

# INTERNATIONAL TROPICAL TIMBER ORGANIZATION

## ITTO

### PROJECT PROPOSAL

TITLE	SUSTAINABLE MANAGEMENT AND UTILISATION OF NON-TIMBER FOREST PRODUCTS IN THE TERAI REGION OF NEPAL
SERIAL NUMBER	PD 267/04 (I)
COMMITTEE	FOREST INDUSTRY
SUBMITTED BY	GOVERNMENT OF NEPAL
ORIGINAL	ENGLISH

#### SUMMARY

The project was developed under ITTC pre-project "Preparation of a Project Proposal for the Promotion of Non-Timber Forest Products in the Terai Region of Nepal". Three Reports, which are prepared in connection with the project proposal, provide detailed information on the current status of NTFPs status of cultivation and management and marketing. The project focuses on poverty reduction through emphasis on the conservation, development and sustainable management of NTFP resources in the Terai region of Nepal. The project aims to set up of local NTFP organizations, management information system, low cost NTFP processing plants and adaptive research.

EXECUTING AGENCY	HMG/N MINISTRY OF FORESTS AND SOIL CONSERVATION (MFSC)	
DURATION	36 MONTHS	
APPROXIMATE STARTING DATE	UPON APPROVAL	
PROPOSED BUDGET AND OTHER FUNDING SOURCES	Source	Contribution in (US\$)
	ITTO	1,042,553
	HMG/N	341,447
	TOTAL	1,384,000



Ministry of Forests and Soil Conservation (MFSC)  
Kathmandu, Nepal

**A PROJECT PROPOSAL ON**  
**SUSTAINABLE MANAGEMENT AND UTILISATION OF**  
**NON-TIMBER FOREST PRODUCTS IN THE**  
**TERAI REGION OF NEPAL**

October 2003

ITTO Project No. PPD 6/99 Rev. 3 (M.F.1)  
Preparation of Project Proposal for the Promotion of Non-Timber Forest Products  
in the Terai Region of Nepal

## **Project Background**

The rich biodiversity of Nepal offers a wide range of Non-Timber Forest Products (NTFPs), including those, which are derived from Medicinal and Aromatic Plants (MAPs). Rural people have long been involved in the conservation, collection and sale of products derived from NTFP species. This has significantly contributed to rural livelihoods. Many of these NTFPs are being exported every year to India and overseas. The annual royalty collected by District Forest Offices ranges from NRs. 16.6 to 21.5 million (US\$215,584–279,220) during 1999/2000 and 2001/02 (DOF, 2002). The commercial extraction of NTFPs and other useful plants is increasing every year and has caused the depletion of the country's wild resources. Some species are already at the verge of extinction.

Realizing the huge potential and the need for sustainable management of NTFPs, the Ministry of Forests and Soil Conservation (MFSC) initiated this study to prepare a detailed project proposal for the promotion of Non-Timber Forest Products (NTFPs) in the Terai region of Nepal. Accordingly, the present project proposal was prepared based on the three thematic reports, namely (i) **Current Status of Marketing of NTFPs** (ii) **Status on Cultivation and Management of NTFPs;** and (iii) **Quantitative Resource Assessment of NTFPs** in the Terai Region of Nepal. International Tropical Timber Organization (ITTO) had funded the study and MFSC had assigned the work to Center for Economic Development and Administration (CEDA), Tribhuvan University.

The present project proposal addresses various issues mainly related to the tropical NTFPs of Nepal. It includes detailed project plan and implementation strategies for the sustainable development and management of NTFPs. If implemented, these strategies are expected to contribute to achieving the goals pertaining to forests resource in the Tenth Plan.

## Acknowledgement

The NTFPs are the important source of government revenue and their contribution to the rural livelihoods is quite significant. A large number of people in the rural areas have been generating off- farm employment opportunities through the collection and sale of NTFPs. I would like to express my gratitude to MFSC for providing us the opportunity to carry out the research and study in such an important topic. In this connection, I would like to thank the Secretary of MFSC, Mr. Chandi Prasad Shrestha and Chief of FACD, Dr. Damodar Prasad Parajuli for their cooperation and support.

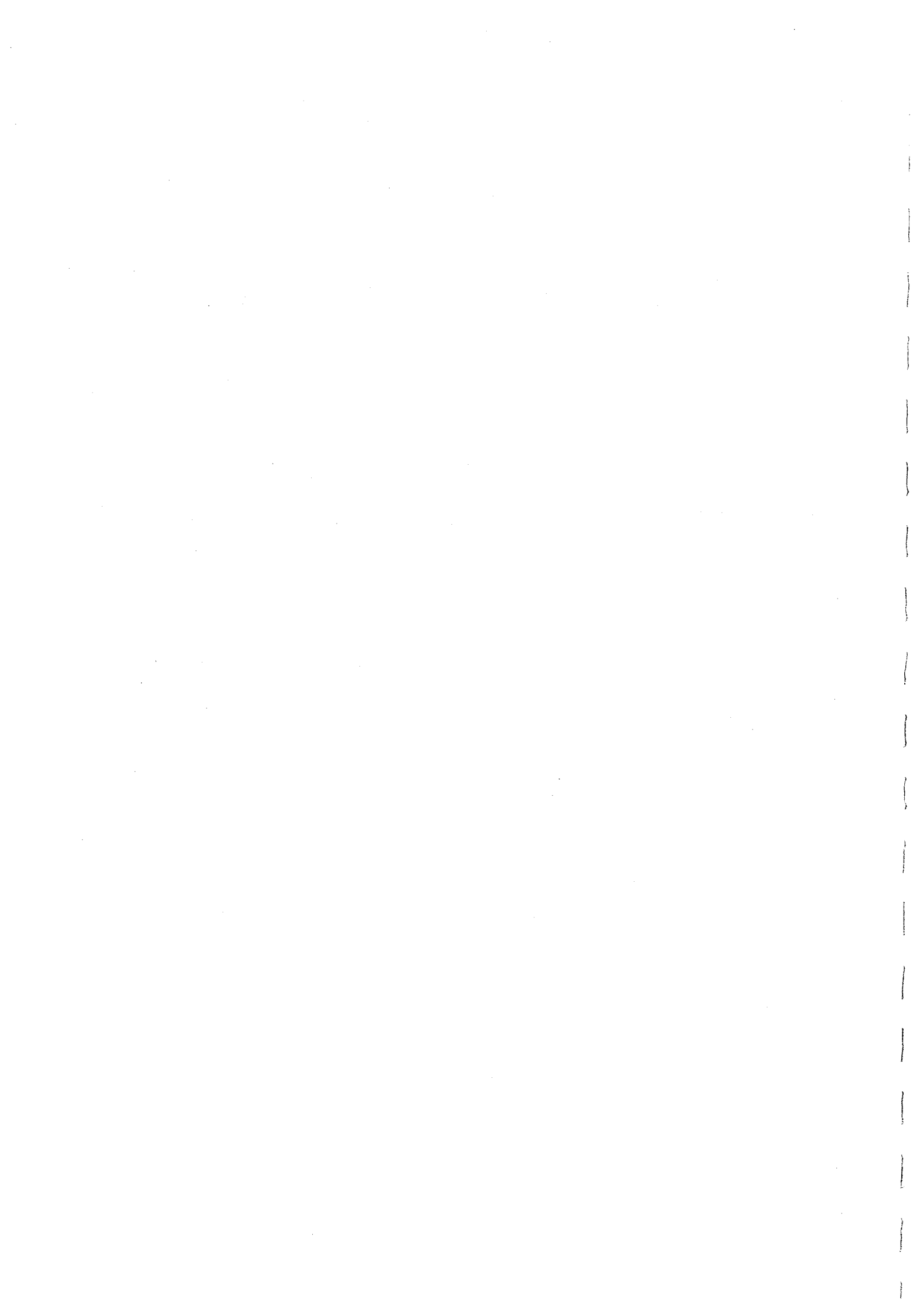
This report is the outcome of the hard work of many experts who were involved in field survey, data analysis and writing the reports. Altogether three thematic reports, a status report and the end document- a Project Proposal for future implementation was prepared.

Dr. Nirmal Kumar Bhattarai prepared the report on the Quantitative Resource Assessment. Dr. Brigu Rishi Duwadi produced the preliminary draft on Current Status of Cultivation and Management of NTFPs and the invaluable inputs of Dr. Annapurna Nanda Das and Dr. Krishna Chandra Paudyal were instrumental in finalising the report. Mr. Ram Hari Subedi did the preliminary draft on Current Status of Marketing of NTFPs and final draft and final report was prepared with the combined efforts of Sagendra Tiwari and Vijay Kunwar. The Current Status of NTFPs was solely the contribution of Dr. Bharat Kumar Pokharel. Man Mohan Dhoj Joshi prepared the preliminary draft of the Project Proposal and the joint efforts of PSC members; project team leader and the coordinator of the study did finalization of the proposal. I would like to extend my sincere thanks to all of them.

The core members of the study team and other foresters and botanists, who worked as associates namely, Kuber Junj Malla, Suman Sigdel, Omkar Joshi, Ripu Kunwar, Mohan Kafle and Ram Kumar Deo carried out the field survey. Kishore K.C, Suman Sigdel and Omkar Joshi did the arduous job of data analysis. Ripu Kunwar worked out for systematizing and analyzing the information collected from quadrat sampling carried in Sunsari, Bara and Banke districts. He also visited numerous institutions concerned with NTFPs to collect valuable information, which were used in the three thematic reports. Dr. Bhuvan Bajra Bajracharya did the final editing and Dr. Pushpa Shrestha contributed in the literature review. Thanks are due to all of them. Subarna Shrestha and Nilu Shrestha did the formatting of the reports at various stages. Last but not the least, Kishore K.C. the team leader of the study deserves special thanks for his constancy to purpose and the coordinator Vijay Kunwar for providing backstopping support to the team during the entire study period.

