governance training to CFUG and other members;
- ?? Provide gender mainstreaming training in sustainable forest and watershed management; and
- ?? Involve Non-Government Organisations (NGOs) to deliver services in the management of the Forestry Sector.

## **2.4 Major Targeted Activities**

The Tenth Plan has listed some of the major activities under each of the Forestry Sector programs. Although the wood-based industries development program is one of the primary forestry development programs, it has not been highlighted in the Plan as it is to be implemented primarily by the private sector. Policy and institutional reform is an ongoing process. Some of the recent developments are described in the next section. Major targeted activities of the Tenth Plan are presented in annex 1.

## **2.5 Refinement in Policy and Procedure**

The government has recently formulated some policies and guidelines in order to clarify the provisions of the Tenth Plan. His Majesty the King has recently directed the government to initiate and promote herb development and NTFP in the Mid-Western Development Region of Nepal. The recently developed Herbs and NTFP Development Policy of 2004 would create a conducive environment for the development of this sub-sector. The policy aims for five objectives: (a) Conservation and utilisation based on the principle of sustainable development; (b) promotion of people's participation; (c) development of a certification protocol and simplification of taxation; (d) extension of research and development to wider communities; and (e) granting facilities for herb cultivators, processors and traders, provision of training and building of awareness.

These policies have been formulated to streamline conservation and development and to advance us towards our Forestry Sector objectives. Where appropriate, they also try to limit the role of government as promoter, facilitator and regulator. When these policy initiatives are implemented, the Ministry of Forests and Soil Conservation (MFSC) expects to have conserved the biodiversity of the nation, increased productivity in forest management, and maximised benefits for the government and local people through sustainable use. These reforms are designed to create incentives for local people and their institutions, ensuring a supply of needed forest-derived products and forest-related income generating and employment opportunities to local. They are also expected to encourage greater involvement of local people, community-based organisations and NGOs in forestry resource management, increased efficiency of forestry institutions and local users, better co-ordination and governance, and improved transparency and effectiveness.

Table 1 provides the content and the expected result from the implementation of these policies and procedures. Out of the thirteen policies and procedures mentioned in the following table; four are related to policy and the remaining nine are focused on procedures or strategies.

### **3. Major Programs and Their Contributions**

We describe and specify some of the significant contributions of forestry program and also refer to the significance of these programs in terms of the "four pillars" of the poverty reduction strategy as defined in the Tenth Plan. We focus here on Community Forestry, Leasehold Forestry, Watershed Management, Buffer Zone Management; and Collaborative Forest Management programs/components. All of these programs or components are community-based, people-centred programs for natural resource management. Each of these programs is implemented by local user groups, which are grass-root based voluntary and independent organisations. Not only do they pursue conservation and development, they also practice democracy at a grass-roots level. The contribution of these programs implementation spillover into other sectors like agriculture, irrigation, energy, tourism, local development and industrial development as well. We also focus on some of the major issues or gaps in these programs.

#### **3.1 Community Forestry Program**

Community Forestry (CF) is one of the priority programs of the Government. Bilateral donors are also involved in the development of the CF program. About 35% of the total development budget allocated to MFSC is spent on the CF program. About 60% of the total development budget of this program is funded through foreign assistance.

In terms of area, the CFUGs are responsible for managing about 18% of the total forested area of Nepal. The total number of CFUGs is more than 13,000, out of which 642 are composed of women-only committees. Thus, if appropriately mobilised, CFUGs can be used for many development activities. The potential of disseminating information to rural people through CFUGs is enormous. In addition, CFUGs can be very effective organisations for delivering services to remote parts of Nepal. A number of poverty reduction programs can be conducted through these Users' Groups as well.

