

Ministry of Forests and Soil Conservation
Kathmandu, Nepal



**CURRENT STATUS OF MARKETING OF NON-TIMBER FOREST
PRODUCTS IN THE TERAI REGION OF NEPAL**

January 2004

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

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Project Background

The rich biodiversity of Nepal accommodates a wide range of Non-Timber Forest Products (NTFPs), including Medicinal and Aromatic Plants (MAPs). Rural people have long been involved in the conservation, collection and sale of NTFPs. This has contributed significantly to the rural livelihood. Many of the NTFPs are being exported every year to India and overseas and the revenues are increasing every year. The annual royalty collected by District forest offices ranged from NRs. 16.6 to 21.5 million (US\$215,584-279,220) during 1999/2000 and 2001/2002 (DOF, 2002). Commercial extraction for NTFPs and other useful plants is increasing every year but they are being extracted against the principles of sustainable management, which as an effect has caused the depletion of the country's wild resources. Some species are already at the verge of extinction.

Realizing this situation, Ministry of Forests and Soil Conservation (MFSC), His Majesty's Government of Nepal (HMG/N) requested the International Tropical timber Organization (ITTO) to provide funds to undertake a thorough study on the status of NTFPs, its cultivation and marketing practices and prepare a detailed proposal for implementation to promote NTFPs in the Terai region of Nepal. Consequently, the International Tropical Timber Council (ITTC) approved a project entitled "Preparation of a Project Proposal for the Promotion of Non-Timber Forest Products in the Tropical Region of Nepal" to be financed through ITTO. The MFSC entrusted the study upon Centre for Economic Development and Administration (CEDA), a research institute of Tribhuvan University in 2002. CEDA undertook this study by forming a multidisciplinary team of experts from relevant fields. A Project Steering Committee (PSC) was constituted by MFSC that supported, facilitated and coordinated the overall study. With the help and support of all concerned, the team accomplished the study and prepared five documents, three thematic reports, one consolidated report and a project proposal as mentioned below:

- i) **Current Status of Marketing of Non-Timber Forest Products in the Terai Region of Nepal.**
- ii) **Current Status on Cultivation and Management of Non-Timber Forest Products in the Terai Region of Nepal.**
- iii) **Quantitative Resource Assessment of Non-Timber Forest Products in the Terai Region of Nepal.**
- iv) **A Synthesis Report on Current Status of NTFPs in the Terai Region of Nepal and**
- v) **A Project Proposal on Sustainable Management and Cultivation of Non-Timber Forest Products in the Terai Region of Nepal.**

Above three (i-iii) thematic reports provide background information to formulate a project proposal and provide further reference to future policy dialogues, reforms and program formulation. The project proposal has been prepared to be submitted to International Tropical Timber Organization (ITTO) in order to request funds to implement various activities related to the promotion of NTFPs in the Terai region of Nepal.

Acknowledgement

Non-Timber Forest Products (NTFPs) are one of the important sources of government revenue and their contribution to the rural livelihoods is quite significant. A large number of people in the rural areas have been engaged in off-farm employment opportunities and generating income through the collection and sale of NTFPs. I would like to express my gratitude to the Ministry of Forests and Soil Conservation for providing us the opportunity to carry out the task of 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 Foreign Aid Coordination Division, Dr. Damodar Prasad Parajuli for their cooperation.

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 have been prepared.

Dr. Nirmal Kumar Bhattarai prepared the report on the Quantitative Resource Assessment of Non Timber Forest Products in the terai Region of Nepal. Dr. Vrigu Rishi Duwadi produced the preliminary draft on Current Status of Cultivation and Management of Non Timber Forest Products in the Terai Region of Nepal. The invaluable inputs of Dr. Annapurna Nanda Das and Dr. Krishna Chandra Paudyal were instrumental in finalising the report. Likewise Mr. Ram Hari Subedi did the preliminary draft on Current Status of Marketing of Non Timber Forest Products in the Terai Region of Nepal and final draft and final reports were prepared with the combined efforts of Mr. Sagendra Tiwari, Mr. Kishore K.C. and Mr. Vijay Kunwar. The Synthesis Report on Current Status of Non Timber Forest Products in the Terai Region of Nepal was solely the contribution of Dr. Bharat Kumar Pokharel. Mr. Man Mohan Dhoj Joshi prepared the preliminary draft of the Project Proposal and the joint efforts of PSC members, Mr. Kishore KC and Mr. Vijay Kunwar did the finalization of the proposal. I would like to extend my sincere thanks to all of them.

All the core members of the study team and other foresters and botanists, who worked as associates namely, Messrs Kuber Junj Malla, Suman Sigdel, Omkar Joshi, Ripu Kunwar, Mohan Kafle and Ram Kumar Deo undertook the field survey. Messrs Kishore K.C, Suman Sigdel and Omkar Joshi did the arduous job of data analysis. Mr. Ripu Kunwar worked out for systematizing and analyzing the information collected from quadrat sampling carried out 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 did some literature review. Thanks are due to all of them. Ms. Subarna Shrestha did the formatting of the reports at various stages. Last but not the least, team leader, Mr. Kishore K.C. deserves special thanks for his untiring efforts and coordinator, Mr. Vijay Kunwar for the backstopping support during the entire study period.

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

Abullaish
Executive Director
Centre for Economic Development and Administration (CEDA)



Acronyms

ACAP	: Annapurna Conservation Area Project
ANSAB	: Asia Network for Sustainable Agricultural and Bio-resources
CEDA	: Center for Economic Development and Administration
CECI/Nepal	: Canadian Centre for International Studies and Cooperation
CBED	: Community Based Economic Development
CFUG	: Community Forestry Users' Group
CCODR	: Centre for Community Development and Research
CEAPRED	: Centre for Environmental and Agricultural Policy, Research, Extension and Development
DDC	: District Development Committee
DNPWC	: Department of National Parks and Wildlife Conservation
DEPROSC	: Development Project Service Centre
DFRS	: Department of Forest Research and Survey
DFO	: District Forest Office/r
DoF	: Department of Forests
DPR	: Department of Plant Resources
EFEA	: Environment and Forestry Enterprise Activity
FGD	: Focus Group Discussion
FUG	: Forest Users Group
GTZ	: German Technical Assistance
HPPCL	: Herbs Production and Processing Company Limited
HMG/N	: His Majesty's Government of Nepal
ITTC	: International Tropical Timber Council
ITTO	: International Tropical Timber Organization
IoF	: Institute of Forestry
INBAR	: International Network for Bamboo and Rattan
IUCN	: The World Conservation Union
KMNTC	: King Mahendra Trust for Nature Conservation
LFP	: Livelihoods and Forestry Program
MAPs	: Medicinal and Aromatic Plants
MFSC	: Ministry of Forests and Soil Conservation
NFRI	: Nepal Forest Research Institute
NGO	: Non-Governmental Organization
NTFPs	: Non-Timber Forest Products
PRA	: Participatory Rural Appraisal
PSC	: Project Steering Committee
RRA	: Rapid Rural Appraisal
RRN	: Rural Reconstruction Nepal
SDC	: Swiss Development Cooperation
VDC	: Village Development Committee
WWF	: Worldwide Fund for Nature



Table of Contents

Chapter 1 Introduction.....	1
1.1. Background.....	1
1.2. Objectives and Scope.....	2
1.3. Methodology.....	2
1.4. Scope and Limitation of the Study.....	3
Chapter 2 Literature Review	4
Chapter 3 Institutions involved in the Promotion of NTFPs.....	11
Chapter 4 Status of NTFP Production and Marketing	16
4.1 Major Types of NTFPs Available.....	16
4.2 Volume of NTFPs Collection/Production.....	20
4.3 Trade Volumes and Destination.....	22
Chapter 5 Marketing Channels, Procedures and Prices of NTFPs.....	30
5.1 Marketing Channels and Intermediaries.....	30
5.2 Price of NTFPs	36
5.3 Regulatory policies and NTFP Marketing	39
5.4 Potential for Value Addition, Processing and Income Generation.....	39
Chapter 6 Conclusion and Recommendations	46
6.1 Conclusion.....	46
6.2 Recommendations.....	47
6.2.1 Marketing Information Service.....	47
6.2.2 Cultivation of Commercially Important Species of NTFPs.....	47
6.2.3 Processing of NTFPs.....	48
6.2.4 Market Promotion and Linkages.....	49
6.2.5 Policy.....	50
References.....	52
Annexes.....	56



List of Tables

Table 4.1	Type of important NTFPs available in the Low Altitude Areas	16
Table 4.2	Types of NTFPs Having High Demand and their Locations of Availability.....	17
Table 4.3	Major NTFPs Type in Eastern Siwalik.....	17
Table 4.4	Type of NTFPs Available in the Sample Community Forests	19
Table 4.5	DOF Data on Annual NTFP Production.....	21
Table 4.6	NTFP Collection Permits Issued by District Forest Offices in Selected Terai and Inner Districts of Nepal (2002/2003)	21
Table 4.7	NTFP Collection Permits Issued by District Forest Offices in Selected Terai and Inner Districts of Nepal (2002/2003)	22
Table 4.8	Annual NTFP Royalty Collections by DOF (Rs in '000).....	23
Table 4.9	Exports of Nepalese NTFPs to Indian Market from Different Customs Points (2002/2003).....	24
Table 4.10	Major NTFP Purchase and Procurement Centers in Nepal Terai	24
Table 4.11	Percentage of Major Herbs Supplied to Delhi Market by Different Countries	25
Table 4.12	Annual Imports of NTFPs from Nepal by Indian Trade Centers, Delhi (2001)	26
Table 4.13	Annual Import of NTFP from Nepal by different Indian Trade Centers	27
Table 4.14	Export of NTFPs in the Overseas Countries.....	28
Table 5.1	Marketing Channel of Some Important NTFP in Mid-Western Region.....	35
Table 5.2	Collectors'/producers' price trends of select NTFPs, 1995 to 1999 (NRs/kg) in Nepal.....	36
Table 5.3	Marketing options open to independent harvesters of <i>Chiraita</i> sp.: Costs and Benefits	36
Table 5.4	NTFP Price at Different Pockets of Nepal (2001/2002).....	37
Table 5.5	Price of NTFPs in select Nepalese and Indian Cities (April 2003)	38
Table 5.6	Legal Steps for Collection and Export.....	39
Table 5.7	Description of Commercial Herbs practiced by HPPCL	41
Table 5.8	Herbs production, Expenditure and Income	42
Table 5.9	Essential Oil Processed in MWDR-Approximate Quantity and Price (1998).....	42
Table 5.10	Economics of Commercially Viable Oil extraction Plants (Area 1 ha. Model) 2003	44
Table 5.11	Production Estimates of Herbal Oil.....	45



List of Annexes

Annex 1:List of Persons contacted (Traders and Organizations) or visited during Field Visits	56
Annex 2: List of Participants of the Workshops	63
Annex 3: Conservation Status of Selected Community Forests in Various Region	66
Annex 4: List of NTFPs/MAPs prioritized by Workshop Participants.....	77
Annex 5: NTFPs collection Permitted by District Forest Office of Various Regions	79
Table 5.1 NTFP collection permitted by District Forest Office in Eastern Region (Districts included: Dhankuta, Udyapur, Jhapa, Morang, Sunsari, Siraha and Saptari).....	79
Table 5.2 NTFP collection permitted by District Forest Office in Central Region (Districts included: Dhanusha, Sarlahi, Rautahat, Bara, Parsa, Makawanpur, Chitwan, Nawalparasi, Rupandehi & Kapilbastu).....	80
Table 5.3 NTFP collection permitted by District Forest office in Western Region (Districts included: Dang, Surkhet, Banke, Bardia, Kailali and Kanchanpur).....	81
Annex 6: NTFP collection permits issued by District Forest Offices of selected Districts by Development Regions	82
Table 6.1 NTFP collection permits issued by District Forest Office, Udyapur	82
Table 6.2 NTFP collection permits issued by District Forest Office, Dhankuta.....	82
Table 6.3 NTFP collection permits issued by District Forest Office, Morang	83
Table 6.4 NTFP collection permits issued by District Forest Office, Sunsari	83
Table 6.5 NTFP collection permits issued by District Forest Office, Siraha	84
Table 6.6 Collection permit issued by District Forest Office, Saptari	84
Table 6.7 NTFP collection permits Issued by District Forest Office, Dhanusa.....	84
Table 6.8 NTFP collection permits Issued by District Forest Office, Mahottari	84
Table 6.9 NTFP collection permitted by District Forest Office, Rautahat.....	85
Table 6.10 NTFP collections permitted By District Forest Office, Sarlahi	85
Table 6.11 NTFP collection permitted by District Forest Office, Bara	85
Table 6.12 NTFP collection permitted by District Forest Office, Parsa	85
Table 6.13 NTFP collection permitted by the District Forest Office, Makwanpur.....	86
Table 6.14 NTFP collections permits issued by District Forest Office, Chitwan	87
Table 6.15 NTFP collection permits issued by District Forest Office, Nawalparasi	87
Table 6.16 NTFP collection permits Issued by District Forest Office, Rupandehi.....	87
Table 6.17 NTFP collection permits issued by District Forest Office, Kapilbastu.....	88
Table 6.18 NTFP collection permits issued by District Forest Office, Dang	88
Table 6.19 NTFP collection permits issued by District Forest Office, Nepalganj, Banke.....	89
Table 6.20 NTFP collection permits issued by District Forest Office, Surkhet.....	89
Table 6.21 NTFPs Collection permit issued by District Forest Office of Bardia	90
Table 6.22 NTFP collections permits issued by District Forest Office, Kailali.....	90
Table 6.23 NTFP Collection permit issued by DFO, Kanchanpur-2058/59	90

Annex 7: Export of NTFPs From the Major Customs Points of Nepal	91
Table 7.1 Exports of NTFPs from Customs Office, Kakarvitta.....	91
Table 7.2 Exports of NTFPs from Bhandari Customs Office, Sunsari	91
Table 7.3 Exports of NTFPs from Biratnagar Customs Office, Morang	91
Table 7.4 Exports of NTFPs from Sarlahi Customs Office, Sarlahi	92
Table 7.5 Exports of NTFPs from Vittamor Custom's office, Mahottari.....	92
Table 7.6 Exports of NTFPs from Gaur Customs Office, Rautahat	92
Table 7.7 Exports of NTFPs from Birgunj Customs Office, Bara (Export to India)	93
Table 7.7 (a): Exports of NTFPs from Birgunj Customs Office, Bara (Export to India).....	93
Table 7.8 Exports of NTFPs from Customs Office, Bhairahawa.....	93
Table 7.9 Exports of NTFPs from Kishannagar Customs Office, Kapilbastu	93
Table 7.10 Exports of NTFPs from Customs Office, Nepalgunj (to India)	94
Table 7.11 Exports of NTFPs from Customs Office, Kailali (to India).....	94
Table 7.12 Exports of NTFPs from Customs Office, Kanchanpur (to India)	94
Annex 8: Quantity of NTFPs Traded (Information based on Trade Center/Traders)	95
Table 8.1 NTFP Information based on Trade Center/Traders: Birtamod, Jhapa	95
Table 8.2 NTFP Information based on Trade Center/Traders: Dharan, Sunsari.....	95
Table 8.3 NTFP Information based on Trade Center/Traders: Kanchanpur, Saptari.....	96
Table 8.4 NTFP Information based on Trade Center/Traders: Chandranigahapur, Rautahat.....	96
Table 8.5 NTFP Information based on Trade Center/Traders: Hetunda, Makawanpur	97
Table 8.6 NTFP Information based on Trade Center/Traders: Nepalganj, Banke District	98
Table 8.7 NTFP Information based on Trade Centre/Traders, Surkhet , District	99
Table 8.8 NTFP Information based on Trade Centre/Traders: Dang District	100
Table 8.9 NTFP Information based on Trade Centre/Traders: Kailali District.....	100
Table 8.10 NTFP Information based on Trade Centre/Traders: Rupandehi District	101
Annex 9: Imports of NTFPs from Prominent Indian Markets	102
Table 9.1 Annual Imports of NTFPs from Nepal by Indian Trade Centre by Excel Drug House, Kolkata (2001)	102
Table 9.2 Annual Imports of NTFPs from Nepal by Indian Trade Center, Kanpur (2000).....	102
Table 9.3 Annual Imports of NTFPs from Nepal by Indian Trade Center, Lucknow (2000).....	103
Table 9.4. Annual Import of NTFPs from Nepal by Indian Trade Center, Kannauj.....	103
Table 9.5 Annual Imports of NTFPs from Nepal by Indian Trade Center: Delhi (2001).....	104
Table 9.6 Annual Imports of NTFPs from Nepal by Indian Trade Center, Tanakpur	105
Table 9.7 Percentage of Major Herbs Supplied to Delhi Market by Different Countries (2001)	106

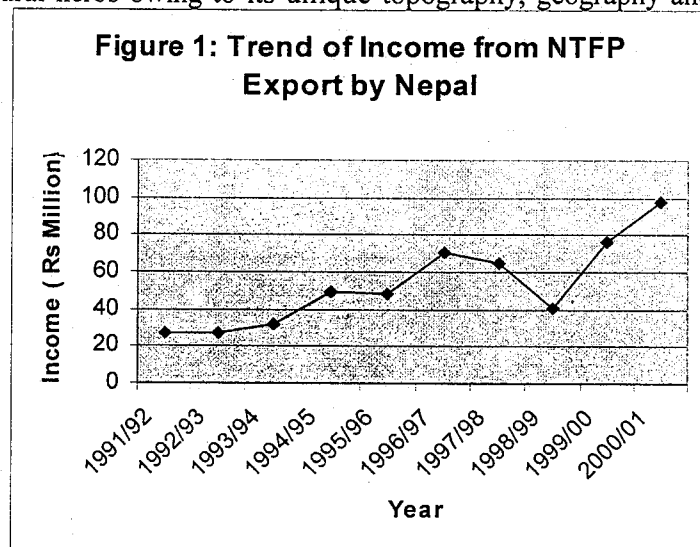
Chapter 1

Introduction

1.1. Background

Nepal is endowed with a relatively rich floral and faunal diversity owing to its topographic, altitudinal and climatic variations. Diverse climatic conditions such as tropical, sub-tropical, sub-temperate, sub-alpine and alpine types of climate exist within short distances across north-south axis. Diversity in the ecological conditions in all physiographic regions has created several micro-climatic zones, important for the natural occurrence and evolution of different types of plants. It is estimated that more than 7,000¹ flowering and non-flowering types of non-timber forest products (NTFP) species are available in the country. Of the total flowering and non-flowering types of species found in the world, Nepal occupies over 2 percent of flowering and 6.78 percent of non-flowering types of species². Undoubtedly, Nepal provides a natural ground for the promotion of a number of natural herbs owing to its unique topography, geography and climatic conditions (DVN 2002).

The Non-timber Forest Products are important resources of the country and could play an important role in its economic development. The NTFPs resource is an important source of government revenue and its contribution to the total forestry sector revenue is in increasing trend (Fig 1)³.



NTFPs from Nepal are traded largely as dried herbs in “crude” and/or “unprocessed” forms. In response to the growing international market for herbal products of Nepal, market for NTFPs as raw materials has seen a gradual increase in the recent years. Recent trend shows that aromatic products are receiving increasing attention worldwide. Scientists, researchers and multinational pharmaceutical companies are looking for active substances in plants for the cure of various diseases, where modern synthetic medicines are perceived to be less effective. Apart from commercial uses, NTFPs are used as food, fiber, fodder, fuel and varieties of household articles. They are also used as dye, gum and resin.

There are two sets of NTFPs in Nepal; one that is critical to subsistence at rural community level and the other contributing to the government treasury, as well. Although government earnings from NTFPs are not known to have superseded that of timber, yet it holds a huge potential to do so. Nevertheless, the NTFP business sector has been known for generating employment at local level, as well as creating multiplier effects down the value chain at different

¹ Hamro Ban in Nepali, Department of Forest, 2059 B.S. quoted by Development Vision Nepal (DVN), 2002.

² Herb Production, Collection, Processing and Protection in Nepal, HPPCL, 2055 B.S. quoted by DVN 2002.

³ Economic Survey 2001/2002, Ministry of Finance, 2002.

times and spaces. A large number of poor people in the rural areas have been generating off-farm employment opportunities through the collection and sale of NTFPs.

1.2. Objectives and Scope

The main goal of this pre-project study is to provide a basis for the preparation of a detailed project proposal for the promotion of Non-Timber Forest Products in the Terai Region of Nepal in line with the ITTO guidelines. Among the four key outputs envisaged by the pre-proposal work, this study is concerned with the market analysis of NTFPs. The objectives of the study are:

- To identify the quantity of NTFPs harvested annually
- To explore the marketing channel of NTFPs and
- To study the potential for value added processing for income generation

The study has been built upon the information generated from the three representative market hubs of tropical region of Nepal namely Banke (Mid-west), Parsa (Central) and Morang (East) districts of Terai. While doing so it has also taken into account the NTFP collection and marketing situation in at least six districts of the Inner Terai adjoining these representative market hubs. These districts also represent the existing and types of aromatic plants and their processing particularly of high value and low volume products.

1.3. Methodology

The study is based upon the collection and analysis of both primary and secondary sources of information gathered on various aspects of NTFPs, such as market channel, trade volume, marketing practices, and their demand and supply situation. The sources and methods adopted for the collection of information were as follows:

Secondary Sources of Information

Secondary information/data regarding the geographical, biological, socio-economic, organizational and technological aspects of NTFPs were obtained from various institutions in and outside Kathmandu e.g. Gorkha Ayurved Company, Singh Durbar Vaidyakhana, Herbs Production and Processing Company Ltd. (HPPCL), Trade Promotion Centre, Nepal Rastra Bank, Jaributi Association of Nepal etc. Available literature was reviewed in order to arrive at a justified marketing and trade pattern of NTFPs in Nepal.

Primary Sources of Information

Twenty-four (24) strategic districts were identified in the Terai and Inner Terai covering nine zones of the five Development Regions of Nepal. To generate information/data from the field, participatory research tools such as Focus Group Discussion (FGD), formal and informal interviews and interactions with the key informants were undertaken. Major stakeholders of NTFPs e.g. District Forest Office (DFO) officials, members of Community Forest User Groups (CFUGs), members of Village Development Committee (VDCs)/District Development Committee (DDCs), HPPCL staff, and NTFP collectors, traders and other knowledgeable persons of the area were consulted during the fieldwork, and relevant information/data was collected. The list of persons contacted during the fieldwork in Nepal and India is given in **Annex 1**. In order to ensure that the information is collected in a systematic manner structured questionnaires and checklists were developed and used. Information obtained from various sources was verified through triangulation and crosschecking. To have better understanding of the volume and value of

NTFPs traded, interviews were conducted with traders residing in the border towns of Nepal and major NTFP trade centers of India.

Quantitative assessment of the collection of NTFPs from the forests of Nepal, their transportation to the processing centers within Nepal and/or export to India or elsewhere tend to be a Herculean task. Such a situation exists basically because 1) the existing regulatory regime remains complicated; 2) there is an open border with India; and 3) there has not been any stock inventory and annual collection regime established so far. So for the quantitative estimation of the NTFPs available in the selected districts, organizations such as Community Forest User Groups (CFUGs), traders and exporters of NTFPs, private growers, government herbal farms, custom offices, Trade Promotion Centers and District Chamber of Commerce were visited in Morang, Sunsari, Jhapa, Ilam, Udaypur, Dhankuta, Tehrathum, Siraha, Saptari, Dhanusha, Mahottari and Sarlahi. Indian cities e.g. Siliguri, Kolkata, Lucknow, Kanpur and Delhi were also visited for the collection of information on market, demand, price and trend of NTFPs and verification of exports of NTFPs from Nepal. To arrive at relatively comprehensive information four types of survey were carried out. They are:

- Traders' survey
- Record of District Forest Offices
- Export records of Customs offices
- Information of some selected CFUGs

Besides administrating research tools in various selected locations, quadrats were laid to verify physical resources of NTFPs in Sunsari, Bara and Banke districts. The quadrats were taken in the locations identified by the team including PSC members within the survey districts. For authenticity of the collected information, triangulation methods and workshops were conducted wherever possible. Workshops were held in three places i.e., in Biratnagar (Morang), Simara (Bara) and Nepalgunj (Banke). Workshops were carried out to share information, disseminate the preliminary findings, verify the findings and generalize the available information and obtain guidelines for further fieldwork.

The participants of the workshops were: (i) CFUGs members (ii) Local traders of NTFPs (iii) Private NTFPs growers (iv) District level Community Based Organizations (v) NTFPs Growers and Exporters (vi) Forest and wild life conservation officials (vii) Local government officials (DDC/government officials) and (ix) DFOs. The list of participants, who participated in the workshop in Morang, Bara and Banke, is given in **Annex 2**.

1.4. Scope and Limitation of the Study

The study is expected to provide a sound background for the preparation of the detailed project proposal aimed at conservation and development and also the information gaps on marketing of NTFP species in the Terai regions of Nepal. However, the study has some limitations as follows:

- Although the survey teams visited 24 districts of Terai and Inner Terai districts of Nepal, it was not possible to interview all traders located in the districts because of time and resource constraints. Therefore, number of people interviewed in this study represents only a small number of NTFPs traders in Nepal. However, valid statistical generalization as well as adequate triangulation of information of the primary and secondary data is attempted.
- During the study period, there was political instability. As a result it was difficult to freely visit as well as interview the traders.
- Many of the traders were reluctant to share their real traded quantities thinking that the survey team was from tax office or similar institutions.