The PSC provided technical inputs to the study through various meetings and was quite instrumental in bringing out the reports in this form. In this connection, I would like to thank Dr. Damodar Prasad Parajuli, Chairman of the PSC, Harihar Sigdel and Lokendra Purush Dhakal, Member Secretaries (in two different time phases), Dr. Annapurna Nanda Das, Gopal Shrestha, Rajendra Kafle, Din Dayal Bhattarai, Prem Karki, Purushottam Joshi and Ananda Bhandadri for their hard work and constructive comments

Abullaish  
Executive Director



## Table of Contents

Project Background	
Acknowledgement	
Acronyms	
	Page
Part I Context	2
1.1 Origin	2
1.2 Sectoral Policies	2
1.3 Programmes and Operational Activities	3
Part II The Project	9
2.1 Project Objectives	9
2.2 Justification	9
2.3 Output Process	17
2.4 Output by Activity	20
2.5 Logical framework-worksheets	21
2.6 Work Plan	23
2.7 Overall Project Budget	25
Part III Operational Arrangement	28
3.1 Management Structure-	28
3.2 Implementation Structure	29
3.3 Monitoring and Evaluation	30
3.4 Progress Reports	31
3.5 Future Operation and Maintenance	31
Part IV The Tropical Timber Framework	32
4.1 Compliance with ITTA 1994 Objectives	32
4.2 Compliance with ITTO 1990 Action Plan	32
Annex I: Map	36
Annex II: Problem Tree	37
Annex III: Budget	38

## Acronyms

APP	:	Agricultural Prospective Plan
CAMP	:	Conservation Assessment and Management Planning
CEDA	:	Centre for Economic Development and Administration
CBO	:	Community Based Organization
DAG	:	Disadvantaged Group
DFO	:	District Forest Office
DFRS	:	Department of Forest Research and Survey
DOF	:	Department of Forests
DPR	:	Department of Plant Resources
FACD	:	Foreign Aid Coordination Division
FUGs	:	Forest Users' Groups
GO	:	Governmental Organization
HMG/N	:	His Majesty's Government of Nepal
HPPCL	:	Herbs Production and Processing Company Limited
IDRC	:	International Development Research Centre
INGO	:	International Non-governmental Organization
ITTC	:	International Tropical Timber Council
ITTO	:	International Tropical Timber Organization
IUCN	:	International Union for Conservation of Nature
MAPs	:	Medicinal and Aromatic Plants
MAPPA	:	Medicinal and Aromatic Plant Programme in Asia
MFSC	:	Ministry of Forests and Soil Conservation
MIS	:	Management Information System
MPFS	:	Master Plan for the Forestry Sector
NGO	:	Non- Governmental Organization
NTFPs	:	Non-Timber Forest Products
PPR	:	Project Progress Report
RONAST	:	Royal Nepal Academy of Science and Technology



## Part I

### Context

#### 1.1 Origin

The Project entitled "Preparation of Project Proposal Document for the Promotion of Non-Timber Forest Products in the Terai Region of Nepal" was initiated by the Ministry of Forests and Soil Conservation (MFSC) with the financial assistance from ITTO. This proposal is the end document of the three thematic reports, namely (i) Current Status of Marketing of Non-Timber Forest Products in the Terai Region of Nepal (ii) Current Status on Non Timber Forest Products Cultivation and Management in Nepal and (iii) Quantitative Resource Assessment of Non-Timber Forest Products in the Terai Region of Nepal. The three reports have highlighted the major problems, issues and concerns regarding NTFP promotion in the Terai region of Nepal. This proposal is, therefore, prepared to address the main issues and problems highlighted in the study reports.

#### 1.2 Sectoral Policies

The constitution of the Kingdom of Nepal -1991 has formally recognized the need to preserve the country's environment and use its natural resources wisely. The long-term objectives of the Master Plan for the Forestry Sector (MPFS) 1988 are to direct and guide long term planning, management and utilization of the forest resources including NTFPs. The objectives that are related to the forestry sector are given below:

- To meet the people's basic needs for fuel wood, fodder and other forest products on a sustainable basis and to contribute to food production through an effective interaction between forestry and farming practices.
- To protect the land against degradation caused by soil erosion, floods, landslides, desertification and other effects of ecological imbalance.
- To conserve the ecosystem and genetic resources.
- To contribute to the growth of local and national economies by managing the forest resources and the forest based industries, and creating opportunities for income generation and employment.

The formulation of Forest Act of 1993 and Forest Regulations 1995 has provisions for community forests, leasehold forests, government managed forests, protected forests, religious forests and private forests. Similarly, under sectoral conservation strategies, HMG



has recently approved the Nepal Biodiversity Strategy (2002). This strategy has placed a sub-heading on NTFPs. The sector has warranted for the necessity of a baseline survey and adequate information on different aspects of NTFPs. It has also emphasized on mapping of habitat locations that is important to ascertain the sustainable supply of high value NTFPs.

The Agricultural Prospective Plan (APP) also has identified four top forestry priorities: community forestry in hills and mountains, commercial management in the Terai, private and leasehold forestry and training, research and development (APP, 1995).

All the five-year plans of the country since the First Five-Year Plan (1956-61) have accorded high priority to the Agriculture and Forestry sectors in Nepal. Accordingly, the Tenth Five Year Plan also has placed top priority to the Forestry Sector. The main objective of the Tenth Five Year Plan (2003-08) is to reduce poverty by proper mobilization of resources through the participation of the government, local agencies and private sector and to extend economic development and employment opportunities to women, poor and disadvantaged Groups (DAGs). The Sectoral policies are guided by Tenth Five Year Plan. Sustainable management of natural resources and bio-diversity is the first priority programme among nine priority programmes set by the Tenth Plan. The Tenth Five Year Plan has adopted the following policies and working strategies with regards to NTFP:

- Cultivation of high value NTFPs will be encouraged for the activities to be conducted under International Emission Trade.
- NTFP cultivation, production, processing and marketing will be emphasized to create employment, income generation and NTFP export promotion particularly in hills and mountain regions. Such national programmes will be implemented with the cooperation of the institutions related to industry, commerce, forest, health and private sector.
- Cultivating medicinal and aromatic plants, among others, will be encouraged in the leasehold forestry area, which will be assigned in the shrub and brushwood forests. Priority will be accorded to plant research and development.

### **1.3 Programmes and Operational Activities**

The MPFS has set the framework for the development of the Forestry Sector in Nepal. In the Plan, there are six main programmes with six supportive programmes with a feature of adopting an integrated and programme-oriented approach. Included in the main programmes are programmes on Medicinal and Aromatic Plants (MAPs) and minor forest-based industries development. The programmes aim at increasing MAPs and other minor forest products and facilitation of their conversion into useful commodities for domestic use and exports. HMG/N intends to develop NTFPs by establishing herbal centers, farmers' cooperatives for cultivation and regional facilities for processing and marketing. Likewise conservation of

ecosystem and genetic resources programme under Master Plan for the Forestry Sector (MPFS) aims to protect areas for their ecosystem and genetic resource values and to promote *in-situ* an *ex-situ* conservation of plant and animal genetic resources.

HMG/N has recently constituted a 13-member *NTFP Coordination Board* under the chairmanship of the Minister of Forests and Soil Conservation for formulating the national policy, strategy analysis and improvement for the promotion of NTFP sector in Nepal.

The MFSC, HMG/N, in collaboration with Medicinal and Aromatic Plant Programme in Asia (MAPPA) of International Development Research Centre (IDRC) has organized the ever first Conservation Assessment and Management Planning (CAMP) workshop at Pokhara, Nepal in 2001. Forty-eight medicinal plant experts representing 11 countries including 30 participants from Nepal and eight from IUCN's Medicinal Plant Specialist Group (MPSG) attended the workshop. Fifty-one medicinal plant species of Nepal belonging to 41 genera and 28 families were assessed using the latest version (Version 3.1) of the IUCN threat categories. Developing human resources and improving organizational capabilities for future efforts were the most noted achievements (Tandon *et al.*, 2001).

HMG/Ministry of Forests and Soil Conservation has been regularly organizing various NTFPs/MAPs oriented seminars, conferences, workshops, etc. in collaboration with other concerned organizations and has derived valuable recommendations for the overall development, conservation and management of the NTFP resources in the wild. These recommendations, many of which are mostly manageable, will be considered in course of the implementation phase of the proposed project.

Department of Forests (DOF) under the MFSC has the central, district and range level organisational units, which mainly involves in conservation and management of forest resources of Nepal and to meet the demand of forest products need of the country. Non-timber forest products are considered as an integral part of the Department of Forest's responsibilities. The District Forest Officer executes a forest management plan in for each particular district which involves protection, management and utilization of forest products including NTFPs. Besides execution of the management plan, DFO is also responsible for issuing permits for collection of NTFPs, collecting royalties, and inspecting and recording the forest products being transported.. District Forest Offices also allocate land for community forests, leasehold forests, and manage and organize Community Forest Users groups. The users group is responsible to maintain NTFPs in their community forests.

Department of Plant Resources (DPR) is responsible for conducting exploration, preservation of the herbarium specimens, publication of the flora, conservation of endangered, threatened, rare and endemic plant species in different phytogeographic belts of the country, assist the people for scientific research on processing, production and utilization of various plant

resources. DPR extends its conservation and extension activities through botanical gardens, conservatories and nurseries in seven District Plant Resources Offices located at different climatic zones of Nepal. The Department has conserved 1500 species and 100 medicinal and aromatic plants in its Botanical Conservatories.

Department of Forest Research and Survey (DFRS) under the MFSC has responsibility to carry out research and survey works in all aspects of forestry throughout the country. The department is mandated to fulfil two basic objectives, which are: (i) to provide research information required for forest management and (ii) to update information on forest resources. The DFRS is involved in identifying and developing the technology related to cultivation, conservation and management of tree species. The department has carried out various research activities on various aspects of bamboo and rattans. Beside that it also conducts agroforestry research. Its other strength is the capacity to conduct forest resource inventory.

Department of National Parks and Wildlife Conservation (DNPWC) is responsible for protecting flora and fauna and to maintain biodiversity within Nepal through the network of protected area, which covers more than 16% of Nepal's land area. The department's role in the NTFP sector is the *in-situ* conservation of NTFP species in the Terai region of Nepal.

Herbs Production and Processing Co. Ltd. (HPPCL) is a public sector company under the Ministry of Forests and Soil Conservation and conducts commercial farming of herbs. It has got 300 ha land for farming, particularly in Terai and Inner-Terai and also has its own processing plants. At present, the HPPCL is engaged in commercial cultivation of some exotic species of aromatic plants such as palmarosa (*Cymbopogon martini*), citronella (*Cymbopogon winterianus*), and lemon grass (*Cymbopogon flexuosus*), and a few indigenous species such as tagetes (*Tagetes minuta*). Domestication of *Nardostachys jatamansi*, *Valeriana wallichii*, and *Swertia chirayita* is being considered. Jatamansi oil and *Zanthoxylum* oil are also commercially produced. Besides that, it promotes local participation in sustainable collection, cultivation, and production, processing and marketing of MAPs.