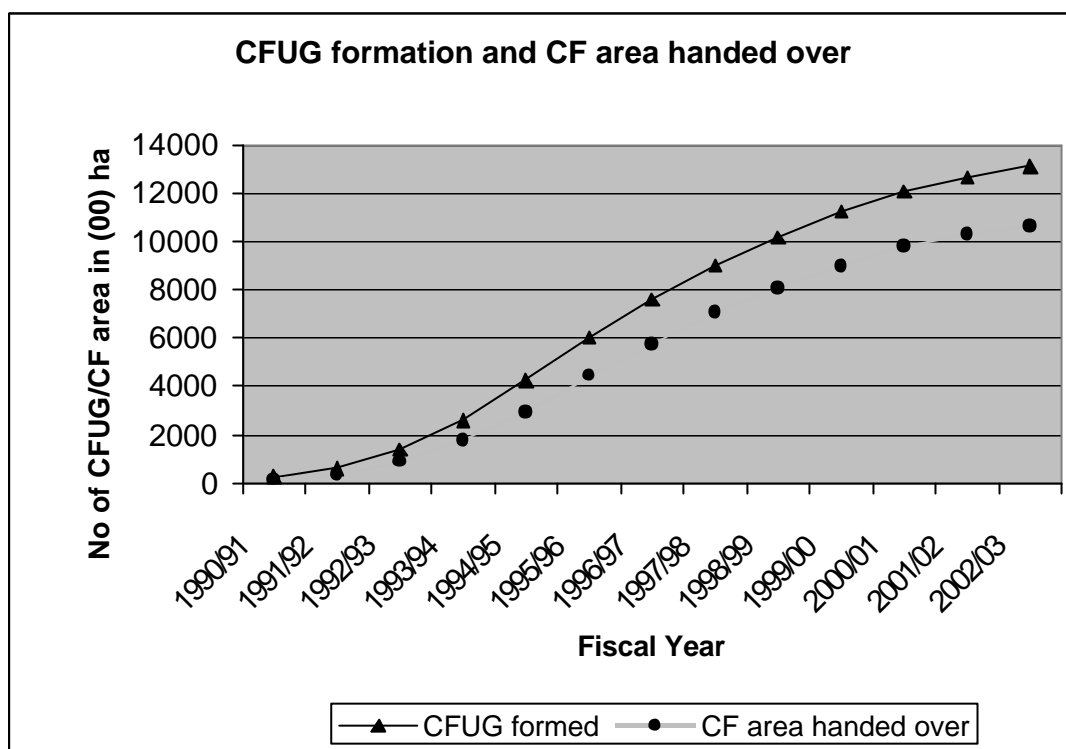
The program has already shown its impact on the status of the forests. Total growing stock and the level of regeneration has increased and improved over time. Similarly, the occurrence of forest fires has been reduced. There is a substantial visual improvement in the status of greenery in the hills of Nepal. Finally, CFUGs have also established many nurseries, in which they are growing trees of their own choice.

Similarly, the program has also impacted positively on the building of local institutions. Some CFUGs have already been contacting and building relationships with other agencies working in soil conservation, irrigation, livestock, and horticulture.



**Table 1: Refinement in Policy and Procedure**

<b>S. No.</b>	<b>Policies and Procedural Means</b>	<b>Focus</b>	<b>Result Area</b>
1.	Leasehold Forestry Policy, 2002	Involvement of poor households and enterprises in forest management and utilisation	Poverty alleviation, private sector involvement, eco-tourism, eco-conservation.
2.	Nepal Biodiversity Strategy, 2003	Biodiversity conservation	Landscape level conservation and livelihood promotion.
3.	Monitoring and Evaluation concept and Strategies, 2003	Monitoring and Evaluation	Effectiveness and efficiency, forestry conservation and management.
4.	Working process for NGOs involvement in the management of Protected Areas, 2004	Streamlining of government's role in the management of protected areas	Biodiversity conservation, NGO involvement in conservation.
5.	Wildlife Farming, Reproduction and Research Policy, 2003	Biodiversity conservation, income generation	Private sector involvement in conservation and poverty reduction
6.	Domestic Elephant Management Policy, 2003/2004	Enterprise promotion, income generation	Biodiversity conservation, transparency in decisions
7.	Collaborative Forest Management Guideline, 2003	Sustainable forest management in the Terai	Good governance, decentralisation, increased supply of forest products
8.	Forest Products Auctioning Procedure, 2003	Competitive marketing of forest products	Efficiency, competition, good governance
9.	Non-Governmental Service Providers Guideline, 2004	Involvement of NGOs in the provision of services in Forestry Sector development	Good Governance, transparency, efficiency, sustainable forest management
10.	Terai Arc Landscape-Broad Strategies, 2004	Biodiversity conservation at landscape level in the Terai	Biodiversity conservation and livelihood promotion
11.	Herbs and Non-Timber Forest Products Development Policy, 2004	Promotion of MAP and NTFP through polycentric organisations	Livelihood promotion, better forest management, enterprise development
12.	The Forestry Sector Foreign Aid Policy Guidelines, 2004	Sector wide approach in forestry development	Poverty reduction, Sustainable forestry development, donor co-ordination
13.	Human Resources Strategy, 2004	Training in organisational development	Competency based and result oriented MFSC, sector wide approach in forestry



The program has also improved the social and economic status of local people. The CF program emphasises empowering women, poor and disadvantaged group. Literacy programs also back them up. Due to availability of forest products, many households have experienced less hardship in their daily life. CF-based income generation programs such as non-timber forest products can increase employment and income in rural areas.