Chapter 2

Literature Review

This chapter provides the literature review on different aspects of the NTFP including its marketing and trade. There are few studies, which stress directly the concern of NTFP marketing. However, there are studies having some coverage on the marketing aspects in one-way or other.

1. Malla (1994): It is a study on uses and availability of medicinal plant resources in Bagmati zone, central Nepal. Data on traded quantities from 1979 to 1984 and 1987 to 1990 are provided. Based on declining exports in the early 1980s, the study concludes that the resource is overexploited. Causes are said to be urbanization, industrialization, habitat destruction, acculturation and destructive harvesting practices, especially in sub-alpine and alpine areas. The institutions involved in management and development of medicinal plants are outlined. The study stresses the needs for reformation of policy towards people-orientation, minimization of bureaucracy and inventory activities are put forward. Guidelines on how to formulate rules and regulations for collection of medicinal plants are prescribed. The prospects for cultivation are discussed, it is argued to be necessary in light of overexploitation of wild sources, and a plan for developing MAPs in the Bagmati zone is drawn up. It consists of setting up an organization at both zonal, district and village levels in co-operative societies, the organization will co-ordinate collection, cultivation and processing. Economic analyses are undertaken for medicinal plant cultivation and processing. Production of essential oils is concluded to be economically viable.
2. Rajbhandary and Bajracharya (1994): MAPs are important to the Nepali population in terms of health care and income generation, and to the global community in terms of biodiversity and prevention of environmental degradation. Increasing collection of MAPs has endangered their availability and therefore, domestication and cultivation is encouraged. Processing of MAPs is desirable to increase returns to collectors. Recommendation to set up a national body that would formulate concrete policies to improve the opportunities for processing and marketing of MAPs in Nepal is made. And it has recommended that research and development be prioritised and regional co-operation established. Data on production, annual turnover, collection and revenue of Herbs Production and Processing Company Limited (HPPCL) is provided.
3. Rawal et al. (1994): Nepal is rich in botanical resources having valuable NTFPs. Nepali people know little about their uses, demand and quality. HMG/N has a Master Plan to develop minor forest products by establishing herbal centers, farmers' co-operatives, for cultivation and regional facilities and for processing and marketing. The development work in this field is lacking behind due to various problems. It needs political commitment in the present democratic context. It has recommended giving high priority for the formulation of a separate clear-cut policy for NTFPs.
4. Shrestha et al. (1994): Early 1960s was the period of first scientific realization for domestication and commercial cultivation of medicinal and aromatic plants (MAPs) through establishment of Department of Medicinal Plants (DOMP) and research units and herbal farms in different ecological regions of Nepal, although the modern history of cultivation of MAPs in the country goes back to early 1890. Over harvesting of some of the MAPs in particular hill areas also led to realization of domestication and their commercial cultivation because of processing facilities within the country and for their export value. The existing infrastructure of more than a dozen herbal research and demonstration farms in the country along with the processing centers and export market encouraged the country to domesticate and commercially cultivate such

important MAPs for domestic use as well as for export. There is a tremendous potentiality of commercial cultivation of indigenous as well as introduced MAPs. However, several constraints like lack of favorable national policies, long term national planning, effective demonstration of commercial cultivation and marketing facilities of MAPs, practically at the grassroots level, awareness about commercial cultivation and processing facilities are key constraints. Post-harvest technology including temporary storage of produces, processing and marketing of MAPs are also key issues to be discussed to encourage the commercial cultivation of MAPs in the days to come.

5. Amatya and Amatya (1995): This is an exploration of possible strategies for optimum utilisation and marketing of medicinal plants that has been done with an aim to contribute maximum benefit to the rural collectors. Present status of collection and trade is outlined, measures to ensure sustainable collection are provided, and the market is discussed in terms of domestic and foreign demand. Policy and regulations pertaining to medicinal plant collection are discussed.

6. Bhattarai (1995): Gorkha district, due to high variation in altitude and the corresponding climatic factors, provides a home and protection to a large number of plant species that are both a source of income and livelihood to majority of the rural populace. As a result of poverty, illiteracy and lack of off-farm employment opportunities, excessive and unmanaged exploitation of wild plants has been largely contributing to their depletion in most parts of the district with consequent loss of biodiversity and wild plant resource base. The importance of the development of community owned NTFP-based enterprises involving the collection, local processing and marketing of NTFPs for economic development and biodiversity conservation in the district has been discussed. The sustainable use of wild plant resources and conservation of the biodiversity by the local communities through technical, financial and marketing support has been suggested.

7. Bhattarai and Croucher (1996): Biodiversity is the sum total of all the living organisms in a particular area, their individual variation, and the interactions between them. Harvesting of NTFPs can either have a positive or a negative impact on the conservation of biodiversity. This paper identifies and examines the underlying causes for improper extraction of NTFPs and the resulting adverse impacts on biodiversity, and then proceeds to present a different scenario in which NTFPs, when properly harvested, managed, processed, and marketed, can play a strategically positive role in the conservation of biodiversity as well as in the economic development of the region.

8. Edwards (1996): A thorough overview of the commercial NTFPs, with a focus on medicinal and aromatic plants has been provided. Aspects examined are species collected, volumes traded, and sustainability of harvest and government policies. A study of Hile in Dhankuta District and Basantpur in Tehrathum District, the Koshi Hills, was undertaken in which the marketing chain from Nepal to India was identified and the vertical distribution of income at the different levels of the trade was analyzed. Markets are discussed in terms of principal buyers, price fluctuations during an average trading season and price changes from 1980-81 to 1992-93. Methods for value-addition, including processing, are described and discussed, as are research priorities for increasing production and improving marketing. Appendices include notes on twenty major NTFPs traded to India and a bibliography of 500 references to NTFPs from cultivated and wild sources.

9. Shrestha et al. (1996): In this case study from Gyasumdo Valley, Manang District, five high-altitude medicinal and aromatic plants (MAPs) were investigated in terms of population density,

distribution, regeneration status and biomass production in nature. Socio-economic factors were investigated through interviews with inhabitant in three villages. Forty seven percent of the households interviewed collected MAPs for commercial purposes. Inhabitants of villages off the track are most involved in collection and trade of MAPs. Selective harvesting techniques were adopted in some localities, but overexploitation was feared on a general basis. An integrated management approach involving communities, establishment of herbal farms and processing possibilities is proposed.

10. ANSAB (1997): This report is a market study undertaken in Banke, Bardiya and Dolpa Districts and the Rapti zone. The objectives were to (i) identify forest products financially viable for commercial enterprise development; (ii) identify the human, technological and capital resources required to exploit forest products; (iii) identify social and ecological issues relevant to the enterprises; (iv) provide guidance to community forestry user groups and their project partner; and (v) develop criteria for prioritisation of enterprises and sites. Enterprises examined were in the Terai: sawmills and related enterprises, and in the middle hills and mountains: distillation of aromatic plants, and improved trading and minor processing of NTFPs. Serious constraints to sawmills were found. Distillation of medicinal plants is viable and should commence in the mountains first. Improved trading and minor processing of NTFPs could be based on grouping together communities collecting the same product. Activities should start in the middle hills. Descriptions, uses and natural regeneration of 18 medicinal plants are provided in an appendix.

11. Malla et al. (1997): The manual was prepared to help identification of 116 non-timber forest products in Nepal; 38 herbs, 24 shrubs and 59 trees. The species were selected on the basis of the criteria: export; religious, cultural, food and traditional medicinal values; industrial (potential) value; important fodder; and medicinal plants identified by WHO expert committee for primary health care. For each species there is a colour drawing and information on nomenclature (scientific, English, Hindi, Newari, Nepali and Sanskrit), family, distribution in the Himalaya, origin, vertical and/or altitudinal distribution, habitat (9 categories and 29 sub-categories), flowering period, fruiting period, parts used, principal chemical constituents, Ayurvedic and local uses and a brief description of characteristic plant features.

12. Olsen and Helles (1997): The trade in MAPs from the rural areas of Gorkha district in central Nepal to the wholesale markets in India was investigated over a two-year period. The annual trade varied from 180 mt. to 418 mt. and is currently composed of 36 products with an average collector value of 12 million Nepali Rupees. Approximately 98 percent of the products are exported unprocessed to India. The main actors in the trade are collectors, road-head traders, Terai wholesalers, and Indian wholesalers. Analysis of marketing margins and price data indicates that MAP markets are imperfect: there is limited market information and poor market integration. A small number of Terai wholesalers earn excessive profits while road-head traders have very low net margins. The implications of this for developing the trade, and thus increasing collector incomes at the national level are discussed. It is emphasized that the government should focus on provision of public goods, such as dissemination of price information and developing physical infrastructure, and not direct intervention in the market. Credit facilities should be promoted, and the royalty system should be reviewed and possibly replaced with an export tax. Bans on collection and trade need to be reviewed and justified and a restructuring of current approaches is required.

13. Subedi (1997): Development of local economy while conserving the renewable natural resources has become an integral part of sustainable development policy. NTFPs are one

category of resources that have a potential for contributing to the local economy and improved natural resource management, leading to conservation of the ecosystem and biodiversity of an area. This paper examines a range of issues and strategies in the NTFP sector for improving economic and environmental conditions for the benefit of local community members in a sustainable and equitable way. The first and foremost factor is the conservation of the resource base, ecosystem and biodiversity, from which NTFPs are harvested. This is dependent upon the sustainable harvesting and management. This, in turn, requires sufficient incentives to collectors for conservation by countering the threats. The paper starts with the current role and status of NTFPs in Nepal. Then important issues are pointed out and strategies are presented for discussion. The main issues include the improved production management, institutionalization of management system, development of enterprises for value-addition locally, and improved marketing and trade.

14. Bhattarai and Acharya (1998): Chiraito (*Swertia* spp.) occupies major position in the trade of wild medicinal plants. Thirty-four districts of Nepal have been found to contribute in the supply of Chiraito. It is traded in 27 major herb trade centers of Nepal from east to west. Comparatively, it is traded as one of the largest commodities in the trade of herb. Nine different species of *Swertia* spp. have been identified from the trade samples of Chiraito. A total of 419.3 mt. kg of Chiraito has been estimated in the trade during 1995/96. Among the total trade of Chiraito, more than 50% is traded from east Nepal.

15. Bhattarai (1998): Herbal drugs are used in all cultures and medicinal plants play a key role in world health. Over three-quarters of the world population, dominated by the developing countries, currently use plants as medicine. In most developing countries, the indigenous mode of herbal treatment is a part of the culture and the dominant method of therapy. These remedies, with a considerable extent of effectiveness, are socially accepted, economically viable and, mostly, are the only available source. Many modern drugs have their origin in plants and plants still contribute to about one-third of the modern pharmaceutical preparations. International trade on medicinal plants is increasing rapidly, mainly as a result of increased adoption of crude extracts for self-medication by the general public in the developed countries. The global role of medicinal plants in the health care systems with particular reference to Nepal, representing the developing countries, has been assessed on the basis of existing facts and figures. Finally, the role of medicinal plants in world health has been visualized inevitable for a long time to come.

16. Lafranchi (1998): The objectives of this report are to (i) identify the market potentials for selected NTFPs and the possible concrete marketing linkages; (ii) collect existing information about management/domestication techniques or identify potential research partners to identify such information; (iii) identify market quality requirements and visualise it in a form which is acceptable for field technicians and farmers; and (iv) explore the possibility to introduce Seabuckthorn (*Hippophae salicifolia*) or other potential income generating activities in Accham and Dailekh Districts. For the selected species information is provided on distribution, habitat, harvested part, use, harvest season, ecologically sustainable management, propagation, quality requirements, quality problems, production potential and market potential, as well as contact addresses to processing companies. Recommendations for NGOs include operation of a constant price/demand/supply monitoring system, co-operation for development of new production opportunities and linking rural communities and the market.

17. Parajuli et al. (1998): This is a manual developed for the purpose of teaching and identification of commercially collected NTFPs in Nepal. The manual is based on compilation of literature and field visits. Seventy species are described in terms of scientific name, local name,

trade name, parts used, natural occurrence, phenology, morphology, and conservation status in Nepal, market price and royalty rate, uses and active constituent. The description is accompanied by line drawings.

18. Subedi (1998). MAPs in the mountains of Nepal can contribute to the local economy and subsistence health needs while conserving the ecosystem and biodiversity of an area. The paper examines a range of conservation and development strategies and their results in this sector for improving economic and environmental conditions for the benefit of local community members in a sustainable and equitable way. The data and information for this paper came from the studies conducted and experiences gained while working in the 'Community Based Ecosystem Management Through Local Enterprise Development' project in Humla, Nepal, from January 1995 to December 1997. Starting with the theoretical base and contextual background at the initial period of the project, the utilization, harvesting and trade patterns of MAPs of Humla are assessed. The main strategies developed and tested are sub sector analysis for determining enterprise option, local capacity building, community based enterprise for additional incentives to collectors, strengthening community rights over resources, combining indigenous expertise with scientific knowledge, providing marketing and business support, promoting integrated conservation education, establishing linkages and co-ordination among user groups, and networking national level forum for proper policy formation and implementation support. It is emphasized that the integrated conservation and development approach that creates more and direct incentives to local communities can have more and faster conservation impacts than the traditional one. The impact of new commercial demand of these plant products, within the existing structure and functioning of Nepalese social system, is negative to the local communities as well as the natural ecosystem and biodiversity.

19. Subedi et al. (1999): This is a report of a workshop undertaken by the Micro-Enterprise Development Program (MEDEP), UNDP Nepal to initiate NTFP based micro-Enterprise development in Parbat District through participatory market analysis and development with emphasis on female entrepreneurs. Outputs of the workshop were: (i) an overview of the NTFP market and environment in Parbat District; (ii) a list of the most potential NTFPs for enterprise development, together with the opportunities and constraints for each of these products and strategies for overcoming these; and (iii) training of MEDEP staff and recommendations on an action plan for NTFP enterprise selection, strategy development and capacity building in other MEDEP districts. High potential products identified were allo, honey, bhang seeds and timur. Opportunities identified include supportive institutional environment (through various NGOs and the Community Forestry Program), high market demand and abundant natural resources, which can be easily managed. Constraints identified include ineffective co-ordination among line agencies in the district, low price, limited knowledge of storage, processing and sustainable harvest technologies, and the possibility of elite capturing areas having business/income potential. It is recommended that a NTFP working group comprised mainly of NGOs is set up at district level to address policy issues, that technology transfer and market issues be addressed on a product by product basis, and that participatory resource assessments be carried out for potential products. The participatory marketing and analysis development process in the workshop is described in an appendix.

20. Acharya (2000): Nepal's NTFPs base is declining rapidly due to the unscientific and unsustainable exploitation of the forest products. In the absence of proper management and control in collection and trade, NTFPs are becoming vulnerable, endangered, and even extinct. Nepal's Himalayan region is the major source of a diverse category of NTFPs harvested and traded to India and beyond. The products are exported from Nepal in the raw form in most of the

cases as roots, rhizomes, branches, leaves, stems, bark, fruits and seeds. Humla is one of the most remote districts in Nepal situated in Karnali zone within the Mid-western Development Region. The VDC included in the study is Rodikot. Climate of this area is temperate, cool-temperate and alpine. The major sources of income are NTFPs (herbs) such as Jatamansi, Kutki, and Atis; sheep-wool products; trade to Tibet; milk products like ghee; and honey. Collection of plants in premature stage is one of the reasons responsible for its vulnerability. The main issues are lack of adequate awareness about biodiversity conservation, lack of alternative job opportunity, and lack of planning and management. Some work has been initiated in order to make people aware of NTFPs management in Humla through ANSAB, Kathmandu, Nepal.

21. Bhattarai and Olsen (2000): Recent studies indicate that the annual trade in medicinal plants from the Himalaya amounts to thousands of tons of roots, rhizomes, tubers, fruits and leaves, etc. The annual value of the trade is worth millions of US Dollars. Rural households in forest throughout the Himalayas collect the medicinal plants. Hundreds of species are harvested and sold to traders in order to increase household income. The paper briefly reviews the limitations of existing knowledge on medicinal plant markets and the need for common methodologies to enable comparative studies is emphasized. An approach used to investigate the economic importance of commercial medicinal plants to Nepal is presented. The approach is aimed at generating data at the national level as opposed to the more common local studies. It is specified, in eight distinct steps, how a national level investigation was planned and implemented in Nepal. Details of each step are provided, including objectives and main contents. Based on the approach applied in Nepal, the paper develops preliminary recommendations on a five-level generic methodology for investigating trade in medicinal plants at the national level in South Asia.

22. Bhattarai and Shukla (2000): The Mid-western Development region of the country is the largest supplier of NTFP raw materials but, due to shortage of processing capabilities and lack of information on adequate markets, it has remained a mere supplier of raw materials to India. Poor recognition of the role of different levels of value addition and processing, lack in product diversification and inadequate knowledge on marketing of NTFP resources have become the characteristic feature of this Development Region. The need of different types and levels of NTFP processing and value adding units, and the inevitability of information on markets and marketing systems have been emphasized. The paper argued that forest dependent communities be provided with appropriate models for collecting, post-harvest services, and primary processing of NTFPs. It has also been emphasized to assess how communities can integrate and extend these models, how they can develop management strategies and use the acquired knowledge for sustainable harvesting, local level processing and marketing of the resultant high value products. Shifting the traditional extraction and trading systems to enterprise development must be equipped with technical, management, marketing and training support. Cooperative approach appears to be a powerful tool, being able to attract financial support from outside to develop a business plan including marketing studies. Information gathered in market studies helps develop new post-harvest processing and value-added systems for strategic products. Policy makers, extension workers, NGOs, and community leaders can be the most potential means to introduce processing and marketing to small-scale producers as well as other processing/value adding organizations for local as well as the country's economic development and sustainability of resources. Finally, for balanced development, it is important that all functions, from resource management (through raw materials production and processing) to marketing get sufficient attention. Such an attempt is a challenge as well as an opportunity.

23. Neupane and Ghimire (2000): Dailekh and Achham districts are at early stages of development and poverty is aggravated by poor rural infrastructure, underdevelopment of rural-urban linkages, poor resource management, etc. Much of the agricultural land is already over-exploited and the potentiality for increasing traditional crop yield is limited without external inputs, which may be expensive for rural people. Similarly switching from cereals to cash crop production in their private land may not be appropriate for poor farmers who are risk averse. But majority of the people improved forest utilization, which has immense scope for promotion, management and utilization of NTFPs and resin, because the forest-covered area is large. Forest User's Groups (FUGs) are emerging and market is available in the region. FUGs are interested to maximize income from community forests if they are exposed to know-how (training in domestication, value adding techniques and management), provided initial material support (seed and seedling) and enabled to better bargaining (information on market and price). However, capacity building of FUGs in group management and legal provision regarding responsibility and authority is yet to be a part of support. Despite the promotion of NTFP in community forests and people's attitude for have private cultivation, payment of royalty may hinder the cultivation of NTFP in private land.

Chapter 3

Institutions involved in the Promotion of NTFPs

This chapter provides the description of government organizations, NGOs, INGOs, bi-lateral and multilateral institutions directly or indirectly involved in the promotion of NTFPs. Some institutions are concentrating their activities only to some selected districts while some others are covering the whole nation. The information about these institutions will help policy makers, planners and implementors to undertake appropriate programs without overlapping or duplication, which will enable optimum utilization of resources. It will also enhance proper coordination and collaboration while implementing the programs of NTFPs. A brief description of some of the important institutions involved in the promotion of NTFPs is presented below:

(a) Public Sector Institutions

i. Ministry of Forests and Soil Conservation (MFSC), Singhadurbar, Kathmandu

The ministry has been formulating rules, regulations and making other policy decisions in order to enhance the income and employment status of the rural people who are ethnically engaged and are dependent on NTFPs for their basic requirements. It also coordinates among various departments and projects within the ministry. Foreign Aid Coordination Division (FACD) of the ministry is responsible for overall coordination with donors and the recipients, among the government agencies, and I/NGOS working in the field of NTFPs and MAPs. Policy formulation, conflict resolution, information dissemination and information on market mechanisms are being provided by the ministry and its various Departments. Biodiversity conservation, research and monitoring and evaluation, cultivation management and establishment of marketing channels are the major focus of the MFSC. Recently the Government has established a high level NTFP Promotion Board for the development and promotion of NTFP sector that would in the long run help economic development of the country.

ii. Department of Forest (DoF), HMG, Babarmahal, Kathmandu

Conservation and management of forest resources including NTFPs are the major functions of the department. The DoF generates revenue from NTFPs by issuing collection permits to collectors and trades. Almost all of the 75 district forest offices generate revenue from NTFPs.

iii. Department of Soil Conservation and Watershed Management, HMG

The DSCWM through its 55 district offices is responsible for soil and water conservation programmes both in government and private lands. It works in partnership with the local people and conducts participatory action for the conservation of sensitive watersheds and their catchments areas. Its activities are based on watershed or subwatershed level. It applies bioengineering techniques to conserve soil and watershed using trees and NTFPs having good soil binding properties such as vetiver, bamboo and broom grass.

The department's role in the NTFP development in the Terai region can be important as it can help promote NTFP cultivation and management in the watershed areas and on the farmlands in area of its activities.

iv. Department of Plant Resources (DPR), HMG, Thapathali, Kathmandu

The Department is involved in the management and improvement of NTFP resources. It has many farms, botanical gardens and herbariums established to undertake action research activities and piloting of extension activities. *Ex-situ* conservation of endangered as well as high value NTFPs is the major activity of these farms. Data and information collection on MAPs, integrated research activities, publication of documents and extension materials on NTFPs are the major focus area of the department. It has also established a distillation unit at Jumla for high value aromatic oils. It is also undertaking demonstration of cultivation management of high value MAPs and information dissemination through training.

v. Singhadurbar Vaidyakhana Development Committee, Anamnagar, Kathmandu

This is an autonomous government-managed organization involved in the production of ayurvedic medicines for general use. The main function of this organization is purchasing of MAPs and their processing for the production of ayurvedic medicines to be marketed inside the country as well as exporting to foreign countries. It has been supplying ayurvedic preparations to the government managed district level Ayurvedic centers (Vaidyakhana), as well. It also meets other domestic requirements to the private sector practitioners through its well-established marketing mechanisms. MAPs collectors within the country are getting a reasonable and fair price, which in turn works as incentive to cultivate/collect MAPs.

vi. Royal Drugs Limited, Babarmahal, Kathmandu.

The major activity of this institution is the production and distribution of about 100 types of allopathic medicines. However, it also produces medicines using locally available NTFPs and MAPs. There are only about five products based on NTFPs and MAPs being manufactured and marketed.

vii. Herbs Production and Processing Co Ltd. (HPPCL), Koteswor, Kathmandu

HPPCL is a government undertaking that is involved in the farming of aromatic plants on its own farms and also with the participation of farmers living in the adjoining area. It has its own distillation and processing plants where it extracts high value aromatic oils. It also purchases aromatic oil extracts for its own medicinal and aromatic products as well as for export to foreign countries. HPPCL collects resin (khoto) and *Taxus baccata*, which is again sold to local as well as foreign buyers. The main function of the HPPCL is resource collection, its processing and sustainable utilization and generation of revenue through sales and royalty payments to the government.

viii. Mahendra Sanskrit University, Bijauri, Dang

Mahendra Sanskrit University, Bijauri of Dang district in collaboration with Royal Nepal Academy of Science and Technology (RONAST) is undertaking the cultivation and management of some species of NTFPs at Bijauri.

(b) Private Sector Institutions

i. Alternative Herbal Industry (AHI)

The Alternative Herbal Industry (AHI) is a value driven, high quality herbal tea and other herbal products manufacturer and suppliers. AHI registered as a company, is the trade wing of SEACOW and the commercial partner of that cooperative. It is involved in the processing and

marketing of herbs and other products as well as in ensuring that the producers receive a fair wage. A half of the profit made by AHI is channeled back to undertake the activities of SEACOW.

AHI, with the support of its social partner SEACOW, started its work with a couple of totally natural, traditional recipe-based, and hand processed and minimally packaged herbal teas. Now, it, together with primary producer organizations of some of the most marginalized groups of people, has developed a variety of herbal teas and supplied them in national as well as international markets.

ii. Dabur Nepal Ltd. Tinkune, Kathmandu

Dabur Nepal is an Ayurvedic Company and is operating green house seedlings of high value MAPs such as *Taxus baccata*, *Swertia chiraita*, *Valerina wallichii*, etc., and distributing the seedlings to local farmers and institutions. It is also involved in the cultivation of MAPs through out-grower program, contract cultivation as well as action research in order to strengthen the production mechanism of MAPs within the country.

iii. Gorkha Ayurved Company, Gorkha

The Gorkha Ayurved Company is a joint venture between Nepalese entrepreneurs and French NGO CIDR (French acronym for International Centre for Development and Research), and German entrepreneurs. Production unit based at Gorkha, it was established in 1984 AD, with the aim of developing Nepal's tremendous potential. The Company has been working at Gorkha District of Nepal to strengthen the economic condition of the remote villages involving local communities in collection and processing of Ayurveda Health products.

Gorkha Ayurved is registered as Private Limited Company in accordance to Nepal Company Act under the department of industry with the limited liabilities. The company has established its administrative and liaison office at Chhetrapati, Kathmandu in the form of a regular channel for the distribution of its entire products including medicines and herbal tea in the local, national as well as international markets and also for the maintenance of its updated accounting processes.