HMG/N has been implementing community forestry programme, which encourages Forest User Groups (FUGs) to cultivate, produce and process NTFPs in their community forests and raise the income level of community members. FUGs have adopted conservation strategies and management such as restriction on open grazing system, establishment of NTFP nurseries and cultivation of NTFPs. However, they lack knowledge and know-how on proper techniques for the cultivation, management and promotion of high-value NTFPs.

Likewise, HMG/N has implemented Leasehold Forestry Programme (LFP), where NTFP cultivation has also been promoted. Despite the lack of processing facilities, both *in-situ* and *ex-situ* conservation, management of some NTFPs under leasehold forests is becoming an emerging enterprise. However, the entrepreneurs lack necessary support on technical

knowledge/skill on cultivation and management and harvesting and processing techniques. Furthermore, cultivation of NTFPs in private and community land is practiced in a traditional way. The DPR under MFSC has also established nurseries to support local communities and private growers by providing seed and seedlings of various high value NTFPs.

Recently institution like Mahendra Sanskrit University in the Dang District of Nepal in collaboration with Royal Nepal Academy of Science and Technology (RONAST) is undertaking cultivation and management of some species of NTFPs. Likewise, Dabur Nepal and the Mahendra Sanskrit University have started research and development on medicinal and aromatic plants. Dabur Nepal, multi-product enterprise for Herbal (Ayurvedic) preparation has started to provide improved technologies for sustainable cultivation of MAPs to farmers with a buy back guarantee.

## Part II

### The Project

#### 2.1 Project Objectives

##### 1.1 Development objective

The long-term development objective of the project is to reduce poverty of the people through effective conservation, development, sustainable management and utilization of high value NTFP resources in the Terai Region of Nepal.

The specific objectives of the project are:

- i. To develop appropriate cultivation and management techniques and promote adoption of high value NTFPs.
- ii. To promote *in-situ* and *ex-situ* conservation and development of NTFPs.
- iii. To promote value addition through processing of NTFPs.
- iv. To initiate strengthening of the coordination and linkages among various stakeholders through networking for the establishment of NTFP organizations at various levels.
- v. To improve marketing information system of NTFPs.

#### 2.2 Justification

Despite the big advantages and potentials of NTFPs, HMG/N has not been able to harness their full benefits for the welfare of the people. The major constraints being (i) low level of inputs from the government for the management of NTFPs, (ii) lack of proper coordination amongst stakeholders (iii) insufficient knowledge on NTFPs, biophysical characteristics, agro-based technologies, value-addition options, market characteristics, threat status and conservation needs and (iv) lack of proper market information system.

Almost every form of harvesting has an impact on the structure and function of plant populations, although the harvesting of some plant parts (e.g. fruits, seeds, latex) is less damaging than others (e.g. bark, stems or roots). There are ways to exploit the non-timber resources produced by plant populations with the minimum ecological damage. Hence, sustainable management system that includes appropriate harvesting techniques needs to be promoted.

The basic cause of low involvement of rural farmers in the NTFP is the lack of confidence in social and economic benefits from NTFP farming practice. This is also partly due to lack of information on the socio-economics of the valuable NTFP crops. Some progressive farmers and FUG members in different localities of the Terai have initiated the cultivation of certain NTFPs including some commercially viable MAPs in private and community land. It is an indication of a progressive attitude. But, majority of the farmers are facing shortage of seeds, seedlings and other planting materials, financial assistance, better production and value-addition techniques, training and capacity building facilities, and assured market.

The three thematic reports prepared as an outcome of the pre-project study have highlighted the major problems and issues that need to be addressed for the promotion of NTFPs. These are as follows:

*At policy and program level*

- Identify policy and regulatory constraints, and initiate action for their resolution through consultation
- Develop a common vision among stakeholders for the promotion of NTFP sector in Nepal
- Establish a regulatory framework supporting the principle that NTFP based enterprises could be established in public-private-community partnership
- Strengthen established structure responsible for policy formulation and ensure inter and intra-sectoral coordination and public participation in policy making on NTFPs and provide them sufficient autonomy to deal with NTFP related matters
- Ensure adequate investments and budget for the promotion of NTFP

*At the all Terai and district levels*

- Like at the centre, establish at the all Terai, and district and local level mechanisms for the co-ordination of NTFP sectoral development that bring synergy and avoid duplication
- Establish NTFP networks, associations, interest groups and other representative structures which will be able to bring field based experience and knowledge in the development of NTFP sector
- Develop and implement guidelines for cultivation technology, sustainable management, harvesting techniques, quality production and trade
- Increase knowledge and skills of government and non-government forestry sector agencies in technical information and monitoring, and ensure that they are properly utilized



### *At the community level*

- Train agencies and community members in the use of appropriate methods and technology to cultivate, manage and harvesting of important species of NTFPs.
- Develop methodology to integrate indigenous and scientific knowledge concerning conservation, management, and utilization.
- Ensure that poorest members of the communities participate in, and benefit from any type of intervention related to NTFPs.
- Encourage community and private sector to develop NTFP based enterprise
- Develop training materials adapted to local conditions and building on both local and formal knowledge and practice.

### *At the Farmers or private growers' level*

- Raise the awareness amongst farmers regarding the economic benefits of the cultivation of NTFPs.
- Inculcate the farmers with the knowledge of appropriate methods and technology to cultivate, manage and harvesting of important species of NTFPs.
- Encourage farmers to establish NTFP nursery.
- Encourage individual farmers to establish NTFP based enterprises.

It is, therefore, high time that sufficient amount of efforts be put to conserve, manage and develop these resources so that the benefits will reach the poorest section of the society.

#### *2.2.1 Problems to be addressed*

The problems are presented in the form of problem tree in Annex 2. During the study, following problems were identified which need to be addressed for the successful implementation of the project.

#### *Policy*

At present, the management of NTFPs is under the jurisdiction of the Department of Forests (DoF). However, in many instances, management is limited to providing permission for the collection of NTFPs. The existing policy, rules and regulations on NTFPs are oriented towards revenue earning rather than the management of NTFPs resources on sustained basis.

### *Research and Development*

The inadequate research and development for the cultivation, conservation, management and value-addition/processing units have hindered the involvement of individual farmers, FUGs, CBOs and other stakeholders in NTFP/MAP cultivation and marketing. The lack of appropriate policy instruments and good governance has hampered the development of this sector.

### *Open Access to NTFP Resources*

Wild NTFP resources have traditionally been considered a common property resource. Hence their exploitation have always been guided by 'the more, the better' principle, overlooking the need to conserve them for the future, as well. The practice of systematic harvesting is lacking while the act of destructive harvesting persists.

### *Incentives to NTFP Producers*

There is a lack of incentives and facilities to NTFP producers like provisions of soft loans, buy back guarantees, market information, enterprise development, skill development, training on value added processing and product development. Low involvement of local communities prevails in the production of NTFP resources due to absence of such incentives. Provisions of providing technical know-how will be incentives to the NTFP producers.

### *Quantitative Resource Assessment of NTFPs*

Efforts to quantitatively assess the NTFP resources in the wild have not been initiated yet. Review and consolidation of available information is lacking as well. Information on resource availability is vital for effective conservation and management planning. Similarly, lack of database as regards to collection, cultivation and marketing of NTFPs has greatly minimized the huge potential of this sector.

### *Scientific Knowledge regarding NTFPs*

Adequate scientific knowledge regarding the cultivation and domestication of most NTFPs is lacking. Identification of NTFP species has been a problem particularly among Custom Officials and Quarantine personnel. This has resulted into the inadequate record keeping system.

### *Coordination and Linkages amongst Stakeholders*

Although there are 16 institutions working in Terai in the field of there is lack of information sharing among institutions collectors and buyers and institutional coordination and linkages among such institutions and individuals. Increased institutional coordination and linkages is expected to benefit this sector greatly.

### *Regular Monitoring Mechanism*

Regular monitoring mechanism with regards to NTFP programme including controlled collection, and processing at various levels is quite weak.

### *Unpredictable Market*

NTFP markets are unpredictable. Those involving in the NTFP business cannot rely totally on it. This has resulted in the inefficient management of NTFP resources.

### **2.2.2 Characteristics of the proposed study region**

Nepal Terai is a narrow plain extending from east to west and bordered by Churia hills (Siwalik range) to the north and India in the south. It is located between 26° 22' - 29° 10' N latitude and 80° 00' - 88° 12' E longitudes. Latitudinally, the Terai falls in subtropical region. However, the Terai belt is classified as tropical region on the basis of climate (precipitation, temperature, physiography, floristic characteristics, species composition, and mixture). The Terai has been divided into sub-zones: Siwaliks, the Bhabar Terai and the Terai proper (plain). Administratively, the area is spread in 24 (including inner Terai) districts. The Bhabar Terai occurs on the southern edge of Siwaliks where gently sloping, deep alluvial gravel from the erosion of the northern hills over-lie the Gangetic plain deposits. During the dry season, streams from the hills pass underground in the boulder riverbeds to re-emerge in the Terai proper. These rivers cause high erosion during the monsoon.

The climate of the region is subtropical/tropical with summer monsoon and with eight months dry period from October to May. The temperature is maximum 45° C in summer and minimum 2° C in the winter and the mean annual temperature of 20° C. In most of these areas precipitation occurs during June to September. The Terai region can broadly be divided into three sub regions depending on the rainfall pattern. Eastern sub region receives the annual precipitation above 2000 mm, the central sub region receives the precipitation between 1000 mm to 2000 mm., and the western sub region gets less than 1000 mm of precipitation. Likewise, the population pressure is more in the eastern sub region than in the west.

The soils of Terai can be divided into two distinct groups, the fertile clay loams and the Bhabar soils. The clay loams are found south of the remaining Sal forest, and agriculture is the predominant land use system. The Bhabar soil is composed of sand and gravel, which over lay the clay loams.

The total area of the Terai belt is 39,960 sq. km. It has about 546,000 ha. of forest which is about 14% of the total area. In this region, there are two national parks and three wild life reserves covering 2,879 square kms of land. The average altitude of the Terai is 100 meter above sea level (masl).