Likewise, the program has also impacted watershed management and biodiversity conservation. Improvements in the status of forests in the hills has led to increased infiltration capacity, ground water recharge, and a decrease in surface runoff. At least in some locations, these activities have decreased soil erosion and enhanced productivity of the neighbouring agricultural lands. Improvements in the status of forests have also resulted in the reappearance of birds and animals that were not regularly seen in the locality. Because mid-hills are under represented in the protected area system of Nepal as compared to other ecological regions, community forests can also be used for conserving threatened plants and animals in the mid-hills.

In sum, it can be said that the CF program has helped to strengthen natural capital (such as forests, water flow, biodiversity), physical capital (buildings, irrigation channels), financial capital (micro-credit), social capital (group cohesion, networking), and human capital (literacy and skill training). Enhancement of these capitals at the local level and the reduction of risk and vulnerability of the poor and marginal groups through good governance can significantly contribute to the promotion of livelihood in the rural areas of Nepal.

### 3.1.1 Issues or Gaps in Community Forestry

CF programs have become highly successful in expanding and enhancing green forests and generating income for CFUGs. However, there are areas where the program needs further

improvement. The main issues in community forestry relate to livelihood and equity; governance; sustainable forest management; high altitude forest management; and revenue sharing among the government, local bodies and CFUGs.

#### ***Livelihood and Equity Issue***

One of the aims of community forestry is to increase the access and inclusiveness of women, poor and marginalized groups in the governance, management and utilisation of forests and to bring these groups a source of income. However, it has been observed that local elites make most of the decisions and capture most of the benefits from the forests. In many cases, CFUGs have become wealthy, but the households themselves have not been able to reap the benefits. It is especially so with the poor, women and disadvantaged groups. In other cases, forest management is focused on products such as timber, a commodity needed by wealthier people. In other cases, traditional and 'distant' users have been excluded from the process of group formation. These issues are challenging and should be resolved.

The government is now piloting innovative schemes to improve the livelihood of the poor, women and disadvantaged groups through community forestry by forming separate sub-groups where portions of community forests are assigned strictly to them; providing technologies (such as herb production and processing technologies), entrepreneurial skills training, and micro-credits; and providing marketing linkages. The idea is to strengthen them in groups and to increase their bargaining and negotiating skills. In order to carry out this innovative program, increased financial and technical assistance is needed.

#### ***Governance Issue***

It is frequently stated that the users' interests are not taken into account when CFUG committees make decisions. Although these committee members are the representatives of the users, they usually come from elite and upper classes. This affects the way benefits are distributed among the group members. The poor governance at the CFUG committee level is a concern in the management of community forests. Representation of women in the committees has gradually increased over time, but it is still difficult to increase membership of the poor and specially disadvantaged groups. In some areas, adult literacy classes are being run, while in others coaching programs are implemented so that these marginalized groups can assert their power in governance and decision-making. Transparency and public auditing are also increasingly carried out and participatory monitoring is being piloted in some areas. Still, a lot must be accomplished.

#### ***Sustainable Forest Management Issue***

The majority of community forests are still protection oriented. Intensive management of these forests could further improve the productivity of the forests generating more products for household consumption and sale. This needs to be improved.

The local people manage community forests for their benefit. So far biodiversity conservation is not emphasised in community forests. Sustainable forest management can both enhance productivity of forests and increase the biodiversity of forests. It will take time to make users aware of the benefits of sustainable forest management though.

#### ***High Altitude Forest Management Issue***

Community forestry is successful where the population is moderately dense and where there is a perceived scarcity of forest products, like in the middle hills. This model has problems in high altitude areas where the population is very thin and large areas are to be managed. Large area with few people as users creates an incentive problem for monitoring and rule enforcement. Designing appropriate institutional and incentive schemes for the management of these forests is the main issue. Piloting of management options in these areas will have to be carried out to validate the optimum management model for these areas.