The company is using more than 150 local medicinal plants while manufacturing Ayurvedic medicines and herbal health products. About 90% of the total ingredients used for processing of herbal products and medicines comes from local resources, the balance that is not available locally are imported from other countries.

The Company is producing two categories of products.

- General Health Products: viz, Chyavanprash, Pachmola, Guduchi herbal tea, etc.
- Essential Ayurvedic Medicines: viz. Altrin, Amati, Balamrit, etc.

Essential Ayurvedic Medicines are further divided into two categories:

- Classical products: Based on classical Ayurveda literatures (Sanhitas) formulation: viz, Avipattiker, Chyavanprash and Shilajit.
- Parent Products: The formulation developed by individual company to distribute within its own patent right: viz, Altirin, Amati, etc.

(c) I/NGOs and Other Institutions

i. Asia Network for Sustainable Agriculture and Bio-resources (ANSAB)

ANSAB is working in the field of bio-diversity conservation of the mountain districts, such as Bajhang, Dolakha, Baglung and Jumla. It is doing so through its various programs like enterprise-based bio-diversity conservation by promoting community based forest enterprises, market information system for NTFP and certification and sustainable marketing of NTFPs. In its program, there are elements of NTFPs promotion by enabling the FUGs to include NTFPs in the forest management plans. The organization helps identify NTFP promotion interventions such as training and marketing.

ANSAB has accomplished a program at the central level to improve the MIS system geared towards the benefits of NTFP traders and collectors for equitable benefits. This initiative has increased the income of collectors from Rs. 2,665,435 to Rs. 10,096,725 in the programme districts.

ii. Canadian International Centre for Studies and Cooperation (CECI)

CECI/Nepal since recent past has been involved in the natural resource management of the selected far western districts of Nepal. It was involved in the development of methodologies for sustainable management of endangered and high value medicinal plants in Jumla. In 1997-98 it had conducted field-testing of methodology for NTFP inventory taking and provided recommendations for future inventories. Information dissemination on the management and marketing of endangered and high altitude medicinal and aromatic plants as well as their conservation for sustainable livelihood were some of its on-going programs.

iii. CARE Nepal

RADP/CARE is basically involved in conducting seminars, workshops and NTFP management training and other types of training programs to create a common forum for all the stakeholders working in the field of NTFPs. Its objective is to identify the problems and constraints on cultivation, collection and processing and marketing of NTFPs. It is also working in Bajhang district in the identification of the NTFPs and medicinal plants. It has provided training to FECOFUN members on Chiraito (*Swerita chiraita*) cultivation and nursery management and the sustainable harvesting, management and marketing and networking system development. It has provided support to establish NTFP enterprises producing Allo and Bhangro products in Bajura district.

iv. Center for Community Development and Research (CCODR)

CCODAR has been involved in community development program through sustainable use of NTFPs. Its target groups are the farmers of Gorkha district and the Gorkha Aurved Company (GAC). It has initiated income generating activities through nursery establishment and cultivation practice of NTFPs through local farmers as well as processing of NTFPs through GAC and marketing the processed products. The products of the GAC are also utilized in primary health care of the local farmers, as well.

v. Center for Environmental and Agricultural Policy, Research, Extension and Development (CEAPRED)

Promotion of NTFPs through nursery establishment in community forests as well as private lands is the main activity, which creates market access for NTFPs for rural development and

poverty reduction. CEAPRED is also involved in undertaking community based economic development projects through strengthening local institutions and promoting natural resource management, such as harvesting and marketing of NTFPs and awareness creation through training and other support.

vi. DEPROSC/Nepal

Development Projects Services Center (DEPROSC) Nepal is involved in the identification of strategic NTFPs for poverty reduction programs in collaboration with ICIMOD, Dabur/Nepal and IFAD. Capacity building of 60 CFUGs for NTFP harvesting, capacity building of 230 leasehold forest groups of poor farmers for cultivation of NTFP and marketing were among the major programs of DEPROSC/Nepal.

vii. Environment, Culture, Agriculture, Research and Development Society (ECARDS)/ Nepal

Sustainable soil management, advocacy for community forestry and study and inventory on forest resources are the major area of focus of ECARDS/Nepal. The main purpose of these programs is to provide conservation education and promotion of soil fertility through management of organic components of the soil, access to and control over forest resources and inventory taking of plant resources. This organization has also been promoting *in-situ* conservation of forest resources through conservation education and training to farmers, GOs, NGOs, CBOs, local leaders and CFUGs.

viii. GTZ/Churia Forest Development Project, Lahan, Siraha

The project was involved in NTFP related activities such as cultivation, land productivity increment by introducing NTFPs, protection of valuable species and improve economic opportunity by promoting NTFP processing and marketing. The promotion of NTFP processing and marketing was confined to the low-income groups of Siraha and Saptari. With its assistance some community-based organizations were actively involved in processing and marketing of NTFPs. Besides, the Ministry of Forests and Soil Conservation and the Department of Forest are supporting NTFP cultivation, processing and marketing through various policy measures.

ix. Nepal Agroforestry Foundation (NAF)

This organization is working with CFUGs in the mid hill areas and private forest groups of the terai. The main activities are focussed on the promotion of NTFPs through identification and their marketing linkages in order to generate higher benefit to the rural people. It has been focussing on the expansion of agroforstry that motivates the farmers to adopt the cultivation of potential and high value NTFPs without loosing the immediate agricultural subsistence products that are grown on the farmers' marginal land pieces.

x. SNV/Nepal

The SNV/Nepal is contributing to biodiversity conservation and sustainable management of resources through increased benefits to forest users. One of the major programs is national capacity building for the promotion of community based forest enterprises in Nepal. In this context, capacity building has been initiated through national partners in the NTFP sub-sector. It is basically trying to deliver the business development services to forest based enterprises and has contributed to policy advocacy, reform and implementation of community forestry and NTFP enterprises.

Chapter 4

Status of NTFP Production and Marketing

4.1 Major Types of NTFPs Available

NTFPs can contribute in an important way to the Nepalese economy. Approximately, 800 species of MAPs/NTFPs are used as foodstuffs, flavoring agents and spices, perfumes and cosmetics, pharmaceuticals and biological agents. Approximately 100 to 150 species of NTFPs are traded. The number of traded species could be even higher as the government estimation is based on the formal market demand that tends to be conservative. Local communities on the other hand who also use NTFPs for their subsistence livelihood have identified many species and multiple uses (Gautam and Davoe 2002 quoted by Kristina 2002). As embodied in the Forest Regulations, the government has so far officially identified 234 valuable NTFPs in the country; whereas locals from a relatively small area under a single forest type identified 436 NTFPs (Gautam K.H. and Devoc, N.N., 2002).

According to Edwards (1996), NTFPs of Nepal fall roughly into two categories, namely high value products from high altitude and low value products from lower altitude (below 2000 m). He has identified 39 important NTFP species of these two categories, of which 17 (44%) are concentrated in the low altitude region (Table 4.1).

Table 4.1 Type of important NTFPs available in the Low Altitude Areas

S.N	Scientific name	Nepali name	Plant type	Habitat	Altitude (m)	Product
1.	<i>Acacia rugata</i>	Sikakai	Tree	Forest, scrub	200-1200	Fruits
2.	<i>Acorus calamus</i>	Bojho	Herb	Open forest, marsh	500-2200	Roots
3.	<i>Asparagus racemosus</i>	Kurilo, Satawar	Climber	Scrub	600-2100	Roots
4.	<i>Cinnamomum glaucescens</i>	Sugandhakokila	Tree	Forest, farm	200-1200	Fruits
5.	<i>Cinnamomum tamala</i>	Nepali dalchini	Tree	Forest, scrub, farm	450-2100	Bark
6.	<i>Cinnamomum tamala</i>	Tejpat	Tree	Forest, scrub, farm	450-2100	Leaves
7.	<i>Dioscorea deltoidea</i>	Vyakur	Climber	Forest, scrub	450-3100	Roots
8.	<i>Elaeocarpus sphaericus</i>	Rudraksha	Tree	Forest, farm	800-1500	Fruits
9.	<i>Entada phaseoloides</i>	Paangro	Climber	Forest, scrub	300-1400	Fruits
10.	<i>Phyllanthus emblica</i>	Amla	Tree	Forest,scrubs, farm	200-1200	Fruits
11.	<i>Piper longum</i>	Pipla	Climber	Forest, scrub	200-1500	Fruits
12.	<i>Rauvolfia serpentina</i>	Sarpaghandha	Herb	Open forest	0-1200	Roots
13.	<i>Rubia majith</i>	Majitho	Climber	Forest, scrub	1200-2700	Stems, roots
14.	<i>Sapindus mukorossi</i>	Rittha	Tree	Forest, farm	0-1500	Fruits
15.	<i>Terminalia bellerica</i>	Barro	Tree	Forest, farm	500-1500	Fruits
16.	<i>Terminalia chebula</i>	Harro	Tree	Forest, farm	500-1500	Fruits
17.	<i>Zanthoxylum armatum</i>	Timur	Small tree	Forest, farm	1100-2500	Fruits

Source: D.M Edwards (1996); Non-Timber Forest Products From Nepal: Aspects of the Trade in Medicinal and Aromatic Plants, Forest Research and survey Center, Ministry of Forests and Soil conservation.

According to Dabur Nepal about 19 types of NTFPs hold high market demand, of which 8 species (42%) are available in the lower hills and Terai, 7 species (37%) in high hills and 4 species (21%) in the mid-hills (Table 4.2).

Table 4.2 Types of NTFPs Having High Demand and their Locations of Availability

Geographical Location	Scientific Name	Local Name
High Altitude Plants	1. <i>Anacyclus pyrethrum</i>	Akarkarra
	2. <i>Nardostachys grandiflorai</i>	Jatamansi
	3. <i>Picrorhiza kurrooa</i>	Kutki
	4. <i>Rheum australe</i>	Padamchal
	5. <i>Saussurea costus</i>	Kuth
	6. <i>Swertia chirayita</i>	Chraito
	7. <i>Texus wallichiana</i>	Lauth sallo
Mid Altitude Plants	1. <i>Asparagus racemosus</i>	Satawor, Kurilo
	2. <i>Crocus sativus</i>	Saffron
	3. <i>Hypericum perforatum</i>	St. John's Wort
	4. <i>Valeriana Jatamansii</i>	Sugandhwal
Low Hills/Terai	1. <i>Carthamus tinctorius</i>	Kusumphool
	2. <i>Mentha arvensis</i>	Pudina
	3. <i>Phyllanthus emblica</i>	Amala
	4. <i>Piper longum</i>	Long Pippla
	5. <i>Piper peepuloides</i>	Round Pippla
	6. <i>Silybum marianum</i>	Milk thistle
	7. <i>Withania somnifera</i>	Aswagandha
	8. <i>Zanthoxylum armatum</i>	Timoor

Source: Dabur Nepal, Kathmandu, 2002.

In the Inner Terai and Siwalik of eastern region, 11 major NTFPs were ranked in the first choice by the local farmers (Yuka, 2002) detail description of which is given in Table 4.3.

Table 4.3 Major NTFPs Type in Eastern Siwalik

Scientific Name	Local Name	Significance
<i>Acrous calamus</i>	Bojho	<ul style="list-style-type: none"> • High demand in the local, national and international market. • Major exported species from Nepal. • Only available in the Ilam Siwalik bordering mid-hills.
<i>Asparagus racemosus</i>	Kurilo	<ul style="list-style-type: none"> • High demand in local, national and international markets. • High interest of local people in cultivation. • Major export species from Nepal. • Several companies trading with MAPs in Nepal and India have given this species a priority for cultivation project. • Abundant in the past and very much traded in Ilam Siwalik
<i>Bambusa arundinacea</i>	Bans	<ul style="list-style-type: none"> • Play an important role in the economy of Ilam Siwalik • Highly demanded in the Bhutanese Camp (also as construction material).
<i>Ephemerantha macraei</i>	Sunakhari, Jivanti	<ul style="list-style-type: none"> • Local demand for the trade to India • Illegal trade: Orchids are banned for export. • Widely available in Ilam Siwalik.

Scientific Name	Local Name	Significance
<i>Glycorrhiza glabra</i>	Jethi madhu	<ul style="list-style-type: none"> • Relatively low demand for trade in India. • Widely available in the Siwalik
<i>Phyllanthus emblica</i>	Amala	<ul style="list-style-type: none"> • High demand in the local, national and international market. • Several companies trading with MAP in Nepal and India have given this species a priority for cultivation project. • Market value only if harvested in big quantity and transported in a short period of time for the extraction of the pulp (low value plant). • Needs high investment. The first fruits can be collected 6 years after planting of seedlings. • Low interest of local people in the cultivation and collection.
<i>Piper longum</i>	Pipla, Chabo	<ul style="list-style-type: none"> • High demand in local, national and international market. • Imported in Nepal for processing. • Several companies trading in MAPs in Nepal and India have given this species a priority for cultivation project. • Low local knowledge about the species.
<i>Rauvolfia serpentina</i>	Sarpagandha , Chandmarua	<ul style="list-style-type: none"> • Banned for export in raw form. • High demand at local level for illegal trade, Demand at the international market. • Major exported species from Nepal in the past. • Facing difficulty in propagation • Abundant in the past and very much traded in Ilam Siwalik.
<i>Rubia majith</i>	Majitho	<ul style="list-style-type: none"> • High demand in local, national and international market. • Major exported species from Nepal. • Available in the Ilam Siwaliks at the frontier with the mid-hills.
<i>Thysanolaena maxima</i>	Amriso	<ul style="list-style-type: none"> • Very important for the people living in Ilam Siwalik and cultivated all over the area. • At present relatively in low quantity collected due to its decrease in forests. • Can help reclaim degraded area. • High quality is found in the mid-hills not in the Siwalik range.
<i>Zanthoxylum armatum</i>	Timoor	<ul style="list-style-type: none"> • High demand in the local, national and international market. • Major exported species from Nepal. • Only available in the Ilam Siwalik bordering mid-hills.

Source: Yuka Greiler and Ujjwal Subedi, The Economy of the four major Non-timber Forest Products in the Siwalik Area of Ilam Siwaliks, Practical Training Report 2001, IUCN Nepal.

NTFPs are available in government-managed forests, community forests, leasehold forests as well as in private lands. The private effort in NTFPs so far is not so prominent. Majority of the NTFP collection is from government and community forests. The records of sample community forests visited by the study team reveal that the CFUGs were well acquainted with the value of NTFPs for their livelihood, and have responded accordingly by initiating protections and plantation in the private and communal lands. (Table 4.4 and Annex 3).

Table 4.4 Type of NTFPs Available in the Sample Community Forests

S.N.	Name of the CF	Area (Ha)	House hold No.	Major NTFPs available in the forests	Major NTFPs cultivated by the farmers
1.	Basantahariyali CF, Akabare, Ghorsing, Dang	270.0	145	Gurjo, Dalchini, Sugandhakokila, Harro, Barro, Asuro, Ritha, Amala, Bel, Arjun, Chyuri, Rajbrikhsa, Timur, etc.	
2.	Batabaran CF, Jhalari, Kanchanpur	150.0	515	Pipla, Kurilo, Harro, Barro, Amala, Tendu, Khair, Musli, Bel, Kauso, Rohini, Mahuwa, etc.	Sissoo and Kimbu
3.	Baitada CF, Baitada, Daiji, Kanchanpur	300.0	119	Kurilo, Harro, Barro, Amala, Mahuwa, Pipla, Tendu, Khair, Musli, Bel, Kauso, Rohini, etc.	Citronella, Mentha and Palmarosa
4.	Belapur Tharu CF, Gularia, Bardiya	63.0	43	Pipla, Kurilo, Sarpagandha, Bet, Harro, Barro, Sissoo.	
5.	Chaite CF Basantapur-3, Terathum	226.4	248	Argeli, Lokta, Allo, Malingo, Chiraita	Chiraito
6.	Chappan CF, Triyuga-2, Udayapur	1105.0	881	Harro, Barro, Kurilo, Amala, Ritha, Bhorla Leaf, Sal Dhup.	<i>Cinnamomum tamala</i> (Tejpat), <i>Emblica officinalis</i> (Amala), <i>Asparagus racemosus</i> - (Kurilo)
7.	Dhusari CF, Rajahar-7, Nawalparasi	67.5		Amriso, Kurilo, Harro, Barro, Chuyri, Bans, Amala, Amaro, Bet, Nigalo, Ritha, Pipla, Aswagandha, Sarpagandha, etc.	160 species of NTFPs identified with close collaboration with NGOs
8.	Dumresanne CF, Belhara -2, Dhankuta			Citronela, Khoto, Lemon Grass, Grass, Mentha.	Citronella, Mentha, Pinus, <i>Thysanoolena maxima</i> (Amlisho), <i>Bambusa sp.</i> (Bans)
9.	Jagriti CF, Birendranagar-11, Surkhet	50.0	42	Kurilo, Harro, Barro, Amala, Gurjo, Ritha, Bans, etc	
10.	Jagriti Mahila CF, Pourahi-4, Rautahat	27.0	99	Aathingare, Harro, Barro, Kurilo.	
11.	Jalandhara CF, Mahadevpuri, Banke	76.0	82	Pipla, Kurilo, Harro, Barro, Amala, Tendu, Khair, Musli, Bel, Kauso, Rohini, Mahuwa, etc.	Sarpagandha, Sikakai
12.	Kalika CF, Birendranagar, Khairahai, Chitwan	1027.5		Amriso, Kurilo, Haro, Barro, Chuuri, Bans, Amala, Ritha, Pipla	Kurilo

13.	Mahila Upkar CF, Pragatinagar, Kohalpur, Banke	25.6	41	Dhairo, Kusum, Bhorla, Khair, Simal, Jamun, Indrajau, Amaltas, Sarpagandha, Pipla, Satabar, Harro, Barro, Amala, Tendu, Khair, Musli, Bel, Kauso, Rohini, Mahuwa, etc.	Satabar, Sarpagandha, Amriso, Bans, Bet, Bakaino, Kusum and Neem.
14	Pragatisil Community Forest, Simra, Bara	210.0		Rajbrikchha, Kurilo, Harro, Barro, Amala, Pipla, Bamboo, Bet, Panisaro, Damor	Kurilo
15.	Radha Krishna Mahila CF, Gularia, Bardiya	5.0	29	Pipla, Kurilo, Harro, Barro, Amala, Sikakai, Gurjo, etc	Pipla
16.	Radha Krishna CFUG, Lal Bandi, Sarlahi	49.0	126	Harro, Barro, Kurilo, Rajbrikchha, Sarpagandha, Pipla, Neem, Kaju, Simal, Amala, Tejpat,	<i>Azadirachta indica</i> (Neem) <i>Emblica Officinalis</i> (Amala)
17.	Raniban Community Forest, Makawanpur:	151.9	60	Kurilo, Bamboo, Bet	Kurilo and fodder Grasses cultivation
18.	Sati Karnali CF, Sati, Narayanpur, Kailali	298.0	211	Pipla, Kurilo, Sikakai, Harro, Barro, Amala, Tendu, Khair, Musli, Bel, Rohini, etc.	Pipla, Sikakai and Kurilo
19.	Shantinagar CF, Itahari-2, Shantinagar, Sunsari	200.0	1370	Citronella, Harro, Barro, Rajbrikchha	Citronella, Ritha
20.	Shivanagar CF, Butwal, Rupandehi	339.8		Amriso, Kurilo, Amala, Pipla, Sarpagandha, etc.	
21.	Shreekrishna CF, Kaluapur, Kanchanpur	110.0	90	Kurilo, Amala, Pipla, Harro, Barro, Tendu, Khair, Musli, Bel, Kauso, Rohini, Mahuwa	
22.	Sri Ambikadevi CF, Gagretal, Jarbuta, Surkhet	138.0	72	Kurilo, Pakhanbet, Harro, Barro, Ritha, Bans, etc.	
23.	Sri Manakamana Mahila CF, Ghorahi-10, Dang	4.7	27	Sarpagandha, kurilo, Harro, Barro, Bans, etc.	Sarpagandha
24.	Tengnuwa Mahila CF, Sukhad, Ghodaghodi, Kailali	30.0	45	Kurilo, Pipla, Harro, Barro, Amala, Kauso, Sikakai, Khair, Rohini, etc.	Rattan

Source: Field Survey, CEDA, 2003.

The participants of the workshops held in the three regions, namely Morang, Bara and Banke had identified NTFPs available in the respective regions. The NTFP species ranked or prioritized by workshops are also similar to the findings above (Annex 4).

4.2 Volume of NTFPs Collection/Production

The volume of NTFP collection/production varies by source. Official records of the Department of Forests based on the royalty collection indicate that the country produces about 2,100-3,000

tons of NTFPs annually. The Mid-western Region of Nepal produces the maximum quantity of NTFPs (43%) followed by Western (19%), Central (16%), and Far-western (16%) and Eastern (5.52%) respectively (Table 4.5).

Table 4.5 DOF Data on Annual NTFP Production

S.N.	Development Region	1999/00	2000/01**	2001/02
		Quantity (MT)	Quantity (MT)	Quantity (MT)
1.	Eastern	222	182	675
2.	Central	688	436	356
3.	Western	230	235	1,400
4.	Mid-western	865	891	NA
5.	Far-western	626	397	508
Total		2,631	2,141	2,939

Source: Department of Forest, 2059 B. S. (2002), Hamro Ban in Nepali,
Note: **: 41 districts only. NA - Not Available

The official records of the District Forest Offices reveal that the collection permits were granted for collecting about 18,728 tons of NTFPs officially from Terai and Inner Terai regions in the fiscal year 2002/2003 (Table 4.6).

Table 4.6 NTFP Collection Permits Issued by District Forest Offices in Selected Terai and Inner Districts of Nepal (2002/2003)

Development Region	Districts Included	Number of NTFP Species	Permit Granted (Quantity- M. Ton)
Eastern	Dhankuta, Udyapur, Jhapa, Morang, Sunsari, Siraha, Saptari	33	1316.961
Central/ Western	Dhanusha, Sarlahi, Rautahat, Bara, Parsa, Makwanpur, Chitwan, Nawalparasi, Rupandehi, Kapilbastu	44	15,391.86
Mid and Far-western	Dang, Surkhet, Banke, Bardia, Kailali, Kanchanpur	47	2018.723
Total			18727.544

Source: Records of the Concerning District Forest Offices, 2003.

The record of the sample districts shown in Table 4.7 below also indicates the type of NTFPs that were granted collection permit. The quantity of the herb collection permission given by the District Forest Offices varies significantly in different years (**Annex 5**).

Table 4.7 NTFP Collection Permits Issued by District Forest Offices in Selected Terai and Inner Districts of Nepal (2002/2003)

Name of NTFPs		Quantity Permitted (MT)		
Local	Scientific	Morang	Parsa	Banke
Amriso	<i>Thysanolaena maxima</i>			1.0
Babiyo	<i>Eulaliopsis binata</i>			1384.9
Bhorla Bokra	<i>Bauhinia vahlii (bark)</i>		23.0	
Bojho	<i>Acorous calamus</i>	0.240		
Chiriato	<i>Swerita chirayita</i>	0.625		
Indriani	<i>Trichosanthes triasspidata</i>	1.000		
Indriani ful ko ghata	<i>Trichosanthes triasspidata</i>	0.550		
Kurilo	<i>Asparagus racemosus</i>	1.200		0.4
Gujargano	<i>Stephania sp.</i>			0.03
Lohban	<i>Resin of Pinus roxburghii</i>	0.950		
Mahuwa (Flower)	<i>Bassia lalifolia</i>			0.098
Majitho	<i>Rubia manjith</i>	7.450		
Nepali dalchini	<i>Cinamomum tamala</i>	0.100		
Pawan Bokra			0.2	
Pipla	<i>Piper longum</i>	0.901		
Ritha	<i>Sapindus mukorossi</i>	37.580		
Rohini phal	<i>Malotus Philippinensis</i>			1.1
Sikakai	<i>Acacia rugata</i>			30.155
Tej bokra	<i>Cinnamom tamala</i>	0.600		
Tendu leaf	<i>Diospyros montana</i>			30.155
Timur	<i>Zanthoxylum armatum</i>	0.200		
Total		51.396	23.2	1447.838

Source: Record of the Concerned District Forest Office, 2003.

4.3 Trade Volumes and Destination

The trade of NTFPs has been growing as a booming business worldwide. Data on the collection and trade of NTFPs from Nepal varies generally by sources. The annual harvest and trade of commercial NTFPs from legal and illegal sources is roughly estimated to be between 10,000-15,000 metric tons and is composed of 100 species with a value of US \$ 8.6 million in Indian boarder according to Rawal and Paudyal (1999). According to ANSAB, the trade of NTFPs from Nepal to India is estimated to be approximately US\$ 26.5 million (ANSAB, Nepal, NTFP Network Newsletter, March 1997). Herbs export was equivalent to NRs. 71.5 million to India and the Ministry of Finance has recorded NRs. 25.9 million to other countries in the year 2000/01. Government data on the revenue from herbs export from Nepal for the last 10 years indicate that India contributed 73 percent to 89 percent of total NTFP revenue (Economic Survey, 2001/2002).