Mixed broad-leaved forests and other vegetation of the region are as follows:

- *Terminalia* forest occurs in this eco-zone in areas with heavy soils. They occur along narrow river valleys lying between 1000 m and along the foothills of the Siwaliks.
- Tropical deciduous riverine forest is dominated by *Bombax ceiba* with *Holoptelea integrifolia*, *Schleichera trijuga*, *Ehretia laevis*, *Trewia nudiflora* and *Garuga pinnata*. This forest type develops on river terraces.
- Riverine Khair -sissoo forest (*Acacia catechu* - *Dalbergia sissoo*) occurs along watercourses in the terai and Dun valleys at the altitudinal range of 70 m to 500 m.
- Grasslands occur in lower tropical eco-zone (below 300m). The grass species are *Typha elephantica*, *Phragmitis karka*, *Saccharum spontaneum*, *Saccharum arundinaceum*, *Imperata cylindrica*, *Narenga porphyrocoma*, *Themeda arundinaceae* etc.

Edwards (1996) has identified 17 NTFPs spcs. in the low altitude region. They are *Emblica officinalis*, *Terminalia bellirica*, *Acorus calamus*, *Terminalia (Terai) chebula*, *Asparagus racemosus*, *Rubia manjith*, *Cinamomum tamala*, *Entada phaseoloides*, *Piper longum*, *Sapindous mukorossi*, *Elaeocarpus sphaericus*, *Rauwolfia serpentina*, *Acacia rugata*, *Cinamomum glaucescens*, *Cinamomum tamala*, *Zanthoxylum armatum* and *Dioscorea deltoidea*.

#### *Reasons for selecting the Terai Region and the study districts*

As stated above the Terai occupies 14% of the total land area while it is the homeland for about 48.4 % country's population. The cultivated land area is under high pressure to accommodate huge population. Due to the lack of alternative means of livelihood, rural people largely depend on the forest resources. There is a tremendous pressure on the forests of the Terai region, as a result there is a sharp decline in forest resources including NTFPs of the region.

In the above context, programs relating to NTFP resource management are deemed necessary to improve the livelihood of the people residing in the Terai. Current proposed project is designed mainly to concentrate in six Terai districts of the eastern Nepal for the sustainable management of NTFPs. These districts are Jhapa, Morang, Sunsari, Udaypur, Saptari and Siraha. At present, there are not any significant donor agencies support for the development of NTFPS even though they have the high potential. The Map of the selected districts is given in Annex 1.

The discussion of the core problem, its underlying cause and effect relationship is presented in the form of Problem Tree and is depicted in Annex 2.

### ***2.2.3 Intended outputs after project completion***

Intended outputs are as follows:

- i. Improved conservation and management of NTFP species of the existing natural forests of six project districts.
- ii. NTFP plant resources cultivated, managed and harvested scientifically on a sustainable basis in private farms, community forest areas and leasehold forest areas.
- iii. Increased cultivation of agro-based NTFPs/MAPs e.g., mint, matricaria and other commercially viable NTFPs.
- iv. Increased income levels of women, poor, marginal and disadvantaged group (DAG) through improved NTFPs cultivation and management.
- v. Private NTFP producers' organizations and cooperatives established.
- vi. Degraded forest rehabilitated with suitable NTFP and aromatic/medicinal plants in six districts.
- vii. Methodology developed for sustainable harvesting of NTFPs.
- viii. Networking system developed and implemented through proper interactions among concerned NTFPs stakeholders at all levels during the project period as a pilot strategy.
- ix. Improved livelihood of the local communities through establishment of processing plants.
- x. Stakeholders' capacity built through training and demonstrations.

#### **2.2.4 Project Strategy**

The major strategies of the project include:

##### *Participatory approach*

The project will adopt a participatory approach for the implementation of NTFP programme involving stakeholders in all aspects of decision-making including planning, implementation, monitoring, evaluation and benefit sharing. At the same time resources will be chanelized to NGOs, CBOs and GOs at local level in order to get local level people's participation.

##### *Partnership building*

The project will stress on working with other stakeholders such as NGOs, CBOs, and GOs for commercial production of NTFP by involving them in various processes, delivery of quality and critical services to farmers (FUGs, leasehold forestry groups) to ensure institutional capacity and post project sustainability.

##### *Poverty reduction*

The project will assist low-income people and women by promoting NTFP programme on collection, cultivation and harvesting which will help reduce poverty. While forming the FUGs emphasis will be given to women and people below poverty line in the membership. Moreover, project will benefit all the sections of the society.

##### *Capacity building*

The project will help develop capability of growers, CBOs, NTFP producers and inculcate adequate skills among the various actors for the sustainable management of NTFPs.

#### **2.2.5 Target beneficiaries**

The beneficiaries of the project will be small farmers, low-income people, women, CBO and FUG members of the project districts. Furthermore, research and training capabilities of the staff, traders and entrepreneurs will be enhanced.

### **2.2.6 Economic aspects**

More than 60% of the agricultural production of the country takes place in the 4 Terai zone, which occupies about 14% of the total land area of the country and supports almost 48.4% of the population of the country (CBS 2002). The project activities undertaken with respect to cultivation and management of NTFPs will generate direct employment in the six project districts. The activities are intended to conduct applied research, training and demonstration in NTFP management. Therefore, intended project outputs will decrease dependency on the forests, increase income sources and help reduce poverty.

### **2.2.7 Environmental aspects**

The project is intended to provide propagation techniques for re-vegetating the barren lands and restoring the degraded lands by NTFP plant resources. The project will provide environment friendly techniques, which will lead to the improvement of environment that will not have negative impacts on it whatsoever. The pressure on the forests will be reduced by better economic opportunities through NTFP management system.

### **2.2.8 Social aspects**

The implementation of the project will largely benefit the low-income households of the project areas, who are involved in the NTFP business, i.e., collection, cultivation and trade of NTFPs. Specifically, the project will focus on the most disadvantaged groups including women.

### **2.2.9 Risks and Assumptions**

The project is designed on the assumption that there will be growing market for NTFPs. The security situation of the country will improve and will not pose any threat to NTFPs collectors, cultivators, processors and the implementers. It is also expected that the policy pertaining to NTFPs will be congenial to all the stakeholders.

## **2.3 Output Process**

### **2.3.1 Specific objective 1**

To develop appropriate management techniques for high value NTFPs and to promote their adoption in private, leasehold and community forestry.

### *Output 1.1 Improved management of NTFPs species in the natural habitat*

Based on the resource assessment and prescribed management practices, enrichment plantation in the critical areas with suitable NTFP resources will initially be implemented in six districts and the results will be replicated to other similar districts of the Terai.

### *Output 1.2 In selected community forests, leasehold forests and private forest/farms, suitable NTFPs cultivated and managed*

This output includes the cultivation and development of suitable high value NTFPs through the skill development of collectors, households and private farmers and NTFP cooperatives by short-term training.

### *Output 1.3 Low cost NTFP processing plants strengthening and establishment*

This output involves setting up of NTFP processing plants based on the feasibility study to process the community raised NTFP products thus supporting the local communities.

### *Output 1.4 NTFP resource assessment accomplished*

This output encompasses taking of inventory of NTFP resources in detailed in the project districts. It will identify the resources available in the district, quantify by the area including map and prescribe management practices.

## *2.3.2 Specific objective 2*

To promote *in-situ* and *ex-situ* conservation and sustainable development of NTFPs in the Terai region.

### *Output 2.1 Increased consciousness among the people towards conservation. Establishment of germplasm and seed production units for high value NTFPs in natural and manmade forests.*

The output involves preparation of NTFP extension leaflets. Meetings, seminars and workshops.

### *Output 2.2 Increased initiatives for conservation works*



The output involves formation of conservation groups and establishment of permanent plots in natural and manmade forests with the local people's participation and establishment of arboreta for NTFPs in the Terai region.

*Output 2.3 Establishment of germplasm centers and seed production areas*

The output involves identification and establishment of seed production areas for high value NTFPs and establishment of germplasm centers.

The output includes increased consciousness among the local people, CFUGs towards importance of NTFPs conservation and the increased availability of quality seed/seedlings of high value commercially important NTFP species.

*2.3.3 Specific objective 3*

To initiate strengthening of the coordination and linkages among various actors through networking for the establishment of various organizations at all levels.

*Output 3.1 Networking strategy amongst various stakeholders at all levels developed*

The output includes the mechanisms of networking amongst GOs, INGOs, NGOs, CBOs, FUGs and other groups or individuals. This outputs involves the establishment of private NTFP producer's organization and cooperatives and strengthen coordination among stakeholders.

*2.3.3 Specific Objective 3*

To improve Marketing Information System of NTFPs

*Output 3.1 Establishment of Center for Terai Marketing Information System.*

The output includes the establishment of marketing information system (MIS) for NTFP database of national, leasehold, community forests and private owners process monitoring and NTF P marketing information.

*2.3.4 Specific Objective 4*

To sensitize towards policy reforms for the development of NTFPs

*Output 4.1* Policy reform sensitization programs like workshops, seminars, observation tours, interactions and advocacy among stakeholders at all levels.