### **Decentralisation and Revenue Sharing Issue**

Based on initial experiences with community forestry, in which community forests were handed over to local political bodies, forests are now handed directly to local user groups. What has been observed is that locally organised independent groups of forest users formed under a non-partisan basis manage forests better. Presently, the District Development Committees (DDCs) receive ten percent of the forest revenue from the government-managed forests directly from the District Forest Office, but none from the community forests. Since 2000, the government has received some revenue from the sale of surplus timber, mainly from the community forests of Terai and inner Terai. Since the community forests also lie within the jurisdiction of these local political bodies, they need financial resources for undertaking various development activities as well. How the income from community forests should be shared among government, local political bodies and CFUGs has become a topic for intense debate.

### **3.2 Leasehold Forestry Program**

Two types of Leasehold forestry are practised in Nepal. The first relates to pro-poor and the second relates to enterprise development. A part of a national forest can be leased to groups or firms (but not to individuals) for the following purposes:

- ?? Development of degraded lands through the process of land management and plantations;
- ?? Development of on-farm income generation activities through the cultivation and sale of seeds, grasses and bamboo, and off-farm Income Generation Activities (IGAs) like bee keeping; and
- ?? Supply of industrial raw materials and development of eco-tourism.

Leasing land to poor households helps reduce poverty and ensure ecological integrity at the local level. So far about 13 thousand households have benefited from the program. Leasehold forestry for the poor is also one of the priority programs of the government. The following table provides some information on the achievements of the pro-poor leasehold forestry program.

***The Forest Rules, 1995 have made a special provision for the transfer of degraded land as leasehold forest to people living below the poverty line. Leasehold groups are formed among the households who live below the poverty line. A family below the poverty line is defined as one whose annual income is less than Nrs 2,500 per capita per year and whose private land holding is less than half a hectare. A leasehold group will constitute of a maximum of 10 households. Small and degraded forestland is handed over to a group. Besides trees, they can also plant forages. A part of the national forest can be leased for up to 40 years, but can be extended for another 40 years. Leasehold forests for the poor are free of any lease fee, but industrial leaseholders have to pay a fixed amount to the government as mentioned in the forest rules.***

<b>Parameters/Items</b>	<b>Progress</b>
Leasehold Forestry Program implemented	26 districts
Handed over area of national forests to the poor	8,271 Hectares
<b>Total number of Leasehold Groups formed</b>	1,956
Average LF area per user group	4.2 Hectares
Total number of households involved in LF	13,340 households
Average household size of LF groups	6.8 households
LF managed only by women committee	155

The program not only supports the livelihoods of the poor, but also improves the ecological conditions of the leased area. Some of the impacts of the leasehold forest programs are listed below:

- ?? Degraded land is changed into green area producing grasses and firewood;
- ?? People are encouraged to keep improved animals;
- ?? There is a high degree of participation from women; and
- ?? Family income is increased.

### 3.2.1 Issues in Leasehold Forestry

According to the Forest Act, 1993, community forestry get priority over leasehold forestry. Since the CF program is also geared towards alleviating poverty, harmonisation of pro-poor leasehold forestry with community forestry is an issue that needs prompt resolution.

The original intent of the leasehold forestry program was to solicit private sector investment in the supply of forest products and promotion of eco-tourism. The new leasehold forestry policy stresses the importance of these investment opportunities. About 1,190 hectares has been leased for industrial forestry and eco-tourism. How to promote industrial forestry and eco-tourism with private sector investment is a challenging task.

### 3.3 Buffer Zone Management

There are nine national parks, four wildlife reserves and three conservation areas in Nepal. Buffer zones surrounding the parks and reserves are also part and parcel of the protected area system. Protected areas of Nepal are the sources of biodiversity, a repository of wild organisms, and a tourist destination for entertainment. The Annapurna Conservation Area Project was the key to initiating local people-based biodiversity conservation in Nepal. Participation of local people in biodiversity conservation has also increased with the establishment of buffer zones in the periphery of national park and wildlife reserves. Management of these protected areas is governed by the National Park and Wildlife Conservation Act, which has identified roles and responsibilities of various institutions involved in the conservation of genetic resources including wildlife.

Local people are organised into groups and committees to manage the collective resources such as forests in the buffer zone. The objective is to make them independent so that they need not rely on park and reserve forests to fulfil their need for forest-derived resources. Moreover, these groups get a share from the income of the Park and Reserve. This can be channelled to community development and household income generation activities. User groups are responsible for the management of the forests lying within the buffer zones. The main agenda of this program is to support the livelihood of the local people as well as conservation.