Official records of the Department of Forests based on the royalty collection indicate that the government collects annual revenue between Rs 13.90 million to 21.41 million by granting permission for the annual collection of about 2,100-2,900 metric tons of NTFPs. The annual income from NTFPs was worth to NRs. 16.6 million in the Fiscal year 1999/2000, NRs. 21.5 million in 2000/01 and NRs. 13.9 in 2001/02 respectively (Table 4.8). The permit issued for collection of NTFPs is given in Annex 6.

Table 4.8 Annual NTFP Royalty Collections by DOF (Rs in '000)

S.N.	Development Region	1999/00	2000/01	2001/02
1.	Eastern	1,047	1,185	2,078
2.	Central	4,853	3,443	2,058
3.	Western	2,516	4,158	7,163
4.	Mid-western	4,091	9,227	NA
5.	Far-western	4,141	3,441	2,631
Total		1,66,48	2,14,54	1,39,30

Source: Department of Forest, 2059 B. S. (2002), *Hamro Ban in Nepali*, based on 41 districts.
NA- Not Available

It is difficult to obtain exact data on NTFP trade by districts, as proper record and data are not kept in place. However, as mentioned above, it is found that NTFP business is increasing for the last two decades. It was found from the traders' survey that Nepalgunj in the western Nepal is the biggest trading center for NTFPs in Nepal. There are more than 20 established NTFP traders in Nepalgunj. Out of them, 3 relatively big traders capture almost 75 percent of NTFP business. NTFPs landed at Nepalgunj are further exported to north Indian cities of Lucknow and Delhi. According to Jaributi Association of Nepal (JABAN), 796 metric tones of NTFPs were exported from Nepalgunj in FY 2001/2002. Major NTFPs traded in big volume were found to be *Amala, Bhukesh, Chiraito, Dalchini, Dhupi, Dhupjadi, Jatamasi, Ritha, Sikakai, Sugandhawal, Tejpat* and *Timur* of which five are widely found in the siwaliks and Terai.

Study showed that in Eastern Nepal majority of traders have been engaged in seasonal business of NTFPs. They have often just been collecting the NTFPs from the villages whenever they received orders from bigger market centers such as Siligudi, Kolkata and Delhi. They were trading only on few species such as *Chiraito and Alainchi*. Major NTFPs traded from the Eastern Region were *Alaichi, Amriso, Chiraito, Indreni, Majitho, Nagbeli, Rittha and Suntho*.

India remains to be the major market for Nepalese NTFPs. The official custom records indicate that more than 134, 000 metric tons of NTFP was exported to India in 2002/2003 officially (Table 4.9). This figure, however, varies considerably year to year (**Annex 7**).

Table 4.9 Exports of Nepalese NTFPs to Indian Market from Different Customs Points (2002/2003)

SN	Custom Point	Export Quantity (MT)	Royalty (NRs)
1.	Kakarvitta (Jhapa)	7,126	499,495
2.	Bhantabari (Sunsari)	96,995	1,304,800
3.	Jogabani (Morang)	299	85,333
4.	Malangwa (Sarlahi)	35	18,650
5.	Vittamor (Mahotari)	26,035	18,800
6.	Gaur (Rautahat)	35	349,900
7.	Birgunj (Parsa)	289	84,824,000
8.	Sunauli (Rupandehi)	423	207,016
9.	Krisnanagar (Kapilbastu)	132	3,592,225
10.	Rupaidiha (Banke)	727	NA
11.	Kailali	2,424	NA
12.	Kanchanpur	319	NA
	Total	134,839	90,900,219

Source: Concerning District Customs Department Offices, 2003

The collection of NTFPs takes place in different pockets of Terai region before it is exported to India. The information provided in Table 4.10 and Annex 7 indicates the patterns of NTFP trade in Nepal.

Table 4.10 Major NTFP Purchase and Procurement Centers in Nepal Terai

Market Center/District	No. Of Key NTFPs Traded	Average Quantity Traded in 2002/2003 (MT)
1. Birtamod (Jhapa)	5	23.7
2. Dharan (Sunsari)	9	1405.3
3. Kanchanpur (Saptari)	7	80.5
4. Chandranigahapur (Rautahat)	2	16.0
5. Hetauda (Makwanpur)	17	244.1
6. Arunkhola (Nawalparashi)	5	352.5
7. Nepalgunj (Banke)	42	1869.0
8. Surkhet	8	167.0
9. Dang	8	2902.7
10. Kailali	8	52.3

Source: Field Survey, CEDA, 2002

Amongst the six market places visited in India, Delhi was found to be the biggest market for Nepali NTFPs. The relatively high demand in the Delhi market for NTFPs is met by supply from Nepal, followed by India's own supply and that from Bhutan and Pakistan respectively (Table 4.11).

Table 4.11 Percentage of Major Herbs Supplied to Delhi Market by Different Countries

Medicinal Herbs	Supply %			
	Nepal	Bhutan	India	Pakistan
Atis	5	-	95	-
Atis (Nepali)	100	-	-	-
Bojho	20	10	70	-
Chiraito	60	40	-	-
Dhup Jadi	25	-	75	-
Gucchi	5	-	95	-
Jatamansi	85	5	10	-
Jhyau	15	-	85	-
Jiwanti	85	-	15	-
Kakadsinghi	10	-	20	70
Kakoli	70	-	30	-
Kutki	75	5	20	-
Majitho	5	95	-	-
Okhar bokra	10	5	85	-
Panchaunle	40	20	40	-
Ritha	35	5	60	-
Salamdana	40	10	50	-
Satawar	60	-	40	-
Sugandhakokila	100	-	-	-
Sugandhawal	75	5	20	-
Timur	100	-	-	-

Source: Indian Trade Centers, 2002

There exists a long tradition of Nepali traders supplying a range of NTFPs to Indian traders. Different species of Nepalese NTFPs absorbed in Delhi market is shown in Table 4.12.

Table 4.12 Annual Imports of NTFPs from Nepal by Indian Trade Centers, Delhi (2001)

Major NTFPs imported from Nepal		Buying Rate (IRs/kg)	Average Annual Import from Nepal (MT)
Local Name	Scientific Name		
Amala	<i>Phyllanthus emblica</i>	30-35	200
Amalbed	<i>Rheum australe (petiole)</i>	90	40
Atis	<i>Aconitum heterophyllum</i>	1000	12
Atis Nepali	<i>Delphinium himalayai</i>	250	15
Bhorla	<i>Bauhinia vahlii (bark)</i>	20-22	250
Bish (Mitha jahar)	<i>Aconitum ferox</i>	100	8
Bisphase	<i>Popypodium vulgare</i>	54	55
Bojho	<i>Acorus calamus</i>	25	120
Chiraito (Mitha).	<i>Swertia sp.</i>	30-35	400
Chiraito (Tita)	<i>Swertia chirayita</i>	150-160	225
Dalchini	<i>Cinnamomum tamala (bark)</i>	28-30	220
Dhup lakad	<i>Jurinea dolomiaea</i>	70	300
Gucchi	<i>Morchella conica</i>	3400	7
Jatamansi	<i>Nardostachys grandiflora</i>	100-110	180
Jhyau	Lichen spp.	40-50	300
Jiwanti	<i>Ephemerantha macraei</i>	65	350
Kakadsingi	<i>Pistacia chinensis</i>	125	8
Kakoli	<i>Fritillaria cirrhosa</i>	55	12
Kaphal	<i>Myrica esculenta (bark)</i>	20	50
Kutiki	<i>Picrorhiza scrophulariiflora</i>	160-180	400
Majitho	<i>Rubia manjith</i>	35	325
Okhar bokra	<i>Juglans regia</i>	100-150	225
Padamchal	<i>Rheum australe</i>	35-40	15
Pakhanbed	<i>Bergenia ciliata</i>	17	300
Panchaunle	<i>Dactylorhiza hatagirea</i>	1200	1
Pipla	<i>Piper longum (Fruit)</i>	85	10
Pipla mul	<i>Piper longum (Root)</i>	120-125	15
Ritha	<i>Sapindus mukorossi</i>	10-11	700
Salamdana	<i>Brachycorythis obcordata</i>	90	8
Sarpagandha	<i>Rauvolfia serpentina</i>	200-225	50
Satawar	<i>Asparagus racemosus</i>	100-160	300
Satuwa	<i>Paris polyphylla</i>	160-200	16
Sikakai	<i>Acacia rugata</i>	30	300
Sugandhakokila	<i>Cinnamomum glaucescens</i>	60-65	150
Sugandhawal	<i>Valeriana jatamansii</i>	90-95	120
Tejpat	<i>Cinnamomum tamala (leaf)</i>	24	350
Timur	<i>Zanthoxylum armatum</i>	60-70	75
Total			6112

Source: Indian Trade Centers, 2002

Besides Delhi, there are other market places in India where Nepalese NTFPs are absorbed significantly. The Table below (4.13) and Annex 8 indicate the market centers and their consumption pattern of Nepalese NTFPs. As shown in the Table Lucknow is one of the important markets for Mid-western Region of Nepal but the volume of business tends to be less than that of Delhi market. One or two traders of Lucknow had a good tie-up with Nepalgunj traders who were getting regular supply from them. Kolkata was also believed to be an important

market for NTFPs from Eastern part of Nepal but the field verification showed that the traders were not linked with Nepalese traders as in the case of Delhi traders. In addition, the price offered by the Kolkata traders tends to be little less than that offered by Delhi traders. Siliguri traders were mostly buying Alainchi and Chiraito from Eastern Nepal. The major collection centers were found to be Birtamod and Dharan in Nepal.

Table 4.13 Annual Import of NTFP from Nepal by different Indian Trade Centers

SN	Trade Centers	Year	Number of major NTFP Imported	Quantity (MT)
1.	Excel Drug House, Kolkota	2001	16	271.00
2.	Kanpur	2000	8	132.00
3.	Lucknow	2000	12	552.00
4.	Kannauj	2001	5	36.45

Source: Indian Trade Centers, 2002

Besides India, the market for NTFPs from Nepal exists in 19 other countries from around the world. They are- Pakistan, Bangladesh, Hongkong, Korea, Taiwan, Singapore, Japan, USA, France, Germany, Italy, Sweden, Switzerland, Spain, Czech-Republic, Australia, Austria, New Zealand and Hungary. Some 28 types of species have been exported to these countries in the past, mostly in the processed form. The quantity of export ranges between 8 to 17 metric tons per year (Table 4.14).

Table 4.14 Export of NTFPs in the Overseas Countries

S.N.	Name of NTFPs	Quantity (kg)			Value (NRs)		
		1998/99	1999/00	2000/01	1998/99	1999/00	2000/01
1	Mosses and Lichens	0	0	3,000	0	0	1,099,561
2	Cinnamon	00	0	10,000	0	0	2,637,039
3	Spices	0	0	0	0	9,862	1,158,803
4	Plant and plant Parts (Seeds & Fruits)	0	0	0	12,523,509	6,663,176	10,494,027
5	Natural Gums & Resin	0	0	0	12,369,717	0	19,354
6	Tanning/ Dying Extract	0	0	0	0	0	66,485
7	Essential oil & Resinoids	0	0	0	0	57,789,310	26,913,119
8	Essential oil	0	1032	77	0	3,116,147	390,338
9	Lemongrass oil	1,040	161	296	913,999	377,638	352,203
10	Wintergreen oil	805	12	724	1,303,858	14,000	1,175,842
11	Citronella oil	497	210	125	381,485	109,498	98,107
12	Palmarosa oil	468	289	427	980,068	423,994	731,991
13	Camomile oil	65	713	99	1,068,185	4,405,534	1,165,866
14	French Basil oil	30	10	30	170,611	57,830	187,180
15	Nagaratha oil	0	0	115	0	0	567,024
16	Rhododendron oil	200	0	494	2,278,200	0	1,727,796
17	Artemesia oil	0	0	85	0	0	245,276
18	Natural Honey	0	0	0	0	16,610,109	0
19	Lycopodium powder	9,624	5,140	0	3,625,172	2,848,447	0
20	Juniper oil	0	5	0	0	15,601	0
21	Zanthoxylum oil	40	2	0	180,649	3,500	0
22	Dry Mushroom & truffles	74	0	0	5,51,278	0	0
23	Chirata	4,000	0	0	1,047,293	0	0
24	Mentha Arvensis oil	65	0	0	130,487	0	0
25	Abies oil	150	0	0	988,227	0	0
26	Lac	0	0	0	443,361	0	0
27	Rattan	0	0	0	1,453,267	0	0
28	Lac, Gums & Resin	0	0	0	64,269,431	2,848,407	1,780,617
	Total	17,078.18	7,574	17,472	104,178,822.18	22,326,951	50,812,628

Source: Trade Promotion Center, Lalitpur, 2003

Among the various species of NTFPs, Chiraito (*Swertia* spp.) occupies major position in the trade of wild medicinal plants. Thirty-four districts of Nepal have been found to contribute in the supply of Chiraito. It is traded in 27 major herb trade centers of Nepal from east to west. Comparatively, it is traded as one of the commonest commodities in the herbs trade. Nine different species of *Swertia* spp. have been identified from the trade samples of Chiraito. About 419,300 kg of Chiraito has been estimated in the trade during 1995/96. Out of the total trade of Chiraito, more than 50% is traded from east Nepal (Bhattarai and Acharya 1998).

The status of production and marketing is not recorded properly in the country. The records and statistics are those, which needs approval for exports or long haulage transportation.

Chapter 5

Marketing Channels, Procedures and Prices of NTFPs

This chapter analyses the marketing channels, procedures and prices of NTFPs including the potentials of value additions.

5.1 Marketing Channels and Intermediaries

The farmers, villagers, shepherds, women and children are the lowest level marketing agents that collect the NTFPs from the wild and initiate their marketing. They collect the NTFPs in their off farm free time. Shepherds collect the high value herbs while tending to their cattle during the summer months on high altitude pasturelands known as "kharkas". No organization is so far known to coordinate the collection of medicinal plants either in the private or public sector. As a result, there is little supervision over collection methods and time although knowledge of their use and value is passed on since generations.

The marketing channels, marketing centres and intermediaries vary by places. During field visits the study team noted that NTFPs from Eastern Region were often sold at road head markets such as Basantpur, Hile, Dharan and Birtamod. Dharan is the main NTFP trade center for the eastern region of Nepal. The Dharan based traders export their collection to India (Delhi, Kolkata, Mumbai, Kanpur etc) through wholesalers at Siliguri – the border town in India.

Most of the collectors of the Central Development Region sell their collected NTFPs to nearby local dealers. However, some collectors who are engaged in this business since long and purchasing NTFPs from the area such as Rasuwa, Trisuli, Barabise, Charikot, Sindhupalchok and Gorkha sell them to wholesalers in Kathmandu, Birgunj and Janakpur. The traders at Birgunj and Janakpur export their collection to India (Delhi, Kolkata, Kanpur etc) whereas the Kathmandu traders undertake processing and/or export to USA, Italy, France and other European countries besides India. Kathmandu and Birgunj tend to be the major NTFP trading hubs for Central and Western Region.

Collectors from most of the Mid-Western Region's mountain, hill and Terai districts e.g. Jumla, Humla, Mugu, Kalikot, Dolpa, Mustang, Simikot, Jajarkot, Rukum, Rolpa, Salyan, Bajhang, Doti, Surkhet, Dailekh, Achham, Bajura, Pyuthan, Banke, Bardia and Dang supply their NTFPs collections to mostly Nepalgunj, Surkhet and Krishnanagar based wholesalers who then export to India (Delhi, Kolkata, Kanpur, Nagpur, Varanasi and Mumbai etc) basically through Nepalgunj and Krishnanagar border.

Collectors from Far-Western hill and Terai districts e.g. Darchula, Baitadi, Doti, Dadeldhura, Kanchanpur sell NTFPs to Tanakpur- a border town in India adjoining Mahendranagar and Dhangadhi. Some NTFPs collected in Dhangadhi are also diverted towards Nepalgunj, as it tends to be the main NTFPs trade center for the mid and far-western regions. According to Jaributi Association of Nepal (JABAN), Nepalgunj, 796 metric tons of NTFPs were exported to India from Nepalgunj in fiscal year 2001/2002.

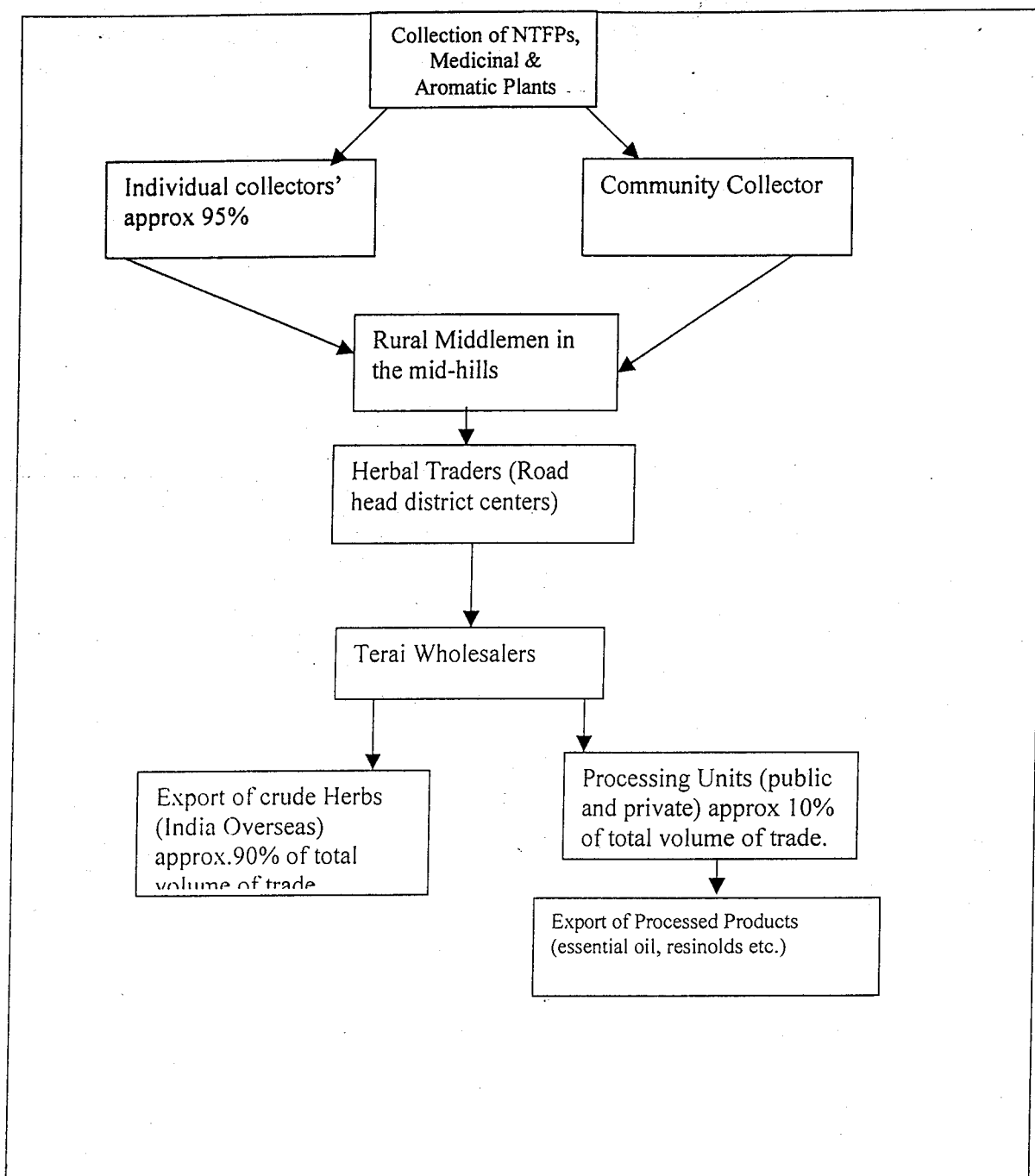
Trade in MAPs from the rural areas of Gorkha district of the Western Development Region to the wholesale markets in India was investigated over a period of two years. The investigation indicated that approximately 98 per cent of the products are exported unprocessed to India. The

main actors in the trade are collectors, road head dealers, and Terai and Indian wholesalers. Marketing margins and price data indicate that the NTFP market is imperfect. A few Terai wholesalers earn excessive profits while road head dealers have very low net margins. Oslen and Helles (1997) have suggested that the government should focus on provision of public goods, such as dissemination of price information and developing physical infrastructures, but should not directly intervene in the market.

According to Rawal and Paudyal (1999), utilization of NTFPs in terms of commercial production/transformation is very limited. The market and trade channels of most of the NTFPs follow a general pattern of forest to hamlet to road head or local markets, then to larger regional trade centers (Terai – based wholesalers) and/ or India (Figure 3). The present trade channel does not provide for an equitable share of profits to collectors and the market largely depends in the hands of a limited number of wholesalers.

Thus, there are three main channels of NTFP markets and sources in Nepal: village/local level, road-head level and Indian traders. The stakeholders at each level of the trade channel have specific functions and services they provide to each other and for the most part all parties enjoy some level of acceptable economic return from the activities. Once the products reach the border they are generally sold and absorbed in India for uses in manufacturing pharmaceutical and consumer products. Some of these products are then exported out of India to foreign markets, but a large portion is consumed in India. India is Nepal's biggest market for medicinal and aromatic products.

Fig 3: General Trend of NTFP Marketing Channel in Nepal (Rawal and Paudyal, 1999)



Village Level/Local Level

The network of village level traders is scattered throughout the mid-hills. This group of traders holds a valuable knowledge of local sources of NTFPs and maintains a close relationship with the harvesters/collectors in their respective working areas. A village level trader has linkages with the NTFP collectors. Those village level traders purchase NTFPs from collectors in a relatively cheap price and sell them to the road head level traders. According to Edwards (1996), the assistance of village level traders improves the economics of collection and increases in the overall volume of trade.

Road Head Level

The road head traders generally take transit and export permits from relevant district forest offices. There exists relatively intensive competition between the traders at road head level. The road-head traders often have a tendency to hold and maintain their control over the village level traders. They tend to maintain such control generally through advance payments against the committed supply of desired species in desired season and with committed basic marketing standards. The road-head traders use their village level network to pass on information on market requirements to be taken care of at actual harvester's level. Some wealthy village traders manage to remain free to sell their local collections to those who could offer the best price but the majority end up with no choice as they have in a way already mortgaged their collections.

Terai Traders

The traders located in the urban areas in Terai along or near the East-West Highway, are the smallest yet most powerful group of intermediaries in the NTFPs trade. They manage their operation over large catchments that stretching to the north including several road-heads and airstrips that frequently extend beyond the Tibetan border. The Terai traders are typically Marwadis, Muslims or some other caste groups who have traditionally maintained a close NTFP trading links with their counterparts in India since long. They remain in regular telephone contacts with Indian business houses to obtain the existing and potential demand and supply situation of different NTFPs, change in pricing trends etc. They maintain control over access to such market information so as to regulate the market in their interest.

This study for instance, revealed that in Dharan and Biratnagar, three to four business houses held control over the Hile-Basantapur NTFP wholesale market. Their business extends from Chatara in the west to Ilam in the east. They have their commission agents in all road-heads leading down to Terai markets, whom they advance out handsome working capital for collection and procurement of NTFPs. For one road-head trader in Hile the annual advance was equivalent to US\$6000 (1996 figure). Other road-heads appear to have more independence and yet tend to form informal but clear-cut trade links with trusted individuals in the Terai. There also exists a group of traders in Kathmandu who, despite their locations, are best recognized as Terai traders due to their direct dealings with Indian buyers.

In many cases the Terai traders tend to re-distribute exportable NTFPs among themselves to ensure that no contesting and competition takes place within the NTFP community. To this end it could be termed as a ring formation often at regional levels in order to:

- Prevent potential new entrants/competitors from breaking into the trade structure and competing effectively at the same level
- Reduce and maintain control over the bargaining power of road-head traders. This in turn may reduce the profits of all involved in the collection and trade of NTFPs (Edwards 1996).

Indian Traders

Indian wholesalers come from time to time to trading towns and road heads of the major collection points in the hills. They have agreements with shopkeepers who, in turn, are in touch with a network of village-based traders and collectors throughout the less accessible parts of the country. These Indian wholesalers and commission agents are found to control the purchasing price of Nepalese NTFPs. Some wholesalers also retail crude herbs. Probably the most important

center for trade in raw materials is in the Khari Baoli district of Old Dehli where there are 30 to 50 wholesalers along the busy market streets. Other main Indian centers are: Kolkata, Hyderabad, Mumbai and some smaller north Indian towns including Kannauj, Kanpur, Lukhnow, Patna and Ramnagar. At each center there are wholesalers and commission agents who buy from the Terai traders and sell to the ayurvedic medicine manufacturers and/or essential oil industries. The major importers of Nepalese NTFPs and the quantities imported are listed in Annex 9.

The main Indian buyers are the big pharmaceutical companies like, Dabur, Vaidyanath, Charak, Himalaya and Zandu who use herbs in their Ayurvedic preparations. Others are the cosmetic firms, homeopathic companies and multinational pharmaceuticals and their research laboratories in Europe and America. Kolkota is the most important market for NTFPs from east Nepal and the Koshi Hills because it is relatively close to Nepal, and has a large population with large-scale industrial and retail markets though Kolkotta based traders buy species like cardamom in much more quality than MAPs and NTFPs. It is also the most convenient port for the overseas export.