## 2.4 Output by Activity

Specific Objectives	Outputs	Activities
1. To develop appropriate and sustainable management techniques for high value NTFPs and to promote their adoption in private, leasehold and community forestry.	1.1 Improved management of NTFPs species in their natural habitats and manmade forests	<ol style="list-style-type: none"> <li>1. Preparation of operational plans for NTFP management</li> <li>2. Identification and Prioritization of critical areas for NTFP enrichment plantation</li> <li>3. Site selection</li> <li>4. Enrichment planting</li> <li>5. Promotion of organic farming</li> <li>6. Study to identify sustainable harvesting.</li> </ol>
	1.2. Increased cultivation of NTFP species in community, leasehold, private forests and farms	<ol style="list-style-type: none"> <li>1. Identification/selection of critical areas for NTFP plantation</li> <li>2. Nursery establishment</li> <li>3. Assist in developing capabilities of FUGs individuals through training and workshop.</li> <li>4. Provide technical support</li> <li>5. Carry out income generating activities</li> <li>6. Monitoring and follow up</li> </ol>
	1.3. Establishment of low cost NTFP processing plants	<ol style="list-style-type: none"> <li>1. Feasibility study</li> <li>2. Identification of location for NTFP processing plants</li> <li>3. Procurement of equipment</li> <li>4. Establishment of plant</li> <li>5. Processing of NTFPs through cooperatives</li> </ol>
	1.4. NTFP resource assessment	<ol style="list-style-type: none"> <li>1. Resource inventory and Mapping of 6 districts (intensive)</li> <li>2. Preparation of plan</li> </ol>
2. To promote <i>in-situ</i> and <i>ex-situ</i> conservation and sustainable development of NTFPs in the Terai region	2.1 Increased consciousness among the people towards conservation.	<ol style="list-style-type: none"> <li>1. Preparation of NTFP extension leaflets. Meetings, seminars and workshops</li> </ol>
	2.2 Increased initiatives for conservation works	<ol style="list-style-type: none"> <li>1. Establishment of permanent plots in natural and manmade forests with the local people's participation.</li> <li>2. Establishment of arboreta for NTFPs in the Terai region.</li> </ol>
	2.3 Establishment of germplasm centers and seed production areas	<ol style="list-style-type: none"> <li>1. Identification and establishment of seed production areas.</li> <li>2. Establishment of germplasm centers.</li> </ol>
3. To initiate strengthening of the coordination and linkages among various actors through networking for the establishment of various organizations at all levels.	3.1. Local institution building and stakeholders coordination	<ol style="list-style-type: none"> <li>1. Identification/establishment of private NTFP producers organizations/ cooperatives</li> <li>2. Coordination, linkage among stakeholders</li> </ol>
4. To improve Marketing Information System of NTFPs	4.1. Strengthened Marketing Information System in NTFP	<ol style="list-style-type: none"> <li>1. Develop MIS system and MIS Centers</li> <li>2. Procurement of logistic and other facilities for developing MIS</li> </ol>
5. To sensitize towards policy reforms for the development of NTFPs	4.1. Policy reforms relating to NTFP	<ol style="list-style-type: none"> <li>1. Organize dialogues, Workshops and Seminars and lobbying for policy reforms as regards to NTFP</li> </ol>

## 2.5 Logical framework-worksheets

Project Elements	Objectively verifiable indicators	Means of verification	Important assumptions
<b>Development objective:</b> Reduce poverty of the people through effective conservation, development, sustainable management and utilization of high value NTFP resources in the Terai Region of Nepal.	<ul style="list-style-type: none"> <li>Increased income of households involved in NTFP business</li> </ul>	<ul style="list-style-type: none"> <li>Reports on income analysis</li> </ul>	<ul style="list-style-type: none"> <li>Insurgency will stop and project functioning will not be hampered</li> </ul>
<b>Specific Objectives 1</b> To develop appropriate management technique and adopt for the promotion of NTFPs.	<ul style="list-style-type: none"> <li>Appropriate management techniques implemented</li> </ul>	<ul style="list-style-type: none"> <li>Report on National NTFP statistics</li> <li>Management strategy adopted</li> </ul>	<ul style="list-style-type: none"> <li>Agreed upon management technique</li> <li>Appropriate technology developed</li> </ul>
Output 1.1. NTFP Resource Assessment	<ul style="list-style-type: none"> <li>Inventory and assessments of NTFPs in six districts with related maps</li> </ul>	<ul style="list-style-type: none"> <li>NTFP resource inventory reports published</li> </ul>	<ul style="list-style-type: none"> <li>Congenial situation for data collection and inventory</li> </ul>
Output 1.2. Sustainable management of NTFP in the natural habitats	<ul style="list-style-type: none"> <li>Establishment of NTFP nurseries</li> <li>Enrichment planting sites</li> </ul>	<ul style="list-style-type: none"> <li>Management plans with maps of prioritized critical areas</li> <li>Evaluation reports</li> <li>Field verification</li> </ul>	<ul style="list-style-type: none"> <li>Smooth flow of the resources</li> <li>Adequate institutional support</li> </ul>
Output 1.3. NTFP cultivation and management in community, leasehold, and private forests and farms	<ul style="list-style-type: none"> <li>Operational plans with maps of prioritized areas</li> </ul>	<ul style="list-style-type: none"> <li>Reports on operation plans</li> <li>Field verification</li> </ul>	<ul style="list-style-type: none"> <li>Formulation of policy and legislation</li> </ul>
Output 1.4. Establishment of NTFP processing plant	<ul style="list-style-type: none"> <li>Establishment of NTFP processing plants</li> </ul>	<ul style="list-style-type: none"> <li>Feasibility study report</li> </ul>	<ul style="list-style-type: none"> <li>Available minimum local capability</li> </ul>
<b>Specific Objectives 2</b> To promote <i>in-situ</i> and <i>ex-situ</i> conservation and sustainable development of NTFPs in the Terai region.	Increased <i>in-situ</i> and <i>ex-situ</i> conservation activities	<ul style="list-style-type: none"> <li>Reports</li> </ul>	<ul style="list-style-type: none"> <li>Extension works effectively carried out.</li> </ul>
Outputs 2.1 Increased consciousness among the people towards conservation.	Formation of Conservation groups	<ul style="list-style-type: none"> <li>Annual Reports</li> </ul>	<ul style="list-style-type: none"> <li>Extension works effectively carried out.</li> </ul>
Outputs 2.2 Increased initiatives for conservation works	Establishment of arboreta and permanent plots	<ul style="list-style-type: none"> <li>Annual Reports</li> </ul>	<ul style="list-style-type: none"> <li>Sufficient technical manpower is available.</li> </ul>
Outputs 2.3 Establishment of germplasm centers and seed production areas	Establishment of seed production areas	Annual Reports	<ul style="list-style-type: none"> <li>Sufficient technical manpower is available.</li> </ul>
<b>Specific Objectives 3</b> To strengthen coordination and linkage among stakeholders through networking	<ul style="list-style-type: none"> <li>Visible changes in the coordination and linkages amongst stakeholders</li> </ul>	<ul style="list-style-type: none"> <li>Network formation</li> <li>Reports</li> </ul>	<ul style="list-style-type: none"> <li>Capability of manpower and institutions is adequate</li> </ul>

<b>Output 3.1</b> Local institutional building and stakeholder coordination	<ul style="list-style-type: none"> <li>• Number of NTFP Producers' organizations/cooperatives in the districts</li> <li>• Number of Coordination meetings conducted</li> </ul>	<ul style="list-style-type: none"> <li>• Project Progress Report</li> <li>• Field Verification</li> <li>• Meeting records</li> </ul>	<ul style="list-style-type: none"> <li>• Existing manpower Capability</li> </ul>
<b>Specific Objective 4</b> Marketing Information System Improved	<ul style="list-style-type: none"> <li>• Marketing Information System of NTFPs/MAP/s for database</li> <li>• Established data base at central and six districts</li> </ul>	<ul style="list-style-type: none"> <li>• Database reports</li> <li>• Progress reports</li> <li>• Ground verification</li> </ul>	<ul style="list-style-type: none"> <li>▪ Existing Manpower capability</li> </ul>
<b>Specific Objective 5</b> Policy Reform Sensitization	<ul style="list-style-type: none"> <li>• Visible changes in the policy</li> </ul>	<ul style="list-style-type: none"> <li>• Number of workshops</li> <li>• Policy reforms</li> </ul>	<ul style="list-style-type: none"> <li>• The degree of flexibility for reforms</li> </ul>

## 2.6 Work Plan

Activities	Responsible party	Schedule Quarters															
		Year 1				Year 2				Year 3							
		1	2	3	4	1	2	3	4	1	2	3	4				
Output 1.1: NTFP resource assessment																	
Activities																	
1.1.1 Resource Inventory	DOF	■	■	■		■	■					■	■				
1.1.2 Preparation of Plan		■	■														
Output 1.2: Sustainable management of NTFPs in the natural habitats																	
Activities																	
1.2.1 Identification of critical areas	DOF/DPR/D	■															
1.2.2 Prioritization of critical areas for ex-situ NTFP development Programme	FRS	■															
1.2.3 Site selection	HPPCL/Stakeholders			■	■					■	■				■	■	
1.2.4 Nursery establishment and en-rich planting				■	■					■	■				■	■	
1.2.5 Management of natural habitats (plan execution)				■	■			■	■	■	■		■	■	■	■	
1.2.6 Monitoring and follow-up				■	■			■	■	■	■		■	■	■	■	
Output 1.3: NTFP cultivation and management in community leasehold and private forest and farms																	
1.3.1 Identification /selection of critical areas for NTFP plantation	DOF/DPR/D		■				■						■				
1.3.2 Selection of FUGs/leasehold owners Households farmers	FRS/ Stakeholder		■				■						■				
1.3.3 Preparation of operational plans for NTFP promotion			■				■						■				
1.3.4 Approval of plans/evaluation of programs				■	■				■	■	■			■	■	■	
1.3.5 Assist developing capabilities of FUG/Individuals through training workshop for cultivation and management			■						■	■				■	■		
1.3.6 Provide technical support				■	■					■	■				■	■	
1.3.7 Provide income generating activities				■	■					■	■				■	■	
1.3.8 Monitoring and follow up				■	■			■	■	■	■		■	■	■	■	
Output 1.4: Establishment of low cost NTFP processing plants																	
Activities																	
1.4.1 Feasibility Study	HPPCL/Stakeholder	■	■											■			
1.4.2 Identification of NTFP processing plants and location				■	■									■	■		
1.4.3 Procurement of equipments								■	■					■			
1.4.4 Establishment of plant										■	■	■	■	■	■	■	
1.4.5 Processing of NTFPs																■	■

Works plan Continued.....