Buffer zones have been declared around six national parks. So far 3,955<sup>2</sup> kms of buffer zone have been designated, covering 14 districts and 114 Village Development Committees (VDCs). It is estimated that about 70,000 households or 447,000 people are involved in the conservation and management of collective resources in buffer zones. About Nrs 104.4 million has been given to the Buffer Zone Councils from the three national parks over the last seven years. This amount is used for the integrated conservation and development program in the buffer zones.

Management of buffer zones has been the main livelihood support activity for people residing around national parks. As per the present National Parks and Wildlife Conservation Act, a buffer zone development committee is entitled to share 30%-50% of the income of the park or reserve. This share can be used for conservation and development activities in the buffer zone.

Since biodiversity conservation in Nepal generates global public goods and services, financing the program is a serious issue. Instruments such as Global Environmental Facility have been designed to mitigate this issue of incremental cost. However, the process and mechanism for obtaining funds from such instruments are lengthy and cumbersome. Moreover, conflicts among the local people and wild animals such as life (human and animal) and crop depredation are a serious problem in some of the parks and reserves.

### 3.4 Soil Conservation and Watershed Management

The Department of Soil Conservation and Watershed Management (DSCWM) has been implementing this program in 55 districts through District Soil Conservation offices.

Nepal is geologically fragile due to its mountainous terrain. Extensive soil erosion has been a problem. In order to have upstream and downstream impacts, the DSCWM is implementing this program in the designated sub-watersheds. Soil conservation and watershed management activities pursued in these sub-watersheds can be broadly defined by the following five inter-connected categories: land use planning; productivity enhancement; infrastructure protection; natural disaster control; and conservation education.

Most of the activities are implemented through 700 Community Development Groups (CDGs). They are small volunteer groups based on hamlets. Besides them, 138 community forest user groups and 88 ward conservation groups are also actively engaged in the management of watersheds. They are engaged in both productivity enhancing and income generating activities at the grass-roots level.

One of the key issues in watershed management is that benefits obtained are better understood as *losses avoided* due to improved farming. Secondly, watershed management entails upstream and downstream linkages. People living in these two locations need to co-operate with each other since the benefits of better watershed management not only goes to the people living in uplands but also to those living downstream as well.

### 3.5 Collaborative Forest Management

The concept of collaborative forest management originated as a midway solution between two approaches of forest management: community forestry approach and the traditional (government) management approach in the Terai. A large stock of commercial forests and distance users' dependent on these forests require that they be managed differently, but still with the participation of local stakeholders. In April 2000, MFSC formulated the policy of collaborative forest management as a way to administer government-managed forests in the changing context of participatory forest management through the involvement of local people.

Three principle stakeholders jointly manage the forests in a sustainable way in collaborative forest management. These are; the central government in the form of the District Forest Office, local government through DDCs and VDCs, and local users. Under this management system, there are other non-government agencies that support the processes such as the management of non-timber forest products, marketing, and processing. The benefit sharing mechanism in CFM among the main stakeholders is the following:

- ?? Local users get non-commercial forest products either free or charged as per the decision of CFM user groups;
- ?? After paying royalty, NTFPs can be sold, and the income thus derived must be kept in the account of the CFM groups;
- ?? Surplus firewood and timber from the forests will be sold in auction;
- ?? Government will get 75% of the income; and users, VDC and DDC get 25% collectively, and the District Forest Co-ordination Committee (DFCC) decides the sharing of this 25%.

#### 3.5.1 Issues in CFM

***CFM is the recently implemented program in the Terai, where there is big potential for productive forest management. Presently, the Livelihood Forestry Programme (LFP) and Biodiversity Sector Programme for Siwaliks and Terai (BISEP-ST) supported by DFID and DGIS respectively are piloting this program. CFM is being implemented in three Western,***

*and eight Central Terai districts. Because, this is a new program, we need to wait to learn lessons from the piloting phase.*

### **3.6 Forestry Contribution to "Four Pillars" of Poverty Reduction Strategy**

#### **3.6.1 Broad Based High Economic Growth**

Around 80% of Nepal's population utilise natural resources like agriculture and forestry for their livelihood. PRSP has targeted for 4.1% annual growth in agricultural or land related activities including livestock and forestry. The Agricultural Prospective Plan (APP) aims to increase agricultural production by introducing agricultural inputs, improving irrigation especially through use of ground water and by strengthening market networks through rural roads. Conventional agriculture, especially in the hills is highly dependent on organic manure produced by livestock, the feed for which is derived from the forests. Similarly, management of forests and watersheds in Siwaliks is key for recharging ground water in the lowland Terai. Thus, broad-based economic growth as stated in PRSP is related and highly dependent on natural resource management in Nepal.