Two of the biggest crude herb dealers in Kolkata are Morex (India) limited and Excell Drug House. They have commission agents in different places and are supplied by a network of 10-15 sole agents located from Kashmir to Arunachal Pradesh. In Nepal, these agents are the Terai based traders. Morex supplies the majority of material for Kolkatta's ayurvedic industries, in particular, Baidyanath Limited and Dabur (India) Limited. Morex deals in approximately 150 species of NTFPs of which some 50 are traded from Nepal. When asked to name the most important NTFPs of Nepalese origin, they mentioned *chiraita sp.*, *Picrohiza scrophulariflora* and *Rubia manjith*.

Trade in India is even more competitive than in Nepal, because of the existence of a relatively large number of evenly sized competing business houses. India-based major industrialists, who deal in NTFPs among a range of other commodities, further complicate the situation. The industrialists form a powerful lobby at times are known capable of exerting political and economic pressure to lift export bans on certain products. Of the smaller towns in northern India, Kannauj is a particularly important market for crude herbs. It is a center for both the semi-processing and final processing industries that produce perfumes, soaps and incenses. Its location near Nepal allows direct marketing of crude herbs by the Terai traders (Edwards, 1996).

The marketing channels also differ according to species type. A New ERA study (1997), in the Mid-western Development Region of Nepal (MWDR), identified several channels for particular species of NTFPs (Table 5.1).

Table 5.1 Marketing Channel of Some Important NTFP in Mid-Western Region

Scientific Name of NTFPs	Local Name of NTFPs	Marketing Channel
<i>Cinnamomum tamala</i>	Dalchini	<ul style="list-style-type: none"> Collectors→VillageTraders→Regional Traders→Wholesalers→Exporters Collectors→ Village Traders→ Regional Traders→Exporters
<i>Delphinium himalayai</i>	Atis	<ul style="list-style-type: none"> Farmers/Collectors→Middlemen/Local traders→Wholesaler/Exporters Farmers/Collectors→Middlemen→Exporters
<i>Nardostachys grandiflora</i>	Jatamansi	<ul style="list-style-type: none"> Farmers/Collectors→Middlemen→Local taders→Wholesalers→ Processors→ Exporters Farmers/Collectors→Processors→ Middlemen→Exporters Farmers/Collectors→Processors→ Exporter Farmers/Collectors→Middlemen→Regional Traders→Processors→Exporters Farmers/Collectors→Middlemen/Localtraders→Illegal Exporters
<i>Picrohiza scrophulariiflora</i>	Kutki	<ul style="list-style-type: none"> Farmers/Collectors→Middlemen/LocalTraders→ Wholesalers→Exporters Farmers/Collectors→ Middlemen→ Exporters Farmers/Collectors→Middlemen→Regional Traders→Exporters
<i>Sapindus mukorossi</i>	Rittha	<ul style="list-style-type: none"> Collectors→VillageTraders→Roadhead Traders→Wholesalers→Exporters→Processors (India) Collectors→VillageTraders→ Wholesalers→Exporters→Processors (India)
<i>Swerita chirayita</i>	Chiraito	<ul style="list-style-type: none"> Collectors→VillageTraders→Regional Traders→Exporters Collectors→VillageTraders→Exporters Collectors→VillageTraders→RegionalTraders →Wholesalers→Exporters
<i>Valeriaana jatamansii</i>	Sugandhwal	<ul style="list-style-type: none"> Collectors Village Traders→ Regional Traders→ Wholesalers→ Processors →Exporters Collectors→ Village Traders→ Processors →Exporters
<i>Zanthoxylum armatum</i>	Timur	<ul style="list-style-type: none"> Collectors→Middlemen/VillageTraders→Local Traders→Wholesalers→India Collectors→Small Traders→Local Ttraders→Wholesalers/Exporters Collectors→Village agents→Localtraders→Processors→ Wholesalers/Exporters Retailers/India

Source: Some Valuable NTFPs of Nepal, New ERA, September 1997.

5.2 Price of NTFPs

Prices of NTFPs depend to a large extent on supply and demand conditions. The level of NTFP collection/harvest and the storage and retaining capacity at different levels characterizes supply of NTFPs. Trade of NTFPs has been taking place through a very long channel. Every step in the market channel enjoys a profit, resulting in a very low price to the collectors who work hard to collect the products. The return that collectors make from NTFPs, often in many cases remains below the opportunity cost of their labor (Table 5.2).

Table 5.2 Collectors'/producers' price trends of select NTFPs, 1995 to 1999 (NRs/kg) in Nepal

Trade name	Botanical Name	1995	1996	1997	1998	1999	% Change (95-99)
Amriso	<i>Thysanolaena maxima</i>	8.92	9.57	10.00	11.63	12.37	38.68
Bhyakur	<i>Dioscorea deltoidea</i>	2.00	1.75	2.50	4.00	10.33	416.50
Chiraito	<i>Swertia chirayita</i>	53.33	53.00	61.25	71.25	95.00	78.14
Jhyau	Lichen spp.	9.49	12.55	15.22	16.50	17.64	85.88
Kurilo	<i>Asparagus racemosus</i>	32.16	34.50	36.60	43.50	61.00	89.68
Lapsi	<i>Choerospondias axillaries</i>	3.16	3.66	4.25	5.33	6.91	118.67
Majhito	<i>Rubia manjith</i>	8.00	9.75	11.25	13.50	17.60	120.00
Nundhiki	<i>Osyris wightiana</i>	5.50	5.40	7.80	8.50	9.93	80.55
Pakhanved	<i>Bergenia ciliata</i>	6.00	7.00	7.50	8.60	11.83	97.17
Sugandhawal	<i>Valeriana jatamansii</i>	39.09	43.68	47.45	51.18	61.21	56.59

Source: New Era (2001)

NTFP harvesters who have some knowledge about the market and who are not dependent on the marketing services provided by the village traders, have choice on the place and time for marketing. Such harvesters also have possibility of getting better price for their products. Edwards (1996) has investigated that a harvester of *Chiraita sp.* can increase returns by 136 percent, if he could store the harvest for three months and then market it directly to the road-head traders (Table 5.3).

Table 5.3 Marketing options open to independent harvesters of *Chiraita sp.*: Costs and Benefits

Choice	Sell to village trader	Sell to road-head trader
Sell immediately (November 1992)	Low return (NRs 3,360) No labor costs Credit available Low risks No information needed No storage needed	Moderate return (NRs 5,600) High labor cost No credit available Low risks No information needed No storage needed
Sell later (February 1993)	Unlikely to happen	High return (NRs 7875) High labor cost No credit available High risks Information needed Storage needed

Source: D.M Edwards (1996); Non-Timber Forest Products From Nepal: Aspects of the Trade in Medicinal and Aromatic Plants, Forest Research and survey Center, Ministry of Forests and Soil Conservation.

The margin derived by a collector and a seller varies significantly (Table 5.4 and 5.5). The long market channel suggests that there is good price in the final market. It is very difficult to assess the profit margin in each level of marketing channel. The pricing of NTFPs is affected by a variety of factors beyond the control of the collectors and local traders. The trade of NTFP is not a seller's market; buyers are able to dictate prices and collectors only have the option of collecting or not collecting. Alternative markets are not available or are difficult to enter as indicated above. Another important factor in pricing is that no one can assure the price level for the coming year and traders will not set a firm price while providing advances. Afterwards when collection is done, the collectors have little option but to sell the products at the rate the traders offer them. Mainly big regional traders, control the market. These traders supply products to India. Indian traders mostly serve as commission agents for manufacturers and exporters (working on a 6-8 percent commission basis). Finally, the manufacturers and exporters in India have the ultimate influence on the price fixation mechanism.

Table 5.4 NTFP Price at Different Pockets of Nepal (2001/2002)

S.N	NTFP	Buying Price 2001-2002 (Rs/Kg) at different Pockets of Nepal.						
		Dharan (Sunsari)	Hile (Dhankuta)	Gaighat (Udyapur)	Janakpur (Dhanusha)	Tulsipur (Dang)	Nepalgarja (Banke)	Attariya (Kailali)
1.	<i>Acacia rugata</i> (Sikakai)				6-8		13-15	
2.	<i>Acorus calamus</i> (Bojho)						24-28	15-20
3.	<i>Allium wallichii</i> (Ban Lasun)			18				
4.	<i>Amomum subulatum</i> (Aalainchi)	200-325	200-300	200-250				
5.	<i>Asparagus racemosus</i> (Kurilo)	150		150	110-150	120-135	160	
6.	<i>Berberis</i> spp. (Chutro)							140
7.	<i>Bergenia ciliata</i> (Pakhanbed)					20-22	14-15	12-14
8.	<i>Cinnamomum glaucescens</i> (Sugandhakokila)					65-70	65-75	
9.	<i>Cinnamomum tamala</i> (Dalchini)						30-35	45-50
10.	<i>Cinnamomum tamala</i> (Tejpat)	25-30		5-10			12-14	18-22
11.	<i>Daphne bholua</i> (Lokta)							
12.	<i>Elaeocarpus sphaericus</i> (Rudrakchha)	12-20	12-20					
13.	<i>Entada phaseoloides</i> (Pangro)	10						
14.	Indreni Ko Biya	100						
15.	Laha	100-150						
16.	<i>Piper chaba</i> (Chaboo/Pipla)	150	100-105				110-130	
17.	<i>Rheum australe</i> (Amalbed)					70	70-75	
18.	<i>Rubia manjith</i> (Majitho)	20-30	20-25				25-30	50-55
19.	<i>Sapindus mukurossi</i> (Rithha)	15-22	12		10	8-9	12-14	10
20.	<i>Swertia chirayita</i> (Chirayito)	200-375	200-225		150-175	200	160-180	
21.	<i>Terminalia chebula</i> (Harro)				12-14		11-12	
22.	<i>Valeriana jatamansii</i> (Sugandhwal)					80	150	80-85
23.	<i>Zanthoxylum armatum</i> (Timur)				50-60	85-90	70-75	

Source: Field Survey, CEDA 2002.

The survey with traders reveals that Delhi offers the highest price among all market places followed by Lucknow and Nepalgunj. There was little price difference between Lucknow and Delhi. Greater price differences were observed between Nepali and Indian markets. Indian market always drove Nepali market price for all species with very few exceptions. Moreover, the price trend in Nepalgunj market has been found more consistent as compared to other markets in the east and far west Nepal. Delhi market prices usually dictated the prices of Lucknow and Nepalgunj. In some cases, however, the prices remained low in Nepali market even if the price in Delhi was increased (Table 5.5). This was mainly due to seasonal/transport-related constraints, or local or regional availability.

Table 5.5 Price of NTFPs in select Nepalese and Indian Cities (April 2003)

S.N	Products	Latin Name	Parts used	Market Price				
				Nepalgunj	Kathmandu		Lucknow	Delhi
				NRs./kg	NRs/Kg	NRs./Kg	NRs./Kg.	NRs./Kg.
1	Alainchi	<i>Amomum subulatum</i>	Fruit, seed	-	240	272	256	296
2	Amalbed	<i>Rheum australe</i>	Stem, leaf	70	60	67	78	72
3	Amala	<i>Phyllanthus emblica</i>	Dried fruit	34	45	45	45	48
4	Atis	<i>Aconitum heterophyllum</i>	Root	300	275	320	352	352
5	Bojho	<i>Acorus calamus</i>	Root	30	33	26	29	40
6	Chiraita	<i>Swertia chirayita</i>	Whole plant	150	140	152	176	184
7	Dalchini	<i>Cinnamomum tamala</i>	Bark	50	40		54	51
8	Guchhi Chyau	<i>Morchella conica</i>	Mushroom	4000	3600	-	-	5300
9	Jatamansi *	<i>Nardostachys grandiflora</i>	Rhizome	140	160	192	184	184
10	Kakarsinghi	<i>Pistacia integerima</i>	Gull	140	125	160	168	160
11	Majitho	<i>Rubia manjith</i>	Stem, root		32	46	48	48
12	Padamchal	<i>Rheum australe</i>	Root	38	45	-	48	56
13	Pakhanbed	<i>Bergenia ciliata</i>	Root	16	10	-	28	29
14	Rittha	<i>Sapindus mukorossi</i>	Fruit	16	21	19	22	21
15	Satawar	<i>Asparagus racemosus</i>	Root, Shoot	170	170	160	160-240	160-240
16	Satuwa	<i>Paris polyphylla</i>	Tuber and root	170-240	125-175	-	224-300	180-340
17	Sikakai	<i>Acacia rugata</i>	Dried fruit	17	19	27	32	32
18	Silajit*	Silajitum	Whole part	200	220	256	240	264
19	Sugandwal*	<i>Valeriana jatamansii</i> *	Root	110	95	152	160	168

20	Suntho	<i>Zingiber officinale</i>	Rhizome	40	45	48	48	50
21	Tejpat	<i>Cinnmomum tamala</i>	Leaf	25	30		25	21
22	Timur	<i>Zanthoxylum armatum</i>	Fruit	104	85-140	96-104	96-120	96-118

Source: ANSAB, Kathmandu, 2003. Note: Price indicated above are for dried parts. Prices of Delhi and Lucknow are from commission agents, a 6.5% commission is deducted from the supplier. Above prices are indicative, have to be confirmed with the traders before making actual business transaction.

Note: * = export permitted after processing

5.3 Regulatory policies and NTFP Marketing

Collection and marketing of NTFPs tends to be over burdened by the regulatory measures that are difficult and impractical to be observed even by the concerned regulatory agencies. Consequently, unauthorized harvesting, illegal trade and export of many banned products have remained a common practice in Nepal. The provision of taking a collection permit prior to collection in general neither tends to be feasible nor has any significance in the part of DFOs authorized to issue the permits. CFUGs are free to issue NTFPs collection permits and royalty collection of the forests. DFOs generally have no information as to what can be collected from which part of the government forests in what quantity in a sustainable manner. Despite the legal provision that species e.g. *Jatamansi*, *Sugandhawal*, *Sugandhakokila*, *Serpagandha*, *Silajit*, *Lothsalla (Taxus baccata)*, *Jhyau* and *Yarsa Gumba* are not allowed to export without processing. Transit permits are issued by DFOs for their transport action up to the border towns of the Terai from where they are generally illegally exported sometimes with wrong declaration. Regulating the collection, processing, certification and export permit falls in the domain of a number of agencies further complicating the marketing of NTFPs (Table 5.6).

Table 5.6 Legal Steps for Collection and Export

Requirement	Issuing Agency
Collection Permit	DFO/CFUG
Royalty Payment	DFO/CFUG
Release (transit) Permit	DFO
Local Taxes	DDC
Certificate of origin	FNCCI/NCC
Product Certification	DPR/ DOF
Export License	Department of Commerce
Export Duty	Customs office

Government royalty rates for some NTFPs tend to be irresponsive to these markets. There are different royalty rates fixed for the same plant listed under different names. Local agencies (DDCs/VDCs) also in some cases have imposed local taxes on different NTFPs and/or their derivatives before they could be exported from respective districts. Uncoordinated taxation under the provisions of different regulations has negative implication over the market and also over those who make a living through collection and trade of NTFPs. Such imperfect market situation encourages traders to support the rent-seeking attitude of officials at different level and ends up in the exploitation of the principal collectors.

5.4 Potential for Value Addition, Processing and Income Generation

Only a fraction of the total harvest of NTFPs is processed in Nepal by existing private and government companies basically due to lack of knowledge and appropriate processing

technologies and adequate transport facilities. Therefore, the NTFP trade also includes plants that are prohibited against export together with those not prohibited.

Major NTFP processors in Nepal include, *Singh Durbar Vaidyakhana*, *Dabur Nepal and Herbs Production and Processing Company Ltd. (HPPCL)*, *Gorkha Ayurved Company*. There however, exist numerous Ayurvedic practitioners who produce a wide range of herbal medicines for their own use.

Gorkha Ayurved Company

The Gorkha Ayurved Company (P) Ltd (GAC) is a joint venture between Nepalese entrepreneurs and a French NGO CIDR (French acronym for International Center of Development and Research). It was established in 1984 with the aim of developing Nepal's tremendous potential of herbal resources. The company aims at generating income to the remote villagers of Gorkha district adding value on locally available medicinal herbs by processing them into Ayurvedic Health products.

The production unit of the company is located in Prithibi Narayan Metropolitan City Ward No.-3, Haramtari Gorkha while the head office of the company is located at Gongabu in Katmandu. The company is using more than 150 local medicinal plants while manufacturing 35 different Ayurvedic medicines and herbal health products. About 90 percent of the total ingredients used for processing of herbal products and medicines come from local resources, the balance that is not available locally are imported from other countries.

GAC is engaged in NTFP cultivation by involving local communities in different ecological region in Gorkha district. The community level production centers, as cottage industries, are established with the help of GAC. They have been working for the promotion of NTFPs and to generate income for their members.

Dabur Nepal

Dabur is one of the biggest Ayurvedic companies in India, which also has a manufacturing unit in Nepal. Dabur Nepal showed interest in buying dry leaves of *Taxus wallichiana* and making buy back contract with the farmers/collectors. Currently Dabur Nepal is collecting 350 tons per year through various traders contracted in 7 districts of Nepal whereas the total demand is 850 tons per year. They are also interested in signing a contract with the village traders/community for the domestication of various medicinal plants.

HPPCL

The Herbal Production and Processing Company Limited (HPPCL) have been performing commercial farming of certain herbs⁴ and processing in its own farm and on private sector particularly in Terai and Inner-Terai since last few years. HPPCL has got 300 hectares of land for the cultivation of aromatic plants on its different herbal farms and under its extension program. It produces around 20 tons of essential oil annually (excluding turpentine).

HPPCL is engaged in commercial cultivation of some exotic species of aromatic plants such as palmarosa (*Cymbopogon martini*), citronella (*Cymbopogon winterianus*), lemon grass

⁴ Herbs are Palmarosa, Lemongrass, Citronella, Matricaria chamomil L., Mentha arvensis., Ocimum basilicum, Tagetes minuta. 40

(*Cymbopogon flexuosus*), Japanese mint (*Mentha arvensis*), German chamomile (*Matricaria chamomilla*), French basil (*Ocimum basilicum*), and a few indigenous species such as tagetes (*Tagetes minuta*). Domestication of *Nardostachys jatamansi*, *Valeriana wallichii*, and *Swertia chiraita* is being considered. Jatamansi oil and Zanthoxylum oil are also commercially produced. Commercial distillation of Sugandha kokila oil from *Cinnamomum glaucescens* has been patented by HPPCL.

The information regarding seed/seedling availability, cultivation time/manner, harvesting times etc. of some key commercial farming herbs by HPPCL has been provided in Table 5.7.

Table 5.7 Description of Commercial Herbs practiced by HPPCL

SN	Plant name	Morphology	Habitant	Soil and Climate	Seed/Seedling	Cultivation Time	Harvesting
1	<i>Cymbopogon flexuosus</i>	Multiyear. 60-70 cm. height, green leaf and lemon smell	Terai to mid-hills	Domat soil and tropical/sub-tropical	HPPCL and/or its branch	Jestha (May) Ashad (-June) Through Plants	3 Times/ Year
2	<i>Cymbopogon martini</i>	Multiyear. 2-3 m. height, green leaf and rose smell	Terai & Inner-Terai	Any type of soil in Terai & tropical climate	HPPCL and/or its branch	Ashad (June) Shrawan (July) Through Nursery	3-4 Times/ Year
3	<i>Cymbopogon winterianus</i>	Multiyear. 1-2 m. height, deep green leaf and sour smell	Terai & Inner-Terai	Domat soil and tropical climate	HPPCL and/or its branch	Ashar (June) Shrawan (July) Through separating healthy plants	3-4 Times/ Year
4	<i>Matricaria Chamomilla</i>	Yearly, 30-60 cm. Height, green wide leaf and menthol smell	Terai to mid-hills	Sandy loam soil & tropical/sub-tropical climate	HPPCL and/or its branch	Up to Marg (Dec) Paush (June) Through seeds	3 Times/ Year
5	<i>Mentha arvensis</i>	Multiyear. 60-70 cm. height, green leaf and lemon smell	Terai & Inner-Terai	Sandy soil & tropical climate	HPPCL and/or its branch	Paush & Magh (June-feb) Through root plantation	2 Times/ Year
6	<i>Ocimum basilicum</i>	Yearly, 30-90 cm. height, round green leaf and tulsii smell	Terai to mid-hills	Sandy loam soil & tropical/sub-tropical	HPPCL and/or its branch	Baisakh-Jestha (April-May) Through seed	3 Times/ Year
7	<i>Tagetes glandulifera</i>	Yearly, 1-2 m. height, accumulated leaf	Terai to mid-hills	Sandy loam soil and tropical/sub-tropical	HPPCL and/or its branch	Jestha - Ashad (May-June) Through seed	2 Times/ Year
8	<i>Trichosanthes tricuspidata</i>	Multiyear, 1-2 m. height, yellow color flower	Terai to hills	Sandy soil & tropical climate	HPPCL and/or its branch	Jestha Ashad (May-June) Through nursery	1 Time/ Year

Source: Herb Cultivation, Collection, Processing and Protection, HPPCL, 2055 B. S., quoted by DVN 2002.

Similarly, Table 5.8 provides details on minimum cultivation area, production of oil, expenditure, income and profit from some of the commercially viable oil extraction plants.

Table 5.8 Herbs production, Expenditure and Income

S N	Plant name	Minimum Cultivation Area	Expenditure/ ha./Year	Production/ha. /year (kg.)	Rate/Kg (Rs.)	Income/ha/Year (Rs.)	Profit/ ha. (Rs.)
1	Lemongrass	10(ha.)	14,388	80	400	32,000	17,612
2	Palmarosa	1(ha.)	13,305	60	500	30,000	16,695
3	Citronella	10(ha.)	13,225	150	200	30,000	16,775
4	Chamomile	1(ha.)	15,170	6	6,000	36,000	20,830
5	Japanese mint	10(ha.)	23,400	100	500	50,000	26,600
6	French basil	1(ha.)	15,940	25	1,200	30,000	14,060
7	<i>Tagetes</i>	1(ha.)	13,900	20	1,500	30,000	16,100
8	Indreni	1(ha.)	29,600	575	100	57,500	27,900

Source: Herb Cultivation. HPPCL, 2959 B.S. quoted by DVN 2002.

Distillation of essential oils from Aromatic plants has already been started in the country. Currently there are two steam distillation plants operating in Jumla, two in Humla, and one in Banke district with total production capacity of over 3000 kg of essential oil (Jatamasi, Sugandhwal) per annum in Mid Western Development Region (Table 5.9).

Table 5.9 Essential Oil Processed in MWDR-Approximate Quantity and Price (1998)

Product	Raw materials Required	Oil Produced (Kg)	Extraction rate (%)	Selling Price (Rs/Kg)	Market Trend
Jatamansi oil	<i>Nardostachys grandiflora</i> root	2,000	0.8-1.8	5,500-7,000	Down
Juniper berry oil	<i>Juniperus indica</i> berry	2,000	1.0	5,000-6,500	Down
Sugandhawal oil	<i>Valeriana wallichii</i> root	50	0.5-0.8	11,000- 16,000	Up
Sunpati oil	<i>Rhododendron anthopogon</i> leaves	3,000	0.5	4,000	Down

Source: R. Subedi, 1999; Problems, Constraints and Opportunities to Sustainable Production and Collection and Trade of NTFP in Mid-western Development Region of Nepal; Workshop Proceedings: Non-timber Forest Products: Production, Collection and trade in MWDR of Nepal, July 11-12, 1999 Nepalgunj; Ban Udhyam-BSP/New ERA and JABAN

There are some other private sector initiatives that are involved in the processing and distillation of NTFP products. Some of them are:

Himalayan BioTrade (P) Ltd. Kathmandu

Himalayan BioTrade (P) Limited is a trading company owned by a group of community-owned enterprises throughout Nepal. The owners include: Deudhunga Multipurpose Cooperative, Humla Oil (P) Ltd., Mallika Handmade Paper (P) Ltd. and individuals working in natural products sector. The company is technically backed up by Asia Network for Sustainable Agriculture and Bioresources (ANSAB) for international marketing of the products. It deals with a large range of natural products: herbs, essential oils, handmade papers and wild mushrooms (*Morchella spp.*) that are sustainably harvested from Himalayan forests or organically grown in Nepal.

Jadibuti Prasodhan Kendra, Chapagaun, Lalitpur

This company is mainly involved in distillation of essential oils such as Calamus and Wintergreen. Beside distillation, they purchase NTFPs and do wholesale trade. The contact person Ram Chandra Joshi showed great interest in providing NTFP price on regular basis and purchasing herbs from the suppliers referred by the MIS project. His prices are taken by telephone just recently.

Other Companies:

There are several other companies that are involved in processing and trade of NTFPS. They are relatively small but they also require certain medicinal plants for Ayurvedic formulation. They are:

- Kilagal Vaidya Pasal, Naradevi, Kathmandu.
- Srikrishna Aushadhalaya, Bagbazar, Kathmandu.
- Himalayan Ayurved Research Center/ Ayurved Health Home, Thamel, Kathmandu

The Mid-western Development region of the country is the largest supplier of NTFP raw materials. But, due to shortage of processing capabilities and lack of information on a adequate markets it has remained a mere supplier of raw materials to the neighboring country, India. Poor recognition of the role of different levels of value addition and processing lack in product diversification. And inadequate knowledge on marketing of NTFP resources has become the characteristic feature of this Development Region (Bhattarai and Shukla 2000).