Output /Activities	Responsible party	Schedule Quarters											
		Year 1				Year 2				Year 3			
		1	2	3	4	1	2	3	4	1	2	3	4
<b>Output 1.5</b> <b>Local institutional building and Stakeholders cooperation</b>													
<b>Activities</b>													
1.5.1 Identification of private NTFP producers organization/cooperatives	DOF/DPR		■	■				■	■			■	
1.5.2 Establish NTFP producers organization/cooperatives				■	■				■	■			
<b>Output 1.6 NTFP Extension Program</b>													
<b>Activities</b>													
1.6.1 NTFP extension manual and materials preparation	DOF/DPR /DFRS		■										
1.6.2 Distribution of extension materials				■		■	■	■	■		■	■	■
1.6.3 Implementation					■	■	■	■	■	■	■	■	■
<b>Output 1.7 Research (adaptive)</b>													
<b>Activities</b>													
1.7.1 Identification of high value NTFP (region wise)	DOF/DPR/ HPPCL	■	■	■				■	■				
1.7.2 Develop technology for domestication/harvesting				■	■	■	■	■	■	■	■	■	■
1.7.3 Production												■	■
<b>Output 1.8 Capacity building</b>													
<b>Activities</b>													
1.8.1 Assessment of training needs of stakeholders				■	■								
1.8.2 Design the training modules		■	■										
1.8.3 Implementation of programs	DOF/DPR/ HPPCL /DFRS/ Stakeholder			■	■	■	■	■	■	■	■	■	■
<b>Output 1.9 Technology transfer</b>	DOF/DPR /DFRS/HPPCL /Stakeholders												
<b>Activities</b>													
1.9.1 Identification of FUGs and cooperative groups			■	■				■	■				
1.9.2 Technology transfer to FUGs and co-ops				■	■	■	■	■	■	■	■	■	■
1.9.3 Region wise peer group experience sharing					■	■			■		■	■	■
1.9.4 Counseling and coaching to groups				■	■	■	■	■	■	■	■	■	■
<b>Outputs 1.10</b> <b>Establishment of Terai MIS Centers</b>													
<b>Activities</b>													
1.10.1 Procurement of logistics	DOF/DPR/DFRS			■									
1.10.2 Establishment/data entry					■	■	■	■	■	■	■	■	■
<b>Outputs 1.11 Policy Reforms</b>													
<b>Activity</b>													
1.11.1 Advocacy for policy changes at all levels		■	■			■	■			■	■		

## 2.7 Overall Project Budget

### 2.7.1 Budget by Activity

S. N.	Output*	Activity	Estimated Cost US \$*	Estimated cost (NRs.)
1	1.1	NTFP resource assessment	130,000.00	9,880,000.00
2	1.2	Sustainable management of NTFPs in the natural habitats	91,000.00	6,916,000.00
3	1.3	NTFP cultivation and management in community leasehold and private forests/farms	10,000.00	76,000.00
		Pilot demonstration ex-situ NTFP development program	130,000.00	9880000.00
4	1.4	Establishment of NTFP Processing Plants	65,000.00	4940000
		Seed money for NTFP enterprise development	13,000.00	988000.00
6	1.5	Local institutional building	6,341.00	481919.00
7	1.6	NTFP Extension Programme	78,000.00	5928000.00
8	1.7	Research	117,000.00	8892000.00
9	1.8	Capacity building	104,000.00	7904000.00
10	1.9	Technology transfer	26,000.00	1976000.00
11	1.10	Establishment of MIS centre	78,000.00	5928000.00
		<b>Total</b>	<b>848,341.00</b>	<b>64,473,916.00</b>

\* Exchange rate US \$ 1= NRs.76/-

### 2.7.2 Yearly Project Budget by ITTO in US\$\*

No.	Budget Component	Total	Year 1	Year 2	Year 3
1	Project Personnel (a +b)	99,354.00	33,117.00	33,118.00	33,119.00
	a. Salary	93,907.00	31,302.00	31,302.00	31,303.00
	b. Meeting Allowances	5,447.00	1,815.00	1,816.00	1,816.00
2	Sub-contract	130,000.00	130,000.00	-	-
3	Duty travel	60,000.00	20,000.00	20,000.00	20,000.00
4	Capital items	481,199.00	161,067.00	160,067.00	160,065.00
5	Consumable items	180,341.00	60,341.00	60,000.00	60,000.00
6	Miscellaneous	13,000.00	4,000.00	5,000.00	4,000.00
	<b>Sub-total 1</b>	<b>963,894.00</b>	<b>408,525.00</b>	<b>278,185.00</b>	<b>277,184.00</b>
7	ITTO monitoring evaluation cost	20,000.00	20,000.00	-	-
8	Monitoring and review cost	12,000.00	12,000.00	-	-
	<b>Sub-total</b>	<b>995,894.00</b>	<b>440,525.00</b>	<b>278,185.00</b>	<b>277,184.00</b>
9	Programme support cost (5.5% of Budget by Activity)	46,659.00	46,659.00	-	-
10	<b>ITTO Total</b>	<b>1,042,553.00</b>	<b>487,184.00</b>	<b>278,185.00</b>	<b>277,184.00</b>

\* Exchange rate US \$ 1= NRs.76/-

2.7.3 *Yearly Project Budget by Executing Agencies/HMG/N (in US \$)\**

No.	Budget Component	Total	Year 1	Year 2	Year 3
1	Project Personnel	70,814.00	23,604.00	23,604.00	23,606.00
3	Duty travel	18,000.00	6,000.00	6,000.00	6,000.00
4	Capital items	106,749.00	106,749.00	-	-
5	Consumable items	15,631.00	4,211.00	5,211.00	6,209.00
6	Miscellaneous	3,000.00	1,000.00	1,000.00	1,000.00
7	Executing Agency's Management Cost (15% of Project Budget by activity)	127,251.00	42,417.00	42,417.00	42,417.00
	<b>HMG Total</b>	<b>341,445.00</b>	<b>183,981.00</b>	<b>78,232.00</b>	<b>79,232.00</b>

\* Exchange rate US \$ 1= NRs.76/-

2.7.4 *Operational Arrangement*

A Project Steering Committee (PSC) at the central level will be formed that will take care of the overall project activities, including supervision and monitoring. The Secretary of the MFSC will be the Chairman of the PSC and the Chief of FACD will act as the member secretary of the PSC. The latter will also work as Project Director with overall responsibility of the Project. A Project Officer recruited at the central level will support the Project Director.

At the regional level, a Project Coordination Committee will be formed under the Chairmanship of Regional Directorate of Regional Forest Office, DFOs of the project implemented District Offices will be the member of the committee. The committee will be supported by two staff namely, socio-Economist and Project Monitoring Officer. The two officers will supervise and monitor the activities at the district levels. They will be involved in the overall planning and implementation under the supervision of center.

At the district level, a committee will be formed under DFO called District Level Coordination Committee. The Chairman of this committee will be the DFOs of the project implemented districts and members will be as shown in the operational structure Part III, 1.1). There will be two supporting staff under DFO-One Project Officer, having bachelor degree in forestry and One Social Mobilizer, having intermediate level Qualification and will work at the local level. The Social Mobilizer will work with local level stakeholders.

The coordination mechanism and the reporting system will be developed in detail later on in joint consultation with the PSC, RD and the DFOs of the project implemented districts. The operational Structure of the Project is shown in the Chart below:



### **2.7.5 Manpower Provision**

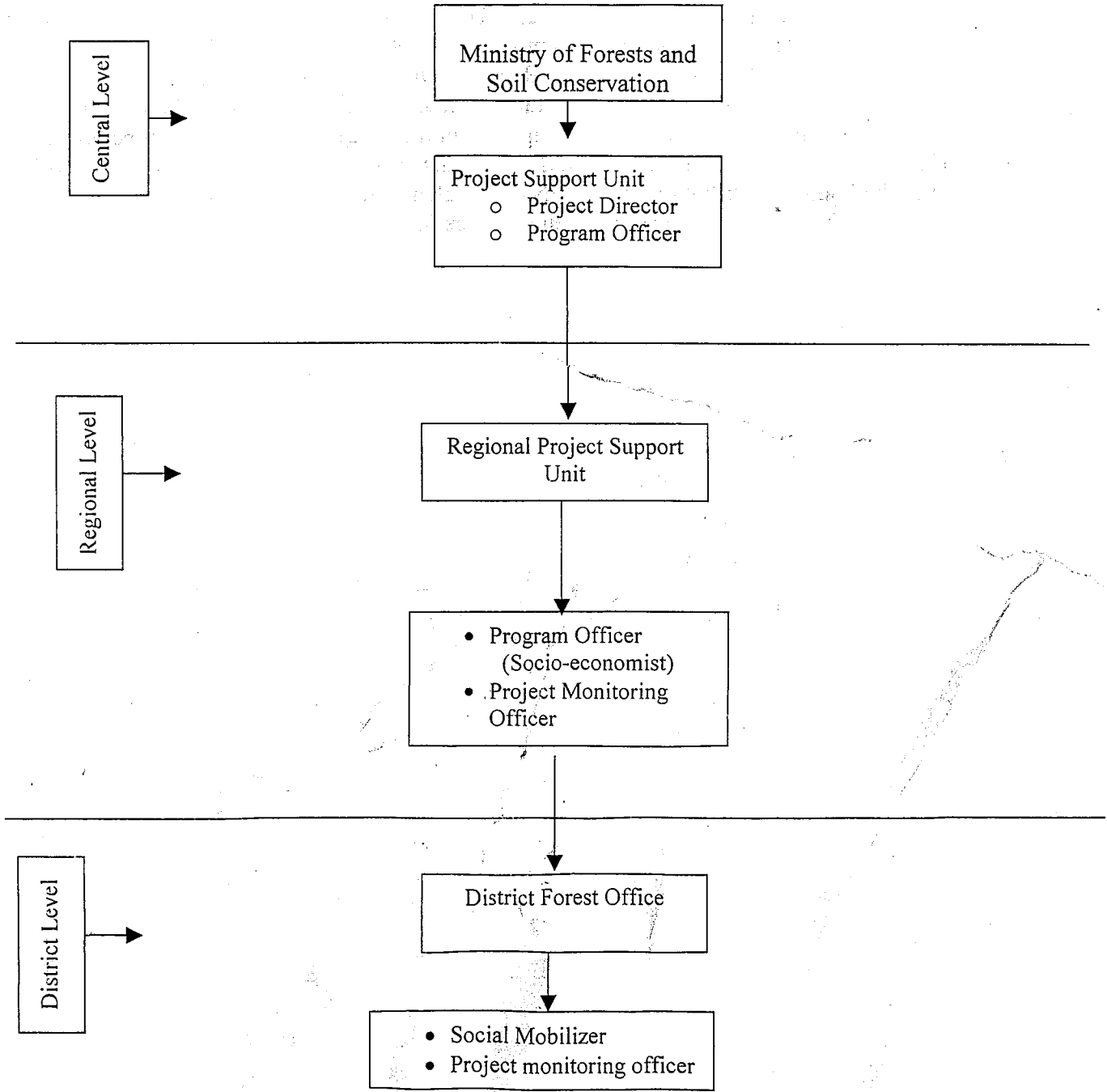
Altogether 15 new full time project staff have been provisioned. One Project Officer at the central level will be hired to support the Project Director at the Project Support Unit. The Project Director will be the Chief of FACD. At the Regional Level, one Programme Officer and one Monitoring Officer will be hired for planning, implementing, supervising, monitoring and reporting the activities at district level. At the district level also one Project Officer and one Social Mobilizer will be hired to implement project activities at the district and local level. The Social Mobilizer will work at the local level. All these staff will receive salary from the Project for a period of 3 years. The salary of each of the staff has been proposed to be NRs. 15,000 per months, except for Social Mobilizer who will get NRs. 8,000 per month. The cost of the Project Director, Regional Director, Seven DFOs of the project districts and three Account Officers at central, regional and district offices, who will be partially engaged in the programme activities apart from their regular workload, will be borne by HMG/N. The Cost of these various staff is calculated at 50% of their salaries and is reflected in the budget contribution of HMG/N. The calculated overall cost of the project (in Nepali currency) including manpower is given in Annex 3.