#### **3.6.2 Social Sector Development**

**The Tenth Plan has emphasised decentralised management of services such as schools and health posts by local management committees. In order to implement these social sector development programs in the long run, resources need to be generated at the local level, and forestry could be the sustainable source for these local level services. Natural resource management programs like community forestry will be at the forefront of future program development. In fact, many CFUGs are supporting the social service sector in aiding schools and health posts in the villages.**

#### **3.6.3 Social Inclusion and Targeted Programs**

The level of poverty varies between the mountains, hills and Terai. Similarly, it varies between urban and rural areas and between ethnic groups and castes. Most of the poor people live in rural areas where off-farm opportunities are negligible. Natural resource management activities such as forestry are the areas where targeted programs can be implemented to support the rural poor.

#### **3.6.4 Good Governance**

Grass root level democracy, rule of law, transparency, and responsiveness are the key components of good governance. These components are very important in the forestry resource management sector as well.

In the community forestry program, local user groups have the overall authority to manage and utilise the forest and forest products. This is a unique example where devolution has reached the grass roots level. Record keeping, transparency and public auditing are also key factors in community forest and watershed management programs implemented by user groups.

## **4. Gaps in Program Implementation**

The following gaps are identified in realising the vision, policy and program objectives of the Forestry Sector. Most of the gaps identified here fall under the rubric of institutional support in capacity development; financial support on ongoing and new program components; and technical support in analysis and management; and in awareness building, survey and research.

## **4.1 Gaps in Program Implementation**

### **Livelihood Promotion from Community Forests**

Although community forestry has been successful in expanding forests and its density, mainly in the hills, many of them are not intensively managed or are managed below optimum level. Similarly, the program's livelihood contribution to the poor, women and disadvantaged groups has not been so successful. Assigning certain areas of community forests to sub-groups providing herbs and NTFP technology to them, and helping them in developing enterprises through market and credit support would go a long way. Support is needed in terms of seed money, production and processing technology, and capacity and enterprise development.

### **Community Forest: High Altitude Forest Management**

In community forestry programs, high altitude forest management is still excluded. Key characteristics of this area are: rugged and difficult to access terrain; sparse local populations, and harsh natural working conditions. There is a potential of generating income and employment in these remote areas where alternative opportunities for living are few and far between by managing the forests. Promotion of processing and marketing of Herbs and NTFP could be a viable strategy to resolve the problem.

### **Collaborative Forest Management**

The government has initiated a collaborative forest management program. It has piloted this program in 11 districts of the Central and Western regions. The program has a great potential to optimise forest use, which will lead to high productivity and benefit local users, local bodies and national government. In Terai districts this program should be expanded.

### **Leasehold Forest Management**

This program has two components. One is industrial leases for industrial raw material production and eco-tourism and the other is leasing the forests to those below the poverty line. The potential of complementing this program with community forestry programs should be explored given that both of these programs focus on livelihood promotion, good governance and sustainable forest management. Leasing forests for eco-tourism could also help in supplementing conservation with income generation

### **Soil Conservation: Siwalik Watershed Management**

Siwalik watershed management is important for recharging ground water in the Terai. Agriculture in the Terai is based on ground water irrigation. Siwalik acts as a major barrier to the floods that come to the Terai from the hills. Considering its ecological and economic importance, Siwalik watershed conservation has been accorded as one of the highest priority programs of the government since the Eighth Plan. Conservation programs in Siwalik require upgrading.

### **Biodiversity Conservation and Buffer Zone Management**

Convention on Biological Diversity (CBD) has increased signatory countries' responsibility to biodiversity conservation. The convention also puts emphasis on benefiting the local people. Financing the incremental cost of biodiversity conservation is the major hurdle in CBD implementation.

### **Plant Resource Development Program**

With the present level of globalisation, a country like Nepal with variant ecological niches, has an advantage in the production of high value crops such as herbs and NTFPs due to the special microclimates in the country. Introducing modern biotechnology can harness this potential both in terms of production and processing leading to increased income and employment opportunities for those residing in rural areas. With the increase in patent rights, biodiversity assessment of local biotechnology and biodiversity mapping are crucial. However, more focus needs to be given to this area.