Development Vision Nepal (DVN 2002) has worked on the detail economics of some of the commercially viable oil extraction plants recently for commercial enterprises in Chitawan district detail of which is shown in Table 5.10. As shown in the Table, among the four major oil extraction plants, *mentha* has the highest net economic return.

Table 5.10 Economics of Commercially Viable Oil extraction Plants (Area 1 ha. Model) 2003

Particulars	Unit	Value by Species			
		Lemon grass	Citronella	Chamomile	Mentha
A. Norms of Operating Cost					
1. Labor Requirement	Day	136	136	165	205
▪ Land Preparation	Day	20	25	30	40
▪ Compost use	Day	6	6	25	25
▪ Seedling Transplant	Day	2	2	0	0
▪ Seedling Plantation	Day	30	30	0	30
▪ Interculture	Day	18	18	50	30
▪ Irrigation	Day	5	5	5	5
▪ Harvesting	Day	25	20	40	60
▪ Transport for Processing	Day	30	30	30	30
2. Slip/seedling/Suckers	No/kg	25,000	2500	1	350
3. Compost	Ton	10	10	10	15
4. Pesticide	NRs.				500
B. Oil Extraction	Kg	80	130	7	120
C. Price Information					
1. Labor	NRs/day	75	75	75	75
2. Slip/ Suckers	NRs/Slip/kg	0	0	270	2
3. Compost	NRs/mt	400	400	400	400
4. Oil	NRs/kg	500	275	6,000	500
D. Operating Cost estimate	NRs	26,550	18,675	20,895	27,925
1. Labor/plowing	NRs	10,200	10,200	14,625	17,625
2. Seedling	NRs	8,750	875	270	700
3. Compost	NRs	4,000	4,000	4,000	6,000
4. Processing Cost	NRs	3,600	3,600	2,000	3,600
E. Revenue		40,000	35,750	42,000	60,000
Oil		40,000	35,750	42,000	60,000
F. Net Revenue		13,450	17,075	21,105	32,075
G. Revenue Foregone		10,022	10,022	10,022	10,022
H. Net Revenue		3,428	7,053	11,083	22,053

Source: Development Vision Nepal (DVN), Sept 2002; A Study on Marketing Opportunities for Local Products in Tiger Rhino Landscape Conservation Project Area Chitwan (Volume II Annexes); Final Report; King Mahendra Trust for Nature Conservation

The revenue will go increasing as the amount of oil extraction will also go increasing after 2nd year as shown in Table 5.11.

Table 5.11 Production Estimates of Herbal Oil

Year	Herbal Oil Production (mt)			
	Lemongrass	Citronella	Chamomile	Mentha
I	1.20	1.95	0.105	1.8
II	1.28	2.25	0.105	1.8
III	1.35	2.55	0.105	1.8
IV	1.50	3.00	0.105	1.8
V	1.50	3.00	0.105	1.8
VI	1.50	3.00	0.105	1.8
VII	1.50	3.00	0.105	1.8
VIII	1.50	3.00	0.105	1.8

Source: Development Vision Nepal (DVN), Sept 2002; A Study on Marketing Opportunities for Local Products in Tiger Rhino Landscale Conservation Project Area Chitwan (Volume II Annexes); Final Report; King Mahendra Trust for Nature Conservation.

Distillation of essential oils can be profitable for rural communities, but sound business fundamentals must be observed at all times. The distillation of raw materials closer to the source allows for a reduction in transport costs; produces a marketable by product (marc); and increases overall economic activity in the local economy. By purchasing raw materials and energy supplies from local communities and offering limited employment, the effects of local value addition go beyond the bottom line of the processing company. Essential oil manufacturing also offers local communities the ability to reach beyond traditional markets in Nepal to new potentially lucrative markets in India and abroad. Currently, HPPCL and few other companies are producing different oils in Nepal. The companies producing this material are operating at a lower than optimal production capacity and management level. Therefore, a diversified mix of products should be developed. Appropriate production practices should be followed to be able to produce a profit and provide a real economic alternative to the trade of raw material from the region.

Shifting the traditional extraction and trading systems to enterprise development must be equipped with technical, management, marketing and training support. Cooperative approach appears to be a powerful tool, being able to attract financial support from outside to develop locally suitable business plans including efficient marketing strategies. Information gathered in market studies helps develop new post-harvest processing and value-added systems for strategic products. Policy makers, extension workers, NGOs, and community leaders can be the most potential means to introduce processing and marketing to small-scale producers as well as other processing/value adding organizations for local as well as the country's economic development and sustainability of resources. Finally, for balanced development, it is important that all functions, from resource management through raw materials production and processing to marketing, get sufficient attention. Such an attempt is a challenge as well as an opportunity (Bhattarai and Shukla 2000).

Chapter 6

Conclusion and Recommendations

6.1 Conclusion

Nepal's NTFPs are crucial for rural livelihoods and for their contribution the revenue generation for government or national treasury. It is also a source of folklore medicines - a unique method of health care for almost 90 percent of the population in remote and rural areas. The knowledge of the application and use of medicinal plants by the traditional healers for the treatment of ailments has been passed down by oral tradition through generations. Recent trend shows the value of medicinal plants and NTFPs in the pharmaceuticals and herbal productions have been rapidly increasing worldwide. This has led scientists, researchers and multinational pharmaceutical companies investigate available plant species for active substances that could be useful for the cure of various diseases. The usage of many more natural products in day-to-day life of general public shares its importance in Nepalese economy.

The official record of the Ministry of Finance reveals that herbs worth of NRs. 71.5 million were exported to India and worth of NRs. 25.9 million to other countries in 2000/01. The Customs Department records indicate that about 135,000 metric tons of NTFP have been exported to India in the fiscal year 2002/003.

Considering the fact that all transactions and usages are not reported and documented, a significant number of collectors often do not take collection permits and a significant amount of NTFPs are illegally exported and/or transported to different parts of Nepal, it may be concluded that the contributions in national choffer may be much more higher than the existing level.

The pharmaceutical industries use large quantities of herbs in their formulation. Additionally, dry herbs primarily used as different types of tea and other galenic forms have been developed. These include plant powders in capsules, tablets, dry extracts and health and medicinal drinks, phototherapeutic formulations and extracts used in aromatherapy. The development of herbal medicines in Western Europe will depend on legislation, as the sale of these products as remedy in a pharmacy require a license supported by extremely expensive clinical and toxicological research. The products are also subject to a quality approval system from FDA, which allows only the items of highest quality.

The international trade is increasing for cultivated herbs in dried forms. Likewise wholesale market for organic herbs is expanding, particularly in Germany and Switzerland and price premium for such herbs exceeds 25 percent. Herb oleoresins obtained from herbs by steam distillation and by solvent or CO₂ extraction of essential oils, offer certain advantages over the dried herbs. These advantages include higher potency and greater uniformity of the product, quality consistency, convenience in use, free from microorganisms, easier and cheaper handling and storage.

6.2 Recommendations

The existing market for NTFPs does not face short supplies. And all necessary parameters indicates new companies seeking entry into the market will have to compete with traditional suppliers. The only way to penetrate the market is to offer dried products of consistently high quality plants. In NTFP sub sector, trade takes place through a very long channel. Every step in the market channel enjoys a profit, resulting in very low price to the primary collectors who work hard to collect the products. The return that collectors make from NTFPs is very often below the opportunity cost of their labor in case alternative labor market existed. The long market channel suggests that there is good price in the final market. To provide a better return to the collectors in the long run, the channel should be shortened and market should be diversified. If the local collectors and traders can access the final users of their products more directly and satisfy the buyer's level in terms of supply of uniform quality and of services, they could raise income level for collectors and local traders. Specific intervention points are:

6.2.1 Marketing Information Service

A formal information link between collectors/FUGs, processors, and traders with outside traders would help increase the bargaining capacity of local people in the region for the marketing of their products. A market information system would inform collectors about the demand of specific products in different market destinations and help them get more reasonable prices for some of their products. One of the main reasons for the collectors not getting better price is due to the lack of information about the market for different types of products. A market information system could be significant cost-effective leverage, which would be beneficial to the local traders and collectors in Nepal.

6.2.2 Cultivation of Commercially Important Species of NTFPs

Most of the NTFPs found in Nepal are collected from the wild. It is estimated that out of 10 NTFPs used by human beings 9 are collected from the wild sources. However, the supply from wild sources has rapidly been decreasing due to deforestation and over harvesting. It is high time now to start cultivation of NTFP species that are already domesticated and also hold high commercial viability in order to ensure that:

- Continuous supply of raw materials from cultivated sources is possible and the over-exploitation from wild sources is controlled
- Production of raw materials with uniform quality is achieved through commercial cultivation of selected/improved varieties
- Conservation of species that are listed as threatened and endangered due to over exploitation becomes possible
- Farmers and cultivators get better returns, majority of NTFP species being high value crops
- Relatively less productive, marginal and wastelands are brought into proper use as NTFP cultivation fits well with such lands.

6.2.3 Processing of NTFPs

Minor Processing

The simple processing methods could offer a significant increase in income of villager groups undertaking improved trading activities. This minor processing does not involve any machine and special technology. Types of minor processing, which can be performed easily are:

- Cleaning and grading raw materials for direct sale to manufacturers
- Custom bulk packaging for direct sale to manufacturers
- Cutting and grinding for direct sale to manufacturers
- drying and preserving the essential elements.

Processing-Oil Distillation

Currently there are few steam distillation plants operating in Nepal. Only limited number of items such as Citronella, Lemon grass, Mentha, and Palmarosa are currently used for oil distillation in the Terai zone. Distillation of essential oil for aromatic plants seems to be feasible for the Terai region. The distillation of raw materials closer to the source allows for a reduction in transport costs and also contributes to the local economy. By purchasing raw materials and energy supplies from local communities and offering limited employment, the effects of local value addition go beyond the bottom line of the processing company. Essential oil manufacturing also offers local communities the ability to reach beyond traditional markets in Nepal to new and potentially lucrative markets in India and abroad.

Several other interventions are possible to increase the viability of these operations. The main consideration is sound business practices among processors and good relations with raw material suppliers. A possible intervention could be establishing a partnership among the distillation enterprises with local collector groups. Appropriate technology, credit facility, market information, awareness among local people and suppliers. The forward linkages with advanced technology may increase the importance of NTFPs and will fetch higher price, which will help enhance the living conditions of rural mass.

Processing - Ayurvedic Medicines and Herbal Cosmetics

Nepal has been exporting medicinal plants in large volumes and at the same time importing ayurvedic drugs based on herbs and other herbal products in increasing amounts (NRs of 240 million per year - Department of Drug Administration DDA- 2001). Manufacturing ayurvedic medicines and herbal cosmetics within Nepal has manifold benefits. It would assure the value of medicinal herbs, create employment, substitute import and finally contribute to the national economy of the country. It would help preserve the natural resources of the country and ensure their rational utilization in commercially viable products for domestic and foreign markets. Pharmaceutical industries in Nepal could undertake the commercial production of:

A. Consumer Products: -

1. Herbal cosmetics:

- Facial and skin herbal creams
- Herbal toothpaste, powder, mouthwash, gargles
- Hair oil
- Body massage oil - general and specific
- Aromatherapy products

2. Herbal tea of different flavors and qualities.

3. Herbal tonics and food supplements.

B. Herbal pharmaceutical products.

- Classical Ayurvedic Medicines
- Proprietary Medicines

C. Extracts of selected plants for further processing abroad

- The establishment of a number of small to medium sized pharmaceutical enterprises in the major NTFP marketing centers of Terai to absorb the bulk of NTFPs that flow to India.
- Promotion of the cultivation of suitable NTFP species in existing community and private forests including the uncultivated wastelands, marginal lands and fallow lands with the technical backstopping and buy back guarantee.
- Promotion of large-scale industrial plantations of a wide variety of NTFP species viable in the degraded forest areas of primarily Siwalik, inner Terai and hills under leasehold forestry arrangements.

6.2.4 Market Promotion and Linkages

The main markets for NTFPs are India, China, Europe and the USA. India is one of the biggest markets for crude herbs as Ayurvedic Herbal Industries are well established in India. China is also another big market whose traditional medical system is gaining popularity around the globe. Europe and USA are established markets for aromatic plants and essential oil and morel mushrooms. However the system to enter into these markets is still not well known. It is, therefore, suggested that market studies, visits, observations and participation in trade fairs and exhibitions be organized to obtain information on price, demand and market of NTFPs. Trade information, product information, usage of NTFP in international arena must be watched and monitored closely. The proper awareness and appropriate knowhow and knowledge will help proper harvesting without damaging the nature and at the sametime could have better bargaining power and price.

To assure a better price to the collectors, improved trading activities in the form of joint trading or cooperatives may be supported as an important intervention. By linking groups of collectors or FUGs with local traders, better margins may be realized by all involved. The process would involve linking smaller collectors together so that a certain economy of scale could be achieved in the transport and marketing of NTFPs outside the district. By linking together, groups could reduce their marketing costs while exerting increased pressure on down stream traders.

Establishing an improved trading system would require the development of agreement among groups of collectors on products and price ranges to be offered, and the identification of a lead marketing person or people. The person(s) would then need to be compensated by the group for their marketing activities. The project would need to provide the initial concept and training on setting up a system, and managerial support in the beginning. A responsive local trader could be the best intervention point for this activity.

6.2.5 Policy

The possibility of policy improvements is tremendous, as NTFP tends to be a complicated sector involving several different types of stakeholders with competing interests. Policy should be accommodative and evolving in response to the changing conservation and economic development needs. NTFP related policies should be thoroughly reviewed in the light of their current overall impact over the national economy, natural resource conditions, rural livelihoods and status of equity.

The conservation and sustainability must not be compromised but at the same time economic consideration for social change should be the priority.

The emerging area of policy reform is the perceptual changes of the policy makers and implementers. The conservative mindset and cumbersome procedures must be simplified.

Some emerging areas in the field of NTFP policy are as follows:

Royalty rates: The royalty rates applied to all products should be reviewed and set more in line with the economic impact these royalties have on the products position in the market. A clear criterion for royalties should be developed that is transparent and linked to some reasonable objectives. Life cycle of the plants, regeneration potential, and quantity available should also be considered while fixing royalties.

The tariff and revenue rates should be made on the condition and commitment of the national and international conventions and agreements.

Export restrictions and bans: Export restrictions on certain species in unprocessed form or the ban in collection and trade of certain species are generally expected to ensure their wise use and conservation. To whatever extent however, such benefits could be achieved, depends on a number of other factors e.g. existing in-country processing potentials, market and export incentives, and regulation observing trend in the existing socio-political situations. There is doubt that the ban has reduced the harvesting and trade of those items. However, the export ban has in fact increased the opportunity for corruption among the officials who are appointed to check these items in various customs check points. Therefore a review of the export ban on these items should be carried out carefully investigating the availability of the plants, commercial exploitation and biological aspects. National policy should be formulated in tandem with International conventions on bio-diversity conservation.

Recently the government has constituted a high level NTFP Promotion Board. This Board has a clearly spelled out mandate for the national policy and strategy analysis and improvements for the promotion of NTFP sector in Nepal. It is expected that this Board would bring about radical changes in the NTFP sector that could encourage NTFP conservation, cultivation, open, healthy and competitive market and promising security to industries as well as ensuring benefits to local people whose livelihoods are dependent on and affected by this sector.

Policy in farming, domestication, extraction, harvesting, processing for value addition, transportation and carrying should be clarified and documented. The cultivation of NTFPs should be taken as economic activity rather than natural conservation. The dissemination of appropriate harvesting techniques as well as credit for its promotion should be made available.

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Annex 1

List of Persons contacted (Traders and Organizations) or visited during Field Visits

(a) List of Persons contacted in Eastern Nepal

S.No.	Form Name	Name of the Respondents	Address
Traders			
1	Taparia Exports	Mr. Manoj Tapari	Panitanki, Biratnagar, P.Box: 54, Tel: 021-22526, Fax: 977-21-24441 E: jayanti@ccsl.com.np
2	R.J.N. Enterprises	Mr. Nanda Kishore Shah	Dhahran, Sunsari
3	RK Traders	Mr. Rajendra K. Agrawal	Dhahran, Sunsari
4		Mr. Harka B. Katuwal	Dhahran, Sunsari
5		Mr. Rajendra P. Jaiswal	Dhahran, Sunsari
6	M A Traders	Mr. Mahesh Agrawal	Dhahran, Sunsari
7		Mr. Pemba Lama	Basantpur, Terhathum
8		Mr. Gopal Bhujel	Basantpur, Terhathum
9		Mr. Bhim B. Karki	Basantpur, Terhathum
10		Mr. Ganesh paudel	Basantpur, Terhathum
11	Rudraksha S&B Centre	Mr. Ganga Ram Sharma	Hile, Dhankuta
12	Ban And Traders	Mr. Tej P. Rai	Hile, Dhankuta
13		Mr. Indra Jit Tamang	Hile, Dhankuta
14	Lama Enterprises	Mr. Sher B. Tamang	Hile, Dhankuta
15	Shanti Traders and Suppliers	Mr. Sher B. Rai	Hile, Dhankuta
16	Tejpat K&B Centre	Mr. Ratna B. Shrestha	Gaighat, Udayapur
17		Mr. Oli Mohabbad	Trijuga, Udayapur
18		Mr. Jogendra Gupta	Beltar, Udayapur
19		Mr. Lalan Das	Beltar, Udayapur
20	Bindal Traders	Mr. Indra Bindal	Birtamod, Jhapa
21	Shiv Sagar Stores	Mr. Almu Shah	Chandranigahpur, Rautahat
22		Mr. Suraj Kumar Shrestha	Chandranigahpur, Rautahat
23	Krishna Enterprises	Mr. Raj Kumar Rauniyar	Kanchanpur, Saptari
24	Sugia Enterprises	Mr. Surev Mahato	Sabaila, Dhanusa
25		Mr. Laxmeswor Chaudhary	Janakpur-4, Dhanusa
CFUGs			
26	Shanti Nagari CFUG	Mr. Nar B. Moktan (C)	Itahari, Sunsari
27	Chaite CFUG	Mr. Hikmat B. Khadka (S)	Basantpur, Terhathum
28	Dumre Sanne CFUG	Mr. Jhamak Katuwal (T)	Belhara, Dhankuta
29	Chappan CFUG	Mr. Min B. Raut (C)	Trijuga, Udayapur
30	Jagriti Mahila CFUG	Mrs. Tirtha Kumari	Paurahi-4, Rautahat
31	Radha Krishna CFUG	Mrs. Mithila Devi	Lal Bandi, Sarlahi
32	Shimbhu CFUG	Mr. Surendra Raj	Khayarmara, Mahottari
Private Grower			
33		Mrs. Sharada Basnet	Basantpur, Terhathum
34		Mr. Gopal Bhujel	Basantpur, Terhathum
35		Mr. Gambhir B. Rai	Aaptar, Udayapur

DFO			
36	District Forest Office	Mr. Shekhar Kumar Yadav	DFO, Udayapur
37	District Forest Office	Mr. Murari P. Pokharel	DFO, Dhankuta
38	District Forest Office	Mr. Mohan Koirala	DFO, Sunsari
39	District Forest Office	Mr. Sampain Yadav	DFO, Sarlahi
40	District Forest Office	Mr. Ram Briksha Thakur	DFO, Saptari
41	District Forest Office	Mr. Khushi Lal Chaudhary	DFO, Siraha
42	District Forest Office	Mr. Chandra Man Dangol	DFO, Rautahat
43	District Forest Office	Mr. Kiran Shrestha	DFO, Mahottari
44	District Forest Office		DFO, Dhanusa
Processing Co.			
45	HPPCL	Mr. Bijaya Man Sthapit	Tarhara, Sunsari
46	Shree Pashupatinath Aaurved Bhawan	Dr. Nanda Kangijha	Shivanagar, Rautahat
47	Nepal Mentha Product Pvt. Ltd	Mr. Ashok Karna Singhwan	Sagamath, Sarlahi
Custom Office			
48	Mechi Custom Office		Kakadvitta, Jhapa
49	Morang Custom Office	Mr. Janak, Pant	Rangelai, Biratnagar
50	Trade Promotion Centre	Mr. Dilip Aryal	Pokharia, Morang
51	Mechi Udyog & Byapar Sangh,	Mr. Narendra Khadka, Chairperson,	Dhulabari, Jhapa Tel: 60035

(b) List of Traders and Organizations visited in India (Silguri)

1	PC Jain and company	Mr. Babu Lal Jain	babulal23@sifu.com
2	NC Jain and Company	Mr. Bhoj Raj Jain	
3	Mr. P. K. Dutta Chaudhary (Datta Babu	CHEMEFORM	
4	Chantmal Joshi		Joshi Kunj, ITI Mode, Opposite Hotel Suchitra 2 nd . Mile, Svebak Road Silguri Tel 546476, 546030.

(c) List of Traders and Organizations visited in India (Kolkata)

1	Excel Drug House	Mr. Manoj Gathani	18-B, Sukeas Lane, Kolkata 700 001 Tel. 242 8571, 242 1254, e-mail: edhacal@vsnl.net., Contact persons:
2	Harek Chand Kale Ram	Mr. Babu Lal Jain	26/4-A, Armenian Street, Jhagada Kothi, Tel. 238 5267, 235 8835@, Kolkata
3	Natural Drugs	Mr. Sanjay Prakash	26/4 A, Armenian Street, Kolkata 700 001, India. Phone: 0091 33 231 3242/ 218 2850, Fax: 0091 33 235 1045
4	Kanchanjunga Herbal Medi Aids pvt. Ltd.	Mr. Ashish Agrawal	406, Marshall House, 4 th . 25 Stand Road or 33/1 N S Road, Kolkata 700001 Tel: 91 33 221 3696, fax: 91 33 220 5228
5	Daga Ji and Sons		Jhagada Kothi, Armenian Street, Bada Bazar Koilkata

(d) List of Traders and Organizations visited in Central Nepal

District	Person contacted	Status
Rupandehi	Mr. Krishna Prasad Dhakal	Assistant Forest Officer
	Mr. Sanat Adhikari	Broom grass Trader
	Mr. Saha	Trader
	Mr. Laxman Acharya	Secretary Sivnagar Community Forest, Butwal
	Mr. Sital Kumar Barnawal	Trader, Butwal
	Mr. Suresh Kumar Jaisawal	Trader Butwal
Kapilvastu	Mr. Santa Muni Tamrakar	Forest Officer
	Mr. Ahasan Hasan	Industrialist
	Mr. Umesh Kumar Basnet	Custom Officer, Krishnagar
Nawalparasi	Mr. Santosh Barunwal	Trader
	Mr. Prakash Nigam	Trader
	Mr. Lokraj Nepal Mr. Govinda Dhal	Assistant Forest Officer and Ranger
	Mr. Ajud Wagle	Secretary, Dhuseri CFUG, Rajhar, Nawalparasi
Chitwan	Mr. Madav Giri Mr. Gopi Prasad Pathak	Chair person and Member, Kalika Community Forest
	Mr. Indra Bahadur Magar and Mr. Nar bahadur Magar	Langhali Leasehold Forest, Darechok-3, Mugling
	Mr. Man B. Gurung and Mr. Dhan B. Gurung	Iccha Kamana Leasehold Forest, Darechok-4, Chitwan
	District Forest Office, Chitwan	
Makawanpur	Ramanthali Leasehold Forest	Padampokhari-3, Makawanpur
	Mr. Muneshower Adhikari	Brikuti Palp Industry Purchasing Officer, Raw Material Section
	Mr. Hup Raj Giri	Brikuti Palp Industry Purchasing Assistant, Raw Material Section
Parsa	Mr. Kedar Nath Kattel	Ranger, Wildlife, Parsa
	Mr. Ram Hari Sedhai	Forest Officer, District Forest Office Hetauda
	Mr. Chakra Man Shaykya	Act. Regional Director, RD Office Hetauda
	Mr. Sukhdev Chaudhary	Campus Chief, IFO Hetauda
	Mr. Laxman Sundar Shrestha	Lecturer, IFO Hetauda
Bara	Mr. Surya Prasad Joshi	DFO Bara
	Mr. Sambhu Prasad Jaisawal	Range Post Chief, Pasaha
Parsa	Mr. Bishwa Babu Tiwari	DFO, Parsa

(e) List of Traders and Organizations visited in India (Lucknow, Kannauj and Kanpur)

City	S.No.	Traders/Industrialist	Address
Lucknow	1	Mr. Ram Chandra Gupta	Lucknow Kirana Company 88 Subhash Marg, Tel 265216, 265219
	2	Mr. Nischal Suri	Perfume and essential oil Co. Manufacturer of Natural Attars and essential oils 47-48 New Market Keshar Bag, Tel 272309, 222040, 221120
	3	Mr. Rahul Mehrotra (Creative perfumr)	Nandamahar Road, Lucknow, tel 266650,265171,251019
	4	Mr. S K Jain	Kanhya Lal Ashok Kumar, Rawab Ganj, Tel 265441, 266094
	5	Mr. Chunna Mal	Chunnamal Ramdayal, Amina Bad Sabjimandi, Tel 226160,
	6	Mr. Narendra Nath	Lalji Aromatic, Rakhah Gunja,
Kannauj	1	Mr. A K Gupta	Bhartiya Jadibuti Bhandar, Tel 34378,35703,
	2	Mr. JN Kapoor	Jagat Aroma Oil Distillery Tel: 34401
	3	Mr. Abhay Gupta	Flower perfumes manufactures Company Tel 34583, 34435
	4	Mr. Abhaya Gupta	Flowers perfumrs
	5	Mr. Gupta	Supreme Enterprises, Opposite to PPDC/FFDC
	6	Mr. Pamppi Jain	Pragati Aroma Oil Distillers (p) Ltd, Deedar Ganj, Chhipatti, Tel. 34317, 34614
Kanpur	1	Mr. Radhe Lal	Radhe Lal and Sons 51/7 Ramganj, Nayaganj
	2	Mr. Rameshower Prasad	Krishna Gopal and Co. 53/7 Nayaganj
	3	Mr. Lohit Sukla	Laxmi Essential Oil and Fragrance (p.0Ltd 24/37Gopal Bhawan, Birhana road. Tel 317686,352962,
	4	Mr. SK Gupta	Nandi Traders 51/7 RamGanja, NayaGunja, Kanpur
	5	Mr. Rajendra Kumar	Rajendra Kumar Vijay Kumar 51/7 RamGunja, Nayaganja