# Part III

## Operational Arrangement

### 3.1 Management Structure-

Chart 2: Operational Arrangements



### 3.2 Implementation Structure

a) At the Central Level: A seven member PSC will be formed under the chairmanship of the Secretary of the MFSC. The role of the committee will be to coordinate among the intra- agencies, NTFP related activities and strengthen the management information system. The policy issues, feedback and suggestions received from district level committee will be circulated to the members before the meeting. Recommendations/suggestions will be forwarded to the regional/district level coordination committees. The committee will meet 2 times a year. The following will be the members of the steering committee:

- i. Secretary, MFSC - Chairman,
- ii. Chief of FACD, MFSC - Member-secretary
- iii. Director General, Department of Plant Resources - Member
- iv. Director General, Department of Forest Research and Survey - Member
- v. Representative, HRD, MFSC - Member
- vi. Director General, DoF, MFSC - Member
- vii. General Manger, HPPCL - Member

b) At the Regional Level: A regional level coordination committee consisting of seven members will be formed to coordinate the activities of the project, where the Regional Director will chair the committee and the DFOs of project districts will be the member. The Programme Officer stationed at the regional level will facilitate proceedings of the committee. The committee will meet six times a year. The following will be the composition structure of the Regional Committee:

- i. Regional Director, Eastern Forest Directorate- Chairman
- ii. District Forest Officer (of the 6 programme districts)- Members/s

The role of the committee at the Regional Level will be:

- (i) To coordinate activities between central and district level
- (ii) To support Project Support Unit at the central level by providing the necessary inputs for review and effective implementation of the activities, and
- (iii) To supervise and monitor the district level activities

c) At the District Level: A the district level a nine member Coordination Committee

in all of the programme districts will be formed under the chairmanship of concerned District Forest Officer/s, which will meet every month. The following will be the members of the committee:

- viii. District Forest Officer -Chairman
- ix. Assistant Forest Officer, - Member Secretary, District Forest Office
- x. Office in-charge, District Plant Resources
- xi. Soil Conservation Officer -Member
- xii. Representative of NEFUG
- xiii. Herbs traders: two
- xiv. Private grower: one
- xv. Herbs Collector-one

The role of the committees at the District level will be:

- (i) To identify and coordinate the grass root level practical problems
- (ii) To support Project Support Unit by providing necessary data for the policy review and
- (iii) To establish functional linkages between the growers, collectors and traders through the developed networking as proposed by this project.

### **3.3 Monitoring and Evaluation**

Monitoring and evaluation of the project will be carried out during the various stages of project implementation. The mid-term evaluation will be done in the middle of the project period and final evaluation will be done three months before phasing out of the project. Reporting will be done through various reports as follows:

#### *Project progress reports*

- Programme reports will be made at 6 months intervals
- *Project completion reports*
- Project completion report will be submitted six months after the completion of the project

#### *Project technical reports*

- Project technical reports will be provided by staff members and consultants

### **3.4 Progress Reports**

- Project Completion
- Project technical
- Monitoring Review
- Evaluation

### **3.5 Future Operation and Maintenance**

The project will provide adequate support to HMG/MFSC in initiating sustainable development of NTFP base of Nepal and research capability of the implementation agency. After the completion of the project the Department of Plant Resources, Department of Forests and HPPCL will run and maintain the continuing NTFP activities with the government support.

## **Part IV**

### **The Tropical Timber Framework**

#### **4.1 Compliance with ITTA 1994 Objectives**

The project is consistent with objectives of ITTA 1994. It is in precise accord with ITTA article 1 objectives (J) to support and develop tropical timber reforestation and management, and to rehabilitate degraded forestland and entailing the interests of local communities dependent on forest resources. It also complies with objectives (a), (c), (d), (f) and (l). It will also have peripheral beneficial effects on other objectives listed in ITTO as the project will promote the collection, processing, utilization and marketing on a sustainable basis and therefore, become an integral part of tropical forest management in Nepal.

#### **4.2 Compliance with ITTO 1990 Action Plan**

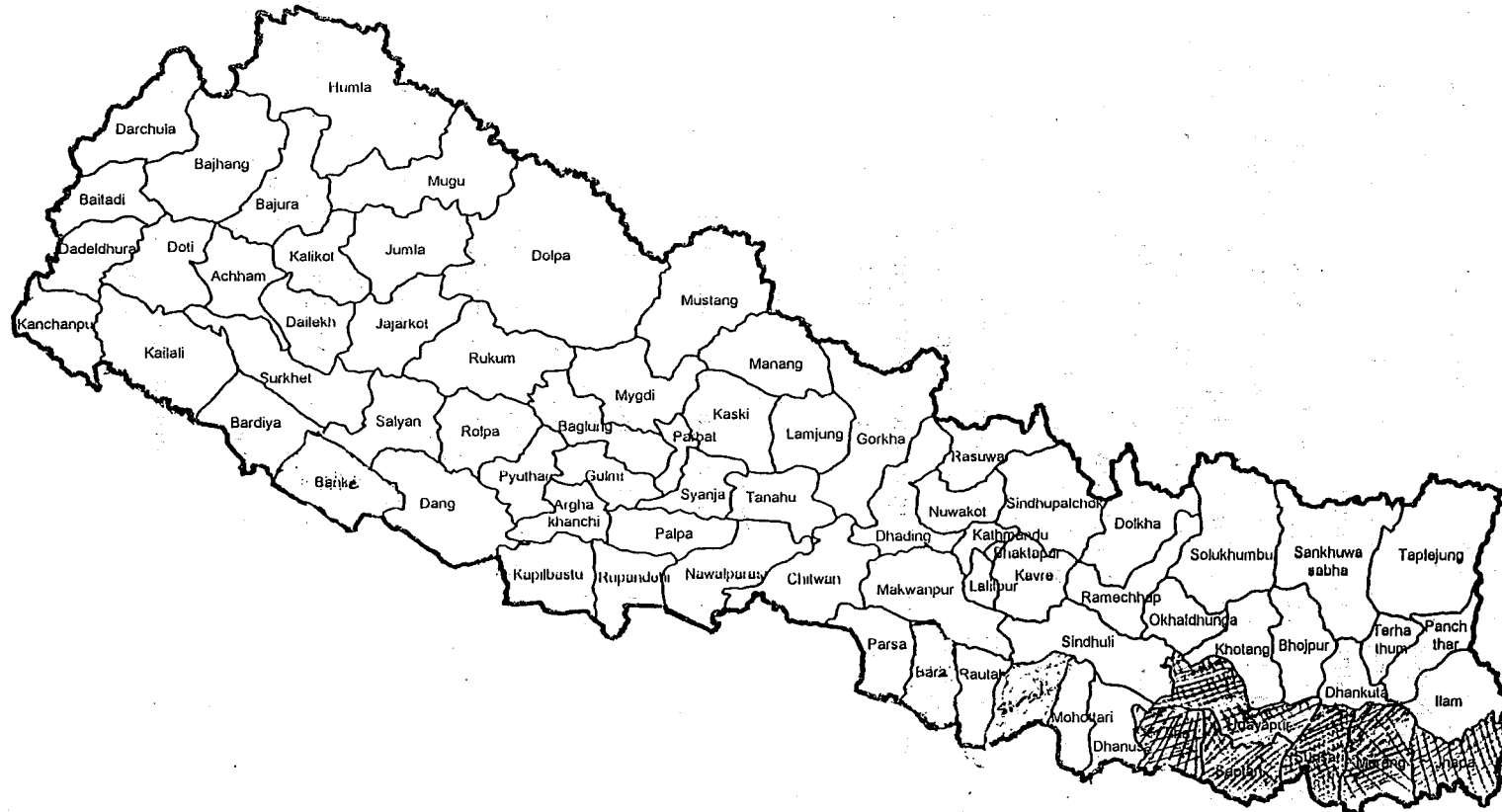
The project is consistent with the various strategies of ITTO Action Plan for Reforestation and Forest Management. The project intent is to halt the decline and degradation of the tropical forest of Nepal by integrating national and international actions. It complies with the strategies (b), (f), (h) (i) (k) and (l) of ITTO Action Plan.