### **Forest Research and Survey**

Applied research and resource data collection is a pre-requisite for any kind of natural resource management. Survey of forested areas has not been done for the last 15 years. Similarly, cultivation and domestication practices, processing technology development, and quantity control are main constraints in managing many plants species. Although forest surveys are to be carried out every ten years to assess forest conditions, financial and technological gaps have meant surveys are not being completed. such surveys implementation.

### **4.2 Gaps in Financial Allocation**

Over the last four years, the government has invested about Nrs 1.6 billion per year in the development and management of the Forestry Sector. This year's total budget is Nrs 1.9 billion, out of which about 59% are allocated for development and investment. Foreign aid constitutes about 14.8% of the total budget. A preliminary study carried out in 1999 shows that the Forestry Sector has a financial gap of about US \$ 23 million per year. This indicates the constraints under which the Forestry Sector has to operate

## **5. Strategies to Meet the Gaps**

We have identified important achievements and strategies, which if followed, will close the remaining gaps in forestry sector programs. As mentioned above, some of these gaps can only be met by policy reform, enacting regulations relating to revenue sharing and developing cost sharing mechanisms in watershed management. Others are related to implementation issues. Funding and technical assistance are needed to carry out the programs. Efforts have to be made to strengthen the capacity of related institutions to implement programs. The steps to be taken to close the gaps are listed in the following table.

**Table 2: Steps to be taken to close gaps**

<b>Program</b>	<b>Government</b>	<b>Donor</b>	<b>Both</b>
Livelihood Promotion from Community Forests	<ul style="list-style-type: none"> <li>?? Study on economic contribution of forestry in national development</li> <li>?? Piloting and Program reform as per experience</li> <li>?? Institutionalisation</li> <li>?? Training to user groups</li> <li>?? Awareness building</li> </ul>	<ul style="list-style-type: none"> <li>?? Technical and Financial Assistance</li> <li>?? Training to sub-group users</li> <li>?? Gender analysis and budgeting</li> </ul>	<ul style="list-style-type: none"> <li>?? Financial and technical support</li> <li>?? Social mobilisation</li> <li>?? Capacity building</li> <li>?? Monitoring and evaluation</li> </ul>
High Altitude Forest Management	<ul style="list-style-type: none"> <li>?? Piloting and policy reform as per experience</li> <li>?? Institutionalisation</li> <li>?? Training to user groups</li> <li>?? Awareness building</li> </ul>	<ul style="list-style-type: none"> <li>?? Technical assistance</li> <li>?? Training to officers and users</li> <li>?? Financial support for piloting</li> </ul>	<ul style="list-style-type: none"> <li>?? Financial support</li> <li>?? Domestication of MAPs</li> <li>?? Social mobilisation</li> <li>?? Capacity building</li> <li>?? Monitoring and evaluation</li> </ul>
Leasehold Forest Management	<ul style="list-style-type: none"> <li>?? Policy reform as per experience</li> <li>?? Complementing it with CF</li> <li>?? Training to user groups</li> <li>?? Awareness building</li> </ul>	<ul style="list-style-type: none"> <li>?? Technical and financial assistance</li> <li>?? Training to officers and users</li> <li>?? Gender analysis and budgeting</li> </ul>	<ul style="list-style-type: none"> <li>?? Financial and technical support</li> <li>?? Capacity building</li> <li>?? Monitoring and evaluation</li> </ul>
Collaborative Forest Management	<ul style="list-style-type: none"> <li>?? Policy reform as per experience</li> <li>?? Institutionalisation</li> <li>?? Awareness building</li> </ul>	<ul style="list-style-type: none"> <li>?? Technical and financial assistance</li> <li>?? Training and extension to officers and user groups</li> </ul>	<ul style="list-style-type: none"> <li>?? Financial support</li> <li>?? Capacity building</li> <li>?? Monitoring and evaluation</li> </ul>
Siwaliks Watershed Conservation	<ul style="list-style-type: none"> <li>?? Policy on cost sharing as per experience</li> <li>?? Institutionalisation</li> <li>?? Awareness building</li> <li>?? Training to user groups</li> </ul>	<ul style="list-style-type: none"> <li>?? Technical and financial assistance</li> <li>?? Training to officers</li> <li>?? Social mobilisation</li> <li>?? Study on various conservation technologies</li> <li>?? Capacity building</li> </ul>	<ul style="list-style-type: none"> <li>?? Financial support</li> <li>?? Monitoring and evaluation</li> </ul>
Biodiversity and buffer zone Management	<ul style="list-style-type: none"> <li>?? Policy reform as per experience</li> <li>?? Institutionalisation</li> <li>?? Awareness building</li> <li>?? Training to user groups</li> </ul>	<ul style="list-style-type: none"> <li>?? Financial assistance</li> <li>?? Training to officers and users</li> <li>?? Social mobilisation</li> <li>?? Capacity building</li> </ul>	<ul style="list-style-type: none"> <li>?? Financial support</li> <li>?? Monitoring and evaluation</li> <li>?? Gender mainstreaming</li> </ul>
Biotechnology Development	<ul style="list-style-type: none"> <li>?? Policy reform as per experience</li> <li>?? Institutionalisation</li> <li>?? Training to user groups</li> <li>?? Awareness building</li> </ul>	<ul style="list-style-type: none"> <li>?? Technical and financial assistance</li> <li>?? Support to market investigation</li> <li>?? Training to officers, and Exchange visit</li> </ul>	<ul style="list-style-type: none"> <li>?? Financial support</li> <li>?? Monitoring and evaluation</li> </ul>