(f) List of Traders and Organization Visited in Far and Mid-Western Development Regions

Banke District:

1. Diwakar Pathak, District Forest Officer (DFO), District Forest Office, Nepalganj, Banke
2. Badri Karki, Assistant Forest Officer, Ilaka Ban Karyalaya, Kohalpur, Banke
3. Rabindra Nath Shukla, Manager, Herbs Production and Processing Company Ltd., Nepalganj
4. Laxmi Datta Pant, Production Officer, Herbs Production and Processing Company Ltd., Nepalganj
5. Sunil Kumar Acharya, Assistant Scientific Officer (Botanist), District Plant Resource Office, Nepalganj
6. Hem Raj Paudel, Assistant Botanist, District Plant Resource Office, Nepalganj
7. Chakrapani Sharmacharya, Custom Officer, Custom Office, Nepalganj
8. Mahendra Prasad Chaudhari, Assistant Plant Quarantine Officer, Plant Quarantine Office, Nepalganj
9. Padma N. Paudel Project Manager, Buffer Zone Development Project, CARE Nepal, Nepalganj
10. Dev Raj Gautam, Ban Sajhedari Program, CARE Nepal, F. P. P., Nepalganj
11. Raj Rati Tharu, Private Forest Holder, Kohalpur VDC - 4, Banke
12. Tek Bahadur Tharu, Jalandhara CFUG, Mahadevpuri VDC-6, Banke
13. Mahila Upakar CFUG, Pragatinagar, Kohalpur VDC-3, Banke
14. Rajesh Kumar Jain, Trader/Processor/Exporter, Simki Trade Centre, Gharbari Tole, Nepalganj
15. Shyam Kumar Tandon, Trader, Kirana Traders, Sadar Lane, Nepalganj
16. Madhukar Thapa, Trader/Exporter, Thapa Enterprises, Phultekra Lane, Nepalganj
17. Babu Ansari, Trader/Exporter, Phultekra Lane, Nepalganj
18. C. L. Agrawal, Trader/Exporter, Mittal Trading Co., Surkhet Road, Nepalganj
19. Mohammad Ishaat Halwai, Trader/Exporter, Ghoshi Tole, Nepalganj
20. Mohammad Idris Halwai, Trader/Exporter, Nepal Kirana Traders, Ghosi Tole, Nepalganj
21. Mohammad Salim Halwai, Trader/Exporter, Natural Goods Store, Ghoshi Tole, Nepalganj
22. Mohammad Yusuf, Trader/Exporter, Bheri Kirana Store, Ghosi Tole, Nepalganj
23. Mohammad Ishaak Halwai, Trader/Exporter, Ghosi Tole, Nepalganj
24. Mohammad Yunus, Trader/Exporter, Sama Enterprises, Ramnagar, Nepalganj
25. Mohammad Hussain Halwai, Shahwaj Traders, Ghosi Tole, Nepalganj
26. Sanjay Kumar Jain, Trader/Processor/Exporter, Bahubali Herbal essence & Extracts Pvt. Ltd., ganapur VDC, Nepalganj
27. Fajj Mohammad, Trader/Exporter, Fajj Mohammad & Co., Ghosi Tole, Nepalganj

Bardiya District:

28. Soharat Thakur, District Forest Office, Gularia, Bardiya
29. Barna Bahadur Thapa, Assistant Warden, Royal Bardiya National Park, Bardiya
30. Sushila Nepali, TAL, Royal Bardiya National Park, Bardiya
31. Deb Rana, NTFP Farmer, Gulariya Municipality - 1, Bardiya
32. Radha Krishna Mahila CF, Gulariya, Bardiya
33. Belapur Tharu CFUG, Bardiya

Dang District:

34. District Forest Office, Dang
35. Shree Basanta Hariyali CFUG, Akhabare, Ghorsi, Dang
36. Shree Manakamana Mahila CFUG, Tribhuvannagar Municipality, Dang
37. Chudamani Adhikari, Administrator, Shree Mahendra Sanskrit University, Dang
38. Dev Mani Devkota, Medicinal Plant Farmer, Bijauri VDC-4, Dang
39. Bhuman Singh Oli, Junior Technician (J. T.), District Soil Conservation Office, Tulsipur, Dang
40. Shankar Dayal Soni, Herbal Trader, Hari Om Traders, Tulsipur, Dang
41. Ambapur Medicinal Plant Nursery, Ambapur, Dang
42. Ratna Lakshmi Thapa, Vice-Chairperson, FECOFUN District Chapter
43. Laxman Singh Thapa, Medicinal Plant Farmer, Kabhre VDC-3, Gulthevani, Dang
44. Mohammad Yakub Ansari, Trader, Ansari Kirana Pasal, Tulsipur, Dang
45. Kamal Kanta Sony, Trader, Paban Traders, Tribhuvannagar Municipality, Dang
46. Lum Prasad Pandey, Nursery Naika, Ambapur Medicinal Plant Nursery, Dang
47. Salauddin Faruk, New Faruk Enterprises, Tribhuvannagar, Dang

Surkhet District:

48. Regional Forest Directorate, Birendranagar, Surkhet
49. District Forest Office, Surkhet
50. Hem Raj Adhikari, NTFP Trader, Adhikari Enterprises, Chhinchu, Surkhet
51. Raju Gupta, NTFP Trader, Chhinchu, Surkhet
52. Indra Bahadur KC, NTFP Trader, Birendranagar-6, Surkhet
53. Mohammad Atiullaha, Trader, Bidya Jadibuti Store, Birendranagar-6, Surkhet
54. Uday Bahadur Gautam, NTFP Farmer, Ward No. 6, Birendranagar, Surkhet.
55. Shree Ambikadevi CFUG, Gagretal, Jarbuta, Surkhet
56. Dhan Bahadur Thega, Secretary, Jagriti CFUG, Chalaute, Birendranagar Municipality, Surkhet
57. Mitra Upadhyay, District Coordinator, CARE Nepal

Kailali District:

58. Nabaraj Baral, District Forest Officer (DFO), Kailali
59. Subhash Prasad Shrestha, Custom Officer, Custom Office, Kailali
60. Ms. Lalita Acharya, Treasurer, Tegnuwa Mahila CFUG, Kailali
61. Mohan Bahadur Rawal, Chairperson, Sati Karnali CFUG, Kailali
62. Custom Office, Dhandadi, Kailali

Kanchanpur District:

63. Rishiram Tripathi, District Forest Officer (DFO), District Forest Office, Kanchanpur
64. Jaya Prasad Joshi, Act. Custom Officer, Custom Office, Gaddachauki, Kanchanpur
65. Deb Bahadur Dhami, Secretary, Batabaran CFUG, Kanchanpur
66. Baitada CFUG, Kanchanpur

(g) List of Traders and Organization visited in Tanakpur and Delhi

Tanakpur:

1. A. S. Sharada, Sharada Enterprises, Tanakpur
2. Deepak Sharada, Sharada Brothers, Tanakpur
3. Vijaya Kumar, Mahesh Chandra and Sons, Tanakpur
4. Agrawal Traders, Tanakpur, Naini Tal
5. R. K. Gupta, Gupta Traders, Bus Station, Tanakpur

Delhi:

1. Vijay Kumar, Urmila Traders, Khari Baoli, Delhi
2. Sanjay Agrawal, National Herbs Company, Khari Baoli, Delhi
3. Mohammad Hasan, Allied Trading Corporation, Khari Baoli, Delhi
4. Rashid Hasan, Mohammad Hussain Ajmal Husain, Khari Baoli, Delhi
5. Raj Kumar Gupta, Om Trading Co., Khari Baoli, Delhi
6. Raj Kumar Gupta, Herbs and Kirana Association (Regd.), Khari Baoli, Delhi
7. Bale Gupta, Gupta Trading Co., Khari Baoli, Delhi
8. Om Prakash Gupta, Om Prakash Vijay Kumar, Khari Baoli, Delhi
9. Vivek Seth, Jagdish Kumar Hari Om and Co., Khari Baoli, Delhi
10. R. K. Singhal, H. M. and Sons, Khari Baoli, Delhi
11. Sant Kumar Sanganeria, Ultra International Ltd., Connaught Circus, New Delhi
12. Ben Dhanuka, Morels India Pvt. Ltd., Greater Kailash, New Delhi
13. Baburam Harichandra, B. H. Trading Co., Khari Baoli, Delhi
14. Sunil Kumar Sharma, Arian Enterprises, Shakarpur, Delhi
15. Mukesh Kumar, Balaji Overseas Co., Khari Baoli, Delhi
16. Vivek Goal, Banwarilal Shreeram, Khari Baoli, Delhi
17. Sunil Chand, Nanak Chand Sandeep Kumar, Khari Baoli, Delhi
18. Padam Chand Agrawal, Nanak Chand Agrawal & Brothers, Khari Baoli, Delhi
19. Narendra Kumar Gupta, Payal trading Co., Khari Baoli, Delhi
20. Mohit Gulati, BMV Fragrances Pvt. Ltd., Vikashpuri, New Delhi
21. Alok Gupta, Kanta Chemical Co., Khari Baoli, Delhi
22. Gaurav Vij, G.V. Chemical India Ltd., Ananda Bihār, Delhi
23. Pushp K. Jain, Medicinal Plant Trade Specialist, TRAFFIC-India, WWFIndia. Lodhi Estate, Lodhi Road, New Delhi.

Annex 2

List of Participants of the Workshops

(a) List of Participants at Biratnagar Workshop

<i>S. No.</i>	<i>Name</i>	<i>Address</i>
1.	Kamal Bhakta Shrestha	Regional Forest Directorate, Biratnagar
2.	Rajendra Kafle	Program officer, MoFSC, Singha Durbar
3.	Balaram Adhikari	DFO, District Forest Office, Morang
4.	Mohan Koirala	DFO, District Forest Office, Sunsari
5.	Din Dayal Bhattarai	Department of Plant Resources, Thapathali
6.	Rabindra Maharjan	AFO, District Forest Office Sunsari
7.	Sharmanand Chaudhary	RSS, Biratnagar-13
8.	Tanka Khanal	Rajdhani Daily and BBC, Biratnagar
9.	Shekhar Regmi	Himalaya Times and Koshi FM, Biratnagar
10.	Jagannath Shrestha	Farmer, Inaruwa, 5 Sunsari
11.	Chandra Bir Gurung	Kerabari, 9 Sunsari
12.	Shiv Prasad Gautam	Processor, Itahari-1, Sunsari
13.	Bharat Kumar Basnet	Processor, Jhumka-5
14.	Jyoti Sabu	Biratnagar-3
15.	Manoj Taparia	Biratnagar-3
16.	Nanda kishore Shah	Trader, Dharan Sunsari
17.	Kishore Shrestha	Trader, Dharan Sunsari
18.	Bindu Bhattarai	Trade Promotion Centre, Biratnagar
19.	Lalit Tamang	Bhalua CFUG, Morang
20.	Ram Hari Subedi	CEDA, Kathmandu
21.	Bhuwan Rai	CEDA, TU
22.	Ripu M. Kunwar	CEDA, TU
23.	Kusheshor Chaudhary	CEDA, TU

(b) List of participants at Simara Workshop

<i>Participant</i>	<i>Position</i>	<i>Institution</i>
Mr. B. B. Tiwari	DFO Parsa	District Forest Office Parsa
Mr. C. M. Shakya	Act. RD Central Region	Regional Directorate Central Region
Mr. Ram Hari Sedhain	Acting DFO	District Forest Office Makawanpur
Mr. Mahendra Raj Joshi	Private NTFPs Nursery man	Makawanpur
Mr. Bir Singh Tamang	Trader	Manahari, Makawanpur
Mr. Jit Bahadur Thapa	Trader, Cultivator, CFUG member	Chaughada, Makawanpur
Mr. Laxman Bista	CFUG Chair person	Rani CFUG Chaughada
Mr. Megharaj Sapkota	FECOFUN, Secretary	FECOFUN, Bara
Mr. Sushil Bhattarai	Former Regional Administrator	Mahendra Nagar, Bara
Mr. Laxman Sundar Shrestha	Lecturer	IFO, Hetauda
Mr. Jagrup Sharma	Ranger	Nijghad, Bara
Mr. Tika ram Adhikari	Warden	Wildlife, Paras

Mr. Damodar Sharma	Program Officer	DDC Paras
Mr. Ramesh Baniya Chhetri	Ranger	Simara, Bara
Mr. Kamal Raj Belbase	Act. Farm Manager	HPPCL, Tamaghadi, Bara
Mr. Binod Paykurel	Gorkhapatra News Reporter	Bara
Mr. Gambhir Sahani	Pratic News Reporter	Parsa
Mr. Durga Prasad Bhatta	CFUG Chair person	Simra, Bara
Mr. Surya Prasad Joshi	DFO	Bara
Mr. Lal mani Chaudhary	Kat Village Range Post	Bara
Mr. Mr. Sambhu Prasad Jaisawal	Range Post Pasaha	Bara
Mr. Kanan Chaudhary	Farmer	Katgaun Bara
Dr. Annapurna Das	MFSC	PSC member
Mr. Harihar Sigdel	MFSC	PSC Member
Mr. Suman Sigdel	Research Assistant	Study Team CEDA
Mr. Mohan Kafle	Research Assistant	Study Team CEDA
Mr. Kishore KC	Team Leader	Study Team CEDA
Dr. V R Duwadi	Cultivation Management Expert	Study Team CEDA

(c) List of Participants in the NTFP Workshop in Nepalganj

<u>S. No.</u>	<u>Name of Participant</u>	<u>Designation/Address</u>
1.	Dr. Damodar P. Parajuli,	Joint Secretary, MFSC
2.	Mr. Gopal Kumar Shrestha	Under Secretary, Department of Forest
3.	Dr. Krishna Chandra Paudel	Assistant Forest Officers, MFSC
4.	Mr. Ram Krishna Chaudhary	Herb Farmer, Thakurdwara-6, Bardiya
5.	Mr. Mahesh Kumar Chaudhary	Herb Farmer, Thakurdwara-6, Bardiya
6.	Mr. Bal Bahadur Thapa	Herb Farmer, Thakurdwara-6, Bardiya
7.	Mr. Lakshmi Datta Panta	Herbal Promotion Officer, HPPCL/Nepalganj
8.	Mr. Janga Bahadur Oli	Chairpersons, Rimna CFUG, Madhavpuri-5, Banke
9.	Mr. Tek Bahadur Chaudhary	Jalandhara CFUG, Madhavpuri - 6, Banke
10.	Mr. Achyut Prasai	Chairperson, Nepalganj Federation of Industry and Commerce, Nepalganj
11.	Mr. Mahendra Prasad Chaudhary	Officer, Plant Quarantine Check-post,
12.	Mr. Hem Raj Paudel	Assistant Botanist, District Plant Resource Office, Nepalganj
13.	Mr. Rabindra Nath Shukla	Manager, HPPCL, Nepalganj
14.	Dr. Parmatma Shukla	Ayurvedic Doctor, District Ayurvedic Hospital, Nepalganj .
15.	Mr. Shiva Prasad Gupta	Vaidya, District Ayurvedic Hospital, Nepalganj
16.	Mr. Dev Raj Gautam	Ban Sajhedari Program, CARE Nepal, F.P.P.,
17.	Dr. Nirmal Kumar Bhattarai	Botanist, Kathmandu
18.	Mr. Jib Prasad Adhikari	Sirjana CFUG, Kohalpur - 4, Banke
19.	Ms. Rishisara Gaudel	Mahila Upakar CFUG, Kohalpur - 4, Banke
20.	Mr. Padma N. Paudel	Project Managers, Buffer Zone Development Project, CARE Nepal
21.	Mr. Abdul Hakim Halwai	MAP traders, Nepalganj
22.	Mr. Kuber Jung Malla	Botanist, Kathmandu

23. Mr. Ram Kumar Deb Research Assistant, CEDA, Kathmandu
24. Mr. Dip Bahadur Rana Herb Farmer, Magaragadi - 2, Bardiya
25. Mr. Omkar Joshi Research Assistant, CEDA, Kathmandu
26. Mr. Sunil Kumar Acharya Botanist, District Plant Resource Office, Nepalganj
27. Mr. Bishnu Kachyapati MAP traders, Nepalganj
29. Mr. Chakrapani Sharmacharya Custom Officer, Nepalganj
30. Mr. Anil Jung Rana District Development Committee, Nepalganj, Banke
31. Mr. Diwakar Pathak District Forest Officer, Nepalganj
32. Mr. Pushkar Bishwakarma Samaj Kalyan Sangha, Bardiya
33. Mr. Rajesh Kumar Jain MAP Trader/Processor, Nepalganj
34. Mr. Mohan Dhungel Regional Director, Regional Forest
Directorate, MWDR, Surkhet
35. Mr. Netra Upadhyay Plan International, Nepalganj
36. Mr. Rajendra Gupta Plan International, Nepalganj
37. Ms. Radha Dhital Federation of CFUG, Banke

Annex 3

Conservation Status of Selected Community Forests in Various Regions

1. Eastern Region

A. Shantinagari CFUG, Itahari-2, Shantinagar, Sunsari

1. Area of CF Area: 200 ha
2. Date of establishment: 2055/07/24
3. HH No.: 1370
4. Major NTFPs: Citronela, Harro, Barro, Rajbrikchha,
5. Major NTFPs cultivated by farmers (1) Citronella (2) Ritha
 - Market: Dharan

Suggestions for improvement

1. Provide trainings and workshops on NTFP cultivation/management and collection of seeds.
2. Control Ban Mara (Eupatorium species) and encourage CF users to cultivate citronella.
3. Establish small processing unit at local level to add the value of products.
4. Lay some demonstration plot to exhibit the success of NTFPs cultivation/management.

B. Chaite CFUGs Basantapur-3, Terathum

1. Community Forest registered on: 2052/10/10
2. Area of the C.F.: 226.38 Ha.
3. No. of Households: 248
4. NTFP management provision in OP: Not included
5. Major NTFPs in the forest: Argeli, Lokta, Allo, Malingo, Chiraita
6. No of CF users involved in cultivation/management of NTFPs
 - In CF 25 HHs
 - In private forests 20 HHs
7. Major NTFPs cultivated by farmers (1) *Swertia chirata*- Chirayito
Edgeworthia gardnerii – Processing of Argeli 500 Kg/yr.

Suggestions for improvement

1. Control on eroded and landslide areas.
2. Ban on grazing in CF areas.
3. Simplify the quarantine process for export NTFPs.
4. Provide soft loan to NTFP cultivation.
5. Provide reasonable price of products to rural farmers.
6. Establish small processing unit at local level to add the value of products.

C. Dumresanne CFUG, Belhara -2, Dhankuta

1. AreaCF Area:
 2. Date of establishment: 2050/03/15
 3. HH No.:
 4. Major NTFPs of CF: Citronela, Khoto, Lemon Grass, Mentha.
 5. No of CF users involved in cultivation/management of NTFPs
 - In CF 9 HHs
 - In private land 5 HHs (Farm boundaries, roadsides etc.)
- Major collectors CF users (Men)
 - Major NTFPs cultivated by farmers (1) *Citronella* (2) *Mentha* (3) *Pinus* (4) *Thysanlaena maxima-Amlisho* (5) *Bambusa* sp. (Bans)
 - Market (Collector) HPPCL and Surya Resin and Turpentine Co. (SRTC)

Suggestions for improvement

1. Distribute seedling and saplings/seeds of those plants that give immediate production and good market price.
2. Provide trainings and workshops on NTFP cultivation/management and collection of seeds.
3. Initiate plantation activities in wastelands and open forests.
4. Create income generation activities for rural poor.

D. Chappan CFUG, Triyuga-2, Udayapur

1. CF Area: 1105 Ha.
2. Date of establishment: 2053/01/20
3. HH No.: 881
4. Major NTFPs Of CF: Harro, Barro, Kurilo, Amala, Ritha, Bhorla Leaf, Sal Dhup.

No of CF users involved in cultivation/management of NTFPs:

- In CF < 20 HHs
- In private forests: 4 HHs

Major collectors: CF users (men)

Major NTFPs cultivated by farmers (a) *Cinnamomum tamala*-Tejpat (b) *Phyllanthus emblica*- Amala (c) *Asparagus racemosus* -Kurilo

- Market: Gaighat, Triyuga Metropolitan city

Suggestions for improvement

1. Control on timber smugglers and immigrants.
2. Ban on grazing in CF areas and control flood.
3. Conduct CF inventory, thinning, pruning and selective lopping.
4. Provide soft loan for cultivation.
5. Provide trainings and workshops on NTFPs cultivation/management and collection of seeds especially to CFUC members.
6. Conduct NTFP extension activities for increasing rural livelihoods.

Note: Kurilo, Amala, Harro, Bans, Amriso, Barro are the common NTFPs found in all CF.

2. Central Region

A. Jagriti Mahila CFUG, Pourahi-4, Rautahat

1. CF Area: 27Ha.
2. Date of establishment: 2056/
3. HH No.: 99
4. Major NTFPs Of CF: Aathingare, Harro, Barro, Kurilo.

No of CF users involved in cultivation/management of NTFPs

- In CF
- In private forests
- Major collectors CF users (men)
- Major NTFPs cultivated by farmers
- Market: Chandranighapur

Suggestions for improvement

1. Ban on grazing in CF areas and control flood.
2. Inventory of CF and thinning, pruning and selective lopping .
3. Provide trainings and workshops on NTFPs cultivation/management.
4. Distribute seeds/seedlings and saplings of important NTFPs.

B. Radha Krishna CFUG, Lal Bandi, Sarlahi

1. CF Area: 49 Ha.
2. Date of establishment: 2057/
3. HH No.: 126
4. Major NTFPs of CF: Harro, Barro, Kurilo, Rajbrikchha, Sarpaghandha, Pipla, Neem
Kuju, Simal, Amala, Tejpat.
 - Major collectors: CF users (men and women)
 - Major NTFPs cultivated by farmers (a) *Azadirachta indica* (Neem) (b) *Phyllanthus emblica*- Amala
 - Market Bardibas, Chandranighapur

Suggestions for improvement

1. Ban on grazing in CF areas and control flood.
2. Inventory of CF and thinning, pruning and selective lopping.
3. Organize trainings and workshops on NTFPs cultivation/management and collection of seeds especially to CFUC members.
4. Encourage local farmers to cultivate and support them for effective management of NTFPs.

C. Simbhu CFUG, Khayar mara-1, Mahottari

1. CF Area: 300 Ha.
2. Date of establishment: 2058
3. HH No.:
4. Major NTFP of CF: Kurilo, Harro, Barro, Simal, Makai jara, Chiraita, Rajbrikchha.
 - Major collectors CF users (men)
 - Major NTFPs cultivated by farmers
 - Market: Bardibas

Suggestions for improvement

1. Ban on grazing in CF areas and control flood.
2. Inventory of CF and thinning, pruning and selective lopping
3. Organize and provide trainings and workshops on NTFPs cultivation/management and collection of seeds especially to CFUC members.

D. Raniban Community Forest, Makawanpur

1. CF Area: 151.9 ha
2. Date of establishment: 2050
3. HH No.: 60
4. Major NTFP of CF: Kurilo, Bans, Bet.

There is no operational Management plan as such but Kurilo and cultivation of fodder grass is being carried out.

No of CF users involved in cultivation/management of NTFPs: a few

- Major collectors: CF users (men)
- Major NTFPs cultivated by farmers: Kurilo

Suggestions for improvement

- Stop cattle grazing in CF areas and control flood.
- Inventory of CF and thinning, pruning and selective lopping
- Organize and provide trainings and workshops on NTFPs cultivation/management and collection of seeds especially to CFUC members.
- Identification of NTFPs is required

E. Pragatisil Community Forest, Simra, Bara

1. CF Area: 210 Ha.
2. Date of establishment: 2000
3. HH No.:
4. Major NTFP of CF: Rajbrikccha, Kurilo, Harro, Barro, Amala, Pipla, Bans, Bet, Panisaro, Damor

No of CF users involved in cultivation/management of NTFPs: a few

- Major collectors: CF users (men)
- Major NTFPs cultivated by farmers: Kurilo

A nursery has been established with *Eucalyptus* sp. as the major NTFP. The CFUG members have realized the importance of NTFPs and hence have included NTFPs cultivation in their operational plans.

Suggestions for improvement

5. Identification of NTFP is required
6. Initiation of bet plantation is required
7. Inventory of CF and thinning, pruning and selective lopping
8. Utilize properly the yearly income of 10 million rupees
9. Organize and provide trainings and workshops on NTFPs cultivation/management and collection of seeds especially to CFUC members.