## References

1. Bhattarai DR 2001, *Jadi Buti Manjari* (in Nepali) Subhas Printing Press, Lalitpur, Nepal
2. CBS (2002), *Statistical Pocket Book of Nepal*, Central Bureau of Statistics (CBS), National Planning Commission HMG, Kathmandu, Nepal.
3. CEDA 2003 Report on National Status Paper on Marketing of NTFP in Nepal TU, Kathmandu, Nepal.
4. CEDA 2003 Report on National Status Paper on NTFP Cultivation and Management in Nepal T. U., Kathmandu, Nepal
5. Department of Forests 2002, *Hamro Ban* (in Nepali), Kathmandu, Nepal.
6. Edwards, D.M. 1996. *Non-timber Forest Products from Nepal: Aspects of the Trade in Medicinal and Aromatic Plants*. 134 pp., Forest Research and Survey Centre Monograph No. 1/96. Ministry of Forests and Soil Conservation, Kathmandu, Nepal.
7. FIRSP 1999, Forest Resources of Nepal 1987-1998 FRISP Publication no. 74 Department of Research and Survey, MFSC HMG, FINNIDA, Kathmandu, Nepal.
8. FORESC Monograph No. 1/96, Forest Research and Survey Centre, Ministry of Forests, Kathmandu, Nepal
9. FRISP 1999, Forest and Shrub Cover of Nepal 1994 (1989-1996) FRIST Publication No. 72 DFRS, MFSC, HMG, FINNIDA, Kathmandu, Nepal
10. HMG 1988 Forest Based Industries Development Plans, Part II. To Medicinal and Aromatic and Minor Forest Products, Ministry of Forests and Soil Conservation, Kathmandu Nepal
11. HMG/N 1988, Master Plan for the Forestry Sector, Ministry of Forests and Soil Conservation Kathmandu, Nepal
12. HPPCL 2002 *Jadi Buti Kheti Pustika* ( in Nepali ) Herbs Production Processing Co. Ltd, Kathmandu, Nepal
13. Malla, S. B., Shakya, P. R., Rajbhandari, K. R., Bhattarai, N. K. and Subedi, M. N. 1995. *Minor Forest products of Nepal: General Status and Trade*. Forest Resource Information System Project Paper No. 4, Forestry Sector Institutional Strengthening Programme, Ministry of Forests and Soil Conservation, Kathmandu, Nepal.
14. HMG/N (2003. The National Planning Commission 2002 The Tenth Five Year Plan (2002/03-2006/07), Kathmandu, Nepal.
15. Parajuli D.P., Gyanwali AR and Shrestha B.M 1998, Manual of Important Non-Timber Forest Products in Nepal, 10F/ ITTO Project Pokhara , Nepal.
16. Tandon, V., Bhattarai, N. K. and Karki, M. 2001 (Eds.). *Conservation Assessment and Management Plan Workshop Report: Selected Medicinal Plant Species of Nepal*. Medicinal and Aromatic Plants Programme in Asia (MAPPA), International Development Research Centre (IDRC), New Delhi, India.
17. TISC 2002 Forest and Vegetation types of Nepal, Ministry of Forests and Soil Conservation, Department of Forest/ NARMSAP- TISC.

Annex 1

# Map Showing Project Districts

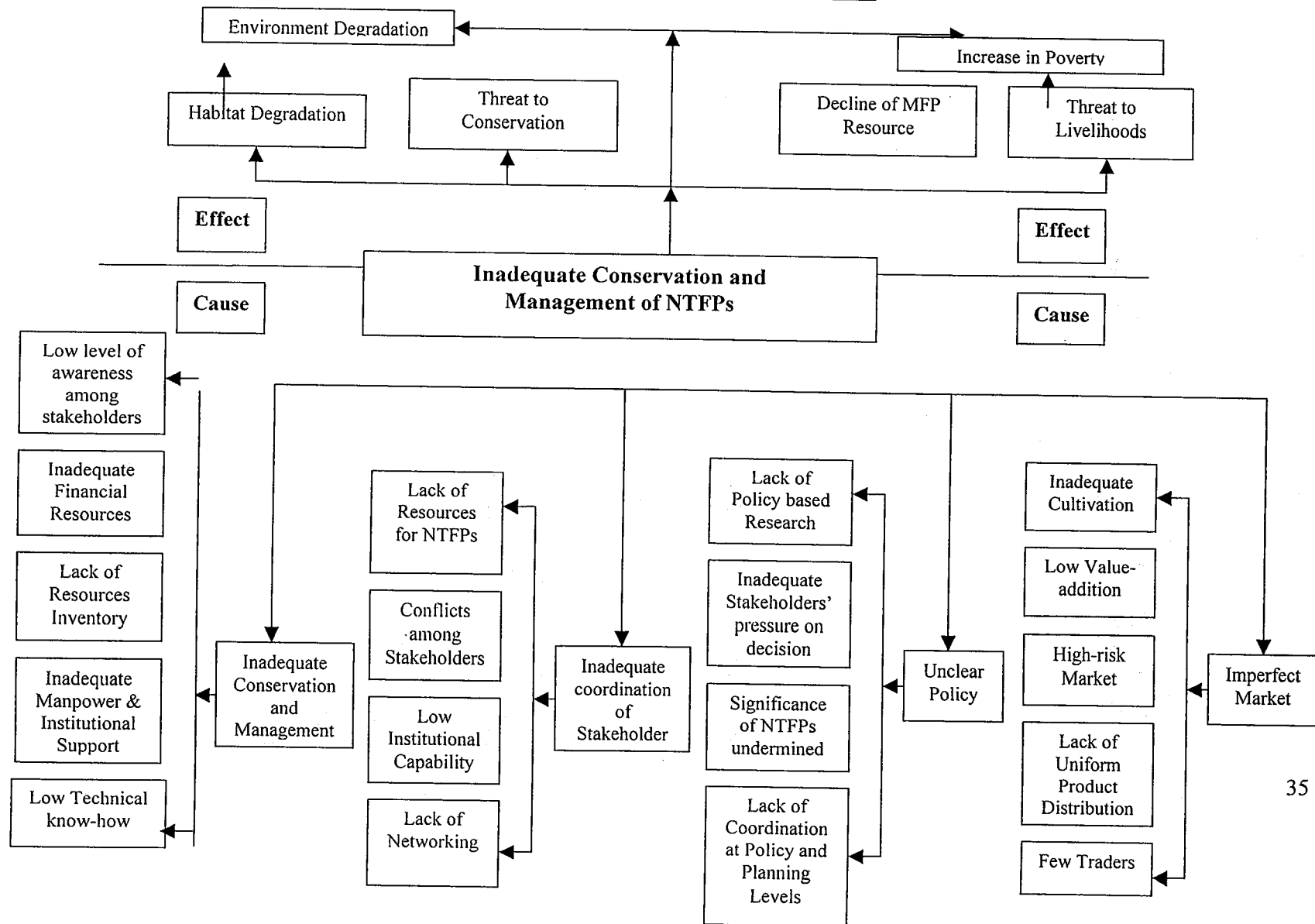


40 0 40 80 Kilometers





**Annex 2**  
**Chart: Problem Tree**



### Annex 3

**Table 3.1 Project Budget by ITTO in NRs. (Conversion of Table 2.7.2 of the Text)**

No.	Budget Component	Total	Year 1	Year 2	Year 3
10	Project Personnel	7,551,000.00	2,517,000.00	2,517,000.00	2,517,000.00
	a. Salary	7,137,000.00	2,379,000.00	2,379,000.00	2,379,000.00
	b. Meeting Allowances	414,000.00	138,000.00	138,000.00	138,000.00
20	Sub-contract	9,880,000.00	9,880,000.00	-	-
30	Duty travel	4,560,000.00	1,520,000.00	1,520,000.00	1,520,000.00
40	Capital items	36,571,124.00	12,241,092.00	12,165,092.00	12,164,940.00
50	Consumable items	13,705,916.00	4,585,916.00	4,560,000.00	4,560,000.00
60	Miscellaneous	988,000.00	304,000.00	380,000.00	304,000.00
	<b>Sub-total 1</b>	<b>73,256,040.00</b>	<b>31,048,008.00</b>	<b>21,142,092.00</b>	<b>21,065,940.00</b>
80	ITTO monitoring & evaluation cost	1,520,000.00	1,520,000.00	-	-
81	Monitoring and review cost	912,000.00	912,000.00	-	-
	<b>Sub-total</b>	<b>75,688,040.00</b>	<b>33,480,008.00</b>	<b>21,142,092.00</b>	<b>21,065,940.00</b>
11	Programme support cost (5.5% of Activity)	3,546,084.00	3,546,084.00	-	-
12	<b>ITTO Total</b>	<b>79,234,124.00.00</b>	<b>37,026,092.00</b>	<b>21,142,092.00</b>	<b>21,065,940.00</b>

**Table 3.2. Yearly Project Budget by Executing Agencies/HMG/N in NRs. (conversion of Table 7.3 of the text)**

No.	Budget Component	Total	Year 1	Year 2	Year 3
10	Project Personnel	5,382,000.00	1,794,000.00	1,794,000.00	1,794,000.00
30	Duty travel	1,368,000.00	456,000.00	456,000.00	456,000.00
40	Capital items	8,112,924.00	8,112,924.00	-	-
50	Consumable items	1,187,956.00	320,036.00	396,036.00	471,884.00
60	Miscellaneous	228,000.00	76,000.00	76,000.00	76,000.00
70	Executing Agency's Management cost (15% of Project Budget by activity)	9,671,076.00	3,223,692.00	3,223,692.00	3,223,692.00
	<b>HMG Total</b>	<b>25,949,956.00</b>	<b>13,982,652.00</b>	<b>5,945,728.00</b>	<b>6,021,576.00</b>

Table 3.3. HMG Contribution on the salary of the proposed staff in NRs.

Staff Salary	Amount/Year	For 3 Years	US Dollar
1. Project Director @ 15, 000 x 13 months	195,000.00	585,000.00	7,697
2. RD 1x 15, 000 x 13 months	195,000.00	585,000.00	7,697
3. Officers 2 x 12, 000 x 13months	312,000.00	936,000.00	12,136
4. Account officer/s (8* 12,000 x 13 months)* 50%	624,000.00	1,872,000.00	24,631
5. DFOs (6 persons@12, 000.00 x 13months) * 50%	468,000.00	1404,000.00	18,473
<b>Total</b>	<b>1,794,000.00</b>	<b>5,382,000.00</b>	<b>70,814</b>

Table 3.4. Detailed Breakdown of Meeting Allowances/project staff (NRs.)

SN		Per Year	3 Years	Dollar (\$)
1.	Central meetings 7 persons @ 1,000x 6 times	42,000.00	136,000.00	1,658
2.	Regional meeting s 7 persons x 1000x 6 times	42,000.00	136,000.00	1658
3.	District meetings 9 persons x 500x 12 times	54,000.00	162,000.00	2131
	<b>Total</b>	<b>138,000.00</b>	<b>1414,000.00</b>	<b>5,447</b>

Table 3.5 Breakdown of Project Staff's Salary (NRs)

1.	Project (Central) 1x15, 000x13	195000x3	585,000.00	7,697
2.	Officers at (Regional Level) 2x15000x13	390,000x3	1,170,000	15,395
3.	Staff (2) at District Level			24631
	1. 6x15000x13	1170,000x3	3510,000.00	
	2. 6X8000X13	624000X3	1872,000.00	
	<b>Total</b>	<b>2,379,000.00</b>	<b>7,137,000.00</b>	<b>93,907</b>