Forest Research and Survey	?? Capacity building ?? Awareness building	?? Technical and financial assistance ?? Training to officers ?? Exchange visit ?? Capacity building	?? Financial support ?? Monitoring and evaluation
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## **6. Conclusions**

There are many program areas in the Forestry Sector, which need additional support. Although the Forestry Sector is estimated to contribute more than ten percent of the Gross Domestic Product, all the benefits reaped from the Forestry Sector have not been taken into account. Besides environmental conservation, forestry directly benefits women and disadvantaged group members residing in remote hill areas. The backward and forward linkages of forestry to other sectors are also significant.

Forestry Sector programs are also generating benefits that are of great relevance and importance to the global community such as biodiversity conservation, carbon sequestration, and climate moderation. These external benefits generated by Nepal have to be compensated. Funding mechanisms to continue producing these benefits have to be identified.

The government has recently formulated policies, guidelines and strategies to promote transparency, competition and effectiveness in the delivery of services. However, there are still some gaps between policy objectives and accomplishments. The gaps identified relate to finance, technical assistance and capacity building. Steps have to be taken towards a sector wide approach in forestry. Some of the important policy gaps lie in revenue sharing mechanisms among and between user groups, local level political bodies and central government. Similarly, cost-sharing mechanism have to be enacted to finance watershed management programs.

The government with the support of development partners will better streamline Forestry Sector programs to promote livelihood, better governance and sustainable development. Improved accounting of the benefits generated from the Forestry Sector would help to allocate more resources to the Forestry Sector. Co-ordination among institutions and programs will also be promoted more in the future.

**Annex 1: Major Targeted Activities of the Tenth Plan**

Programs and Activities	Unit	Target	
		Normal case	Low Case
<b>Community and Private Forestry</b>			
Community Forest User Group Formation	Number	2500	2500
Operation Plan Preparation and handing over	Number	3000	3000
<b>Operational Plan revision</b>			
Forest Management Support to user groups	Number	2500	2500
Silviculture demonstration plot establishment and operation	Number	500	425
Forest enterprise development for poverty alleviation	Number	500	500
Technical support to private forests	Number	750	630
<b>National and Leasehold Forestry</b>			
Forests handing over to 1500 LF groups	Hectare	6500	6500
LF handing over to institutions and industries	Number	25	25
Strategic forest management plan preparation	Districts	75	75
Biological corridor and connectivity development	Number	4	4
<b>Soil Conversation and Watershed Management</b>			
Community based/integrated watershed management	Sub watersheds	110	100
Support to district integrated programs to local bodies	VDCs	110	100
Siwalik watershed management and conservation	Districts	4	4
<b>Genetic Resources and Biodiversity Conversation</b>			
Management plan preparation of protected areas	Number	25	25
Terai landscape conversation program	Locations	4	4
Biodiversity registrations	VDCs	All	All
<b>Herbs and NTFP Development</b>			
Vegetation conservation site management	Number	5	4
MAP processing technology development/ extension	Number	25	15
National herbs development plan preparation/ Implementation	Districts	5	5