F. Kalika CF, Birendra Nagar, Khirahai, Chitwan.

1. Community Forest Registered on: 057/13/13
2. Area of the C.F.: 1027.5 ha.
3. No. of Households:
4. NTFP management provision in OP: included
5. Major NTFPs in the forest: Amriso, Kurilo, Harro, Barro, Chuyri, Bans, Amala, Ritha, Pipla etc.

6. NTFP promotion activities:

- Conservation of forest and NTFP species through control on grazing, fire and encroachment.
- Guarding system: Alopalo system (conservation of existing Naturally grown NTFPs)

- No nursery yet established.
- Income generation activity: *200 Kurilo* seedling are planted in CF.
- Training/Capacity building: Not yet provided.

Problems

- Unknown about NTFPs value
- Marketing.
- Identification
- Training.

Suggestions

- Identification of NTFPs
- Trainings on NTFPs cultivation and Management.
- Training on marketing channels.

G. Ageegre CF, Chinapur 1,2,3 & 6, Chitwan

1. Community Forest Registered on: 054/01/28
2. Area of the C.F.: 290 ha.
3. No. of Households:
4. NTFP management provision in OP: included
5. Major NTFPs in the forest: Amriso, Kurilo, Harro, Barro, Chuyri, Bans, Amala, Amaro, Thakal, Bet, Nigalo, Ritha, Pipla etc.
6. NTFP promotion activities: Plantation of *480 seedlings of Bet* in CF.
 - Conservation of forest and NTFP species through control on grazing, fire and encroachment
 - Training/Capacity building: Not yet provided.
 - No nursery yet established.
 - Training/Capacity building: Not yet provided.

Problems

- Unknown about NTFPs value
- Marketing.
- Identification
- Training.

Suggestion

- Identification of NTFPs
- Trainings on NTFPs cultivation and Management.
- Training on marketing channels.

3. Western Region

A. Dhusari CF, Rajahar-7, Nawalparasi

1. Community Forest Registered on: 2052/01/19
2. Area of the C.F.: 67.5 ha.
3. No. of Households:
4. NTFP management provision in OP: included
5. Major NTFPs in the forest: Amriso, Kurilo, Harro, Barro, Chuyri, Bans, Amala, Amaro, , Bet, Nigalo, Ritha, Pipla, Aswagandha, Sarpagandha, etc.

6. NTFP promotion activities: 160 species of NTFPs identified with close collaboration with NGO.

- Conservation of forest and NTFP species through control on grazing, fire and encroachment.
- Training/Capacity building: Not yet provided.
- No nursery yet established.
- Training/Capacity building: Not yet provided.

Problems

- Unknown about NTFPs value
- Marketing.
- Identification
- Training.

Suggestions

- Identification of NTFPs
- Trainings on NTFPs cultivation and Management.
- Training on marketing channels.

B. Shivanagar CF, Butwal, Rupandehi

1. Community Forest Registered on:
2. Area of the C.F.: 339.75 ha.
3. No. of Households: NA
4. NTFP management provision in OP: included
5. Major NTFPs in the forest: Amriso, Kurilo, Amala, Pipla, Sarpagandha, etc.
6. NTFP promotion activities:
 - Conservation of forest and NTFP species through control on grazing, fire and encroachment.
 - Training/Capacity building: Not yet provided.
 - No nursery yet established.
 - Training/Capacity building: Not yet provided.

Problems

- Unknown about NTFPs value
- Marketing.
- Identification
- Training.

Suggestions

- Identification of NTFPs
- Trainings on NTFPs cultivation and Management.
- Training on marketing channels.

4. Mid Western Region

A. Sri Manakamana Mahila CF, Ghorai-10, Dang

1. Community Forest Registered on: 2055
2. Area of the C.F.: 4.75 ha.
3. No. of Households: 27
4. NTFP management provision in OP: Not included
5. Major NTFPs in the forest: Sarpagandha, Kurilo, Harro, Barro, Ritha, Bans, etc.
6. NTFP promotion activities:
 - Conservation of forest and NTFP species through control on grazing, fire and encroachment.
 - Guarding system: Since last two years, no formal CF guard due to shortage of funds.
 - No nursery yet established.
 - Income generation activity: Recently, 1500 seedlings of Sarpagandha have been planted in 3 katha of the community forestland. Recently, in collaboration of CARE-Nepal, 2000 Seedlings of Babul and Sal have been transplanted in the CF.
 - Training/Capacity building: Not yet provided.

B. Basanta hariyali CF, Akabare, Ghorsing, Dang

1. Community Forest Registered on: 2052
2. Area of the C.F.: 270 ha.
3. No. of Households: 145
4. NTFP management provision in OP: Not included
5. Major NTFPs in the forest: Gurjao, Dalchini, Sarpagandha, Sugandhakokila, Harro, Barro, Asuro, Ritha, Amala, Bel, Arjun, Chyauri, Rajbrikhsa, Timur, etc.
6. NTFP promotion activities:
 - Conservation of forest and NTFP species through control on grazing and fire, and enrichment plantation.
 - No formally employed CF Guard
 - No nursery established
 - Income generation activities: Nothing except for fining Rs. 100 and Rs. 25 respectively for each cow/buffalo and goat.
 - NTFP Cultivation in the CF: None
 - Training/Capacity building: None.

C. Jalandhara CF, Mahadevpuri, Banke

1. Community Forest Registered on: 2055
2. Operation Plan Renewed on: 2059
3. Area of the C.F.: 76 ha.
4. No. of Households: 82
5. NTFP management provision in OP: Included
6. Major NTFPs in the forest: Pipla, Kurilo, Harro, Barro, Amala, Tendu, Khair, Musli, Bel, Kauso, Rohini, Mahuwa, etc.
7. NTFP promotion activities:
 - Conservation of forest and NTFP species through control on grazing and fire, and enrichment plantation.
 - Employment of a CF Guard @1500/month
 - Establishment of a NTFP nursery
 - NTFPs in the nursery include: Pipla, Kurilo, Sarpagandha, Harro, Barro, Amala, Sarpagandha, Kauso, Bas and Bet.
 - Income generation activities: *Sale of NTFP seedling earned Rs. 24000 last year. 65 kg of Pipla was marketed @Rs. 85/kg last year.*
 - NTFP Cultivation in the CF: *Sarpagandha: 1.5 katha
Bet: 12 katha
Sikakai: 1800 plants*
 - Training/Capacity building: 7-10 days' training on NTFP conservation, management, cultivation and marketing.
 - Training provided by: Ban Udhyam, Care-Nepal, DPR.

D. Mahila Upkar CF, Pragatinagar, Kohalpur, Banke:

1. Community Forest Registered on: 2052
2. Operation Plan Renewed on: 2059
3. Area of the C.F.: 25.6 ha.
4. No. of Households: 41
5. NTFP management provision in OP: Included

6. Major NTFPs in the forest: Dhairo, Kusum, Bhorla, Khair, Simal, Jamun, Indrajau, Amaltas, Sarpagandha, Pipla, Satabar, Harro, Barro, Amala, Tendu, Khair, Musli, Bel, Kauso, Rohini, Mahuwa, etc.

7. NTFP promotion activities:

- Conservation of forest and NTFP species through control on grazing and fire, and enrichment plantation.
- Establishment of a NTFP nursery
- NTFPs in the nursery include: Satabar, Sarpagandha, Bakaino, Kusum, Neem, Bans, Bet, Amriso
- Income generation activities: *Sale of NTFP seedling like Sissoo, Bakaino, Bans and Bet. Sale of Tendu leaves last year (400 kg) Sale of Bel fruits this year (300 kg)*
- NTFP Cultivation in the CF: *Satabar, Sarpagandha, Amriso, Bans, Bet, Bakaino, Kusum, Neem.*
- Training/Capacity building: 10 days' training on NTFP conservation, management, cultivation and marketing.
- Training provided by: CARE-Nepal/DFO/Ban Udhyam, Nepalganj

E. Sri Ambikadevi CF, Gagretal, Jarbuta, Surkhet

1. Community Forest Registered on: 2053

2. Operational Plan renewed on: 2058

3. Area of the C.F.: 138 ha.

4. No. of Households: 72

5. NTFP management provision in OP: Not included

6. Major NTFPs in the forest: Kurilo, Pakhanbet, Harro, Barro, Ritha, Bans, etc.

7. NTFP promotion activities:

- Conservation of forest and NTFP species through control on grazing, fire and encroachment.
- Guarding system: Employment of a CF Guard @ Rs. 1000/month.
- No nursery yet established.
- Income generation activity: Nothing yet initiated.
- Training/Capacity building: Not yet provided.

F. Jagriti CF, Birendranagar-11, Surkhet:

1. Community Forest Registered on: 2053

2. Operational Plan renewed on: 2059

3. Area of the C.F.: 50ha.

4. No. of Households: 42

5. NTFP management provision in OP: Not included

6. Major NTFPs in the forest: Kurilo, Harro, Barro, Amala, Gurjo, Ritha, Bans, etc.

7. NTFP promotion activities:

- Conservation of forest and NTFP species through control on grazing, fire and encroachment.
- Guarding system: Employment of a CF Guard @ Rs. 1000/month.
- No nursery yet established.
- Income generation activity: Nothing yet initiated.
- Training/Capacity building: Not yet provided.

G. Radha Krishna Mahila CF, Gularia, Bardiya:

1. Community Forest Registered on: 2055

2. Area of the C.F.: 5 ha.

3. No. of Households: 29

4. NTFP management provision in OP: Not included

5. Major NTFPs in the forest: Pipla, Kurilo, Harro, Barro, Amala, Sikakai, Gurjo, etc.

6. NTFP promotion activities:

- Conservation of forest and NTFP species through control on grazing and fire.
- No formal guarding system
- No nursery yet established.
- Income generation activities: Last year **50 kg Pipla** has been collected but are not able to sell due to legal barriers.
- Training/Capacity building: 9-days' training on NTFP conservation, management, cultivation and marketing has been provided this year.
- Training provided by: DFO, Bardiya

H. Belapur Tharu CF, Gularia, Bardiya:

1. Community Forest Registered on: 2049
2. Operational Plan renewed on: 2055
3. Area of the C.F.: 62.94 ha.
4. No. of Households: 43
5. NTFP management provision in OP: Not included
6. Major NTFPs in the forest: Pipla, Kurilo, Sarpagandha, Bet, Harro, Barro, Sissoo, etc.
7. NTFP promotion activities:
 - Conservation of forest and NTFP species through control on grazing, fire and encroachment.
 - No formal guarding system
 - No nursery yet established.
 - No income generation activity initiated.
 - Training/Capacity building: 9-days' training on conservation and management of Bet provided this year.
 - Training provided by: BSP-NewERA/Ban Udhyam.

5. Far Western Region

A. Sati Karnali CF, Sati, Narayanpur, Kailali district.

1. Community Forest Registered on: 2051
2. Operation Plan Renewed on: 2056
3. Area of the C.F.: 298.25ha.
4. No. of Households: 211
5. NTFP management provision in OP: Included
6. Major NTFPs in the forest: Major part of the CF includes marshy land. Therefore Bet the major NTFP with few others like Pipla, Kurilo, Sikakai, Harro, Barro, Amala, Tendu, Khair, Musli, Bel, Rohini, etc.
7. NTFP promotion activities:
 - Conservation of forest and NTFP species through control on grazing, fire, encroachment, and enrichment plantation.
 - About **500 seedlings of Khair, Sissoo and Siris have been planted in the CF.**
 - Establishment of a NTFP nursery: It includes a bet nursery covering about 1ha. of land
 - NTFP management: Medicinal plant species like Pipla, Sikakai and Kurilo are conserved. Bet is managed through rotational harvesting, the whole bet-rich forest area have been divided into 6 sections. Two sections have been set aside for experimental and conservation purposes while in the remaining 4 plots a system of rotational harvesting has been adopted, harvesting from only one plot each year.
 - Income generation activities: Based on the Operation Plan, every year **1,00,000 kg of Bet is harvested for sale.** Current market price of dry cane is Rs. 37/kg.
Bet fruits are sold @Rs. 400/kg
65 Bet seedlings are sold @Rs. 5/seedling.

- Training/Capacity building: A 10-day training on Rattan conservation and management was provided by Chhote Lal Chaudhari, CARE-Nepal during the preparation of Operation Plan in 2051.

B. Tengnuwa Mahila CF, Sukhhas, Ghodaghodi, Kailali district:

1. Community Forest Registered on: 2053
2. Operation Plan Renewed on: 2058
3. Area of the C.F.: 30ha.
4. No. of Households: 45
5. NTFP management provision in OP: Not included
6. Major NTFPs in the forest: Kurilo, Pipla, Harro, Barro, Amala, Kauso, Sikakai, Khair, Rohini
7. NTFP promotion activities:
 - Conservation of forest and NTFP species, control on grazing and fire, and enrichment plantation.
 - No formal guard employed; community guarding system
 - Establishment of a NTFP nursery is underway
 - Income generation activities: not yet started
 - NTFP Cultivation in the CF: Recently **2500 Bet** seedlings have been planted in the CF.
 - Training/Capacity building: None of the CFUG member has so far been given any form of training

C. Batabaran CF, Jhalari, Kanchanpur

1. Community Forest Registered on: 2058
2. Area of the C.F.: 149.7 ha.
3. No. of Households: 515
4. NTFP management provision in OP: Not included
5. Major NTFPs in the forest: Pipla, Kurilo, Harro, Barro, Amala, Tendu, Khair, Musli, Bel, Kauso, Rohini, Mahuwa, etc.
6. NTFP promotion activities:
 - Conservation of forest and NTFP species through control on grazing and fire, and enrichment plantation.
 - The CFUG members are very active in the conservation and management of the CF.
 - Establishment of a NTFP nursery for Bamboo, sissou and Kimbu seedling production
 - Extensive plantation of bamboo, sissou and Kimbu has been done and is continued.
 - Training/Capacity building: A week's training on Forest Management provided to the CFUG members.
 - Training provided by: District Forest Office, Kanchanpur
 - Award: This CF has recently been *awarded with Rs. 1,00,000* by the Forum of Environmental Journalist for the efficient management of the CF.

D. Baitada CF, Baitada, Daiji, Kanchanpur:

1. Community Forest Registered on: 2054
2. Area of the C.F.: 300 ha.
3. No. of Households: 119
4. NTFP management provision in OP: Included
5. Major NTFPs in the forest: Kurilo, Harro, Barro, Amala, Mahuwa, Pipla, Tendu, Khair, Musli, Bel, Kauso, Rohini, etc.
6. NTFP promotion activities:
 - Conservation of forest and NTFP species through control on grazing and fire, and enrichment plantation.
 - Under the influence of HPPCL, some exotic medicinal plants like *Citronella*, *Mentha* and *Palmarosa* have been planted in the CF area.
 - The CF has planned to plant about **15000 seedlings of bamboo and 10-15 ha. of land with Babiyo next year.**
 - Training/Capacity building: A 5-days' training on NTFP conservation and management provided
 - Training provided by: Ban Udhyam, Nepalganj

E. Shreekrishna CF, Kaluwapur, Kanchanpur:

1. Community Forest Registered on: 2058
2. Area of the C.F.: 110 ha.
3. No. of Households: 90
4. NTFP management provision in OP: Included
5. Major NTFPs in the forest: Kurilo, Amala, Pipla, Harro, Barro, Tendu, Khair, Musli, Bel, Kauso, Rohini, Mahuwa, etc.
6. NTFP promotion activities:
 - Conservation of forest and NTFP species through control of grazing and fire, enrichment plantation.
 - Employment of a CF Guard @1000/month
 - Establishment of a NTFP nursery: Planned for the next year for enrichment plantation and to distribute among the interested CFUG members
 - Income generation activities: Not yet initiated
 - Training/Capacity building: Not yet provided.

Annex 4

List of NTFPs/MAPs prioritized by Workshop Participants

(a) List of NTFPs/MAPs available in the tropical areas and Prioritized by the workshop participants in the Eastern region

S. N.	Local name	Botanical Name
1.	Alainchi	<i>Ammomum subulatum</i>
2.	Amala	<i>Phyllanthus emblica</i>
3.	Amliso	<i>Thysanolaene maxima</i>
4.	Barro	<i>Terminalia bellirica</i>
5.	Bel	<i>Aegle marmelos</i>
6.	Chabo	<i>Piper chaba</i>
7.	Harro	<i>Terminalia chebula</i>
8.	Kurilo	<i>Asparagus recemosus</i>
9.	Majitho	<i>Rubia manjith</i>
10.	Pipla	<i>Piper longum</i>
11.	Ritha	<i>Sapindus mukorossi</i>
12.	Serpagandha	<i>Rauwolfia serpentina</i>
13.	Sikakai	<i>Acacia rugata</i>
14.	Tejpat	<i>Cinnamomum tamala</i>

(b) List of commercial NTFPs/MAPs prioritized by workshop participants and available in the tropical areas of Central region

S. N.	Vernacular /English name	Botanical name
1.	Amala	<i>Phyllanthus emblica</i>
2.	Asparagus	<i>Asparagus recemosus</i>
3.	Babiyo	<i>Eulaliopsis binata</i>
4.	Bel	<i>Aegle marmelos</i>
5.	Bamboo/Rattan	<i>Dendrocalamus sp.</i>
6.	Barro	<i>Terminalia bellirica</i>
7.	Bhorla leaf	<i>Bauhinia vahlii</i>
8.	Harro	<i>Terminalia chebula</i>
9.	Neem	<i>Azadirachta indica</i>
10.	Pipla	<i>Piper longum</i>
11.	Rawalfia	<i>Rauwolfia serpentina</i>
12.	Salseed	<i>Shorea robusta</i>
13.	Simal	<i>Bombax ceiba</i>

(c) List of commercial NTFPs/MAPs prioritized by workshop participants and available in the tropical areas of the Mid- and Far-western regions

SN	Nepali name	Botanical name	Part used
1	Amala	<i>Phyllanthus emblica</i>	Fruit
2	Babiyo	<i>Eulaliopsis binata</i>	Leaf
3	Bael	<i>Aegle marmelos</i>	Fruit
4	Bans	<i>Bambusa/Dendrocalamus</i> sp.	Stem
5	Barro	<i>Terminalia bellirica</i>	Seed
6	Bet	<i>Calamus</i> sp.	Stem
7	Bojho	<i>Acorus calamus</i>	Rhizome
8	Harro	<i>Terminalia chebula</i>	Seed
9	Jiwanti	<i>Ephemerantha macraei</i>	Pseudo-stem
	Dhainyaro	<i>Woodfordia fruticosa</i>	Flower
10	Kalimusli	<i>Curculigo orchioides</i>	Root
11	Kurilo	<i>Asparagus racemosus</i>	Root
12	Pipla	<i>Piper longum</i>	Fruit/root
13	Ritha	<i>Sapindus mukorossi</i>	Fruit
14	Sarpagandha	<i>Rauvolfia serpentina</i>	Root
15	Sikakai	<i>Acacia rugata</i>	Fruit
16	Simal	<i>Bombax ceiba</i>	Fibre/Gum
17	Sugandha kokila	<i>Cinnamomum glaucescens</i>	Fruit
18	Tejpat/Dalchini	<i>Cinnamomum tamala</i>	Leaf/bark

Annex 5

NTFPs collection Permitted by District Forest Office of Various Regions

Table 5.1 NTFP collection permitted by District Forest Office in Eastern Region (Districts included: Dhankuta, Udyapur, Jhapa, Morang, Sunsari, Siraha and Saptari)

Name of NTFPs	Quantity (Ton)			Revenue (Rs.)		
	056/57	057/58	058/59	056/57	057/58	058/59
Amla	0	0	.050	0	0	100
Anya Phal	0	0	1.500	0	0	0
Ban Lasun	0	0	1.756	0	0	17560
Bel	0	0	.180	0	0	180
Bhorla Pat	0	23.200	372.000	0	11600	186000
Bis Jara	0	0	.425	0	0	2975
Bojho	0	0	.240	0	0	480
Chawo	0	12.895	16.65	0	25790	3330
Chayu	0	0	.400	0	0	400
Chiriato	0	.240	15.336	0	720	46008
Dhupi Pat	0	0	.700	0	0	1400
Indriani	0	0	1.000	0	0	8000
Indriani ful ko ghata	0	0	.550	0	0	2750
Jiwanti	0	0	1.650	0	0	4950
Kaiyoo Phal	0	0	.850	0	0	850
Kantakari Phal	0	0	5.500	0	0	8250
Khair	0	67.300	351.452	0	2019	7022.22
Kurilo	3.00	.390	4.425	6000	780	8850
Lohan	0	0	11.500	0	0	57500
Majitho	6.180	.300	20.986	30900	600	41992
Nepali Dalchini	0	0	.100	0	0	2000
Pipla	2.932	.030	.931	14460	150	4655
Ritha	14.850	45.800	160.170	29700	91600	320340
Sal khoto	0	0	.098	0	0	294
Salla Khoto	0	0	299.961	0	0	899883
Sikakai	0	0	.500	0	1500	0
Sabai Grass	0	88.00	0	0	44000	0
Simal Khota	0	0	.500	0	1500	0
Satawari	0	0	2.181	0	0	10950
Sitaphal	0	7.825	12.900	0	15650	25800
Tejpat	0	0	28.090	0	0	561800
Thigure salla ko Pat	0	0	.900	0	0	1800
Timur	0	3.100	3.480	0	9300	10440
Total	26.962	249.08	1316.961	81060	205209	2236559

Table 5.2 NTFP collection permitted by District Forest Office in Central Region (Districts included: Dhanusha, Sarlahi, Rautahat, Bara, Parsa, Makawanpur, Chitwan, Nawalparasi, Rupandehi & Kapilbastu)

Name of NTFPs	Quantity (ton)			Revenue (Rs)		
	056/057	057/058	058/059	056/057	057/058	058/059
Aakdakda	0	0.6	0	0	3000	0
Amala	0.374	0.17	5.735	748	340	3278
Amriso	0.8	2.5	0	1600	5000	0
Babiyo	762.9	571.165	631.1	703700	592650	631100
Ban Lasun	0.155	0	0	1550	0	0
Barro	3.132	0	0	6246	0	0
Bhorla Leaf	10.5	12.3	3.8	5250	6150	1900
Bhorle bokra	0.5	16	19	500	16000	19000
Bilaune ko bark	47.705	53.575	14100	166650	228470	49350
Bis	0.062	0	0	434	0	0
Bispage	3.165	4.274	0.7	22155	29918	4900
Bukephool	6.765	2.82	6.93	13530	5640	13860
Chiriato	2.95	29.28	2.68	7850	87840	8040
Dalchini	50.16	57.846	14.525	1003200	1156920	290500
Daru haldi	1.25	2	0	2500	4000	0
Gobresalla simta	0	12.5	0	0	25000	0
Halik	5.64	12.053	31.8	11280	24106	63600
Harro	0.03	0.1	1.317	6	200	1634
Jhayoo	137.4	20	61.5	1374000	200000	615000
Jibanti	10.487	36.524	29.08	31461	109572	68220
karatchulti	0	1	0	0	3000	0
Khar Dhaddi	30	27	0	150	135	0
Khoto	0	17.227	14.3	0	51682	42900
Kukur Tarul	1.09	1.2	0	3270	3600	0
Kumkum Dhoop	0	0.1	0	0	400	0
Kurilo jara	101.077	184.95	76.544	202154	263944	153088
Laghupatra	0.55	0.6	0	2750	3750	0
Loothsalla	0	0.4	0.5	0	10000	7500
Majitha	17.726	13.7	31.8	35452	27400	63600
Masala	0	0	2.517	0	0	2517
Musli	0	0	31.5	0	0	157500
Pawan Bokra	1.5	18.32	80.3	7500	9160	401500
Pipla	0	0	0.55	0	0	2750
Punarjawa Bokra	0	0	1	0	0	8000
Ritha	5.388	2.1	0.075	10776	4200	150
Sal ko simta	14.55	0	0	29100	0	0
Saldhoop	0.65	0	0.24	3240	0	1200
Setakchini	0	3.4	0.9	0	17000	3900
Sikakai	31.904	9.099	15	95712	27297	45000
Sugandhawal	0.4	0	0	6000	0	0
Tiageri	0	0	5.5	0	0	11000
Tiarri	5.225	11.3	16	5225	11300	16000
Timur	4.696	1.985	0	14088	5955	0
Tukephool	0.052	0	0	104	0	0
Total	1258.783	1226.088	15391.86	3768181	2933629	2695987

Table 5.3 NTFP collection permitted by District Forest office in Western Region (Districts included: Dang, Surkhet, Banke, Bardia, Kailali and Kanchanpur)

Name of NTFPs	Quantity (Ton)		
	056/57	057/58	058/59
Amala	0	0.8	4.601
Amalbed	0	0	4.361
Amriso	0	0	1.000
Atis	0	1	1.897
Babiyo	0	0.3	1384.900
Bhorla	0	12.7	65.4275
Bhutkesh	0	0	8.100
Bishma	0	0	0.019
Bojho	0	0	0.7848
Budani Phool	0	0	10.000
Chiraito	0	0	11.7425
Cinnamomum	0	0	0.050
Dalchini	0	0	5.678
Daruhaldi	0	0	0.200
Harro	0	0	.050
Jadibuti	0	0	0
Jhuanu	0	0	12.100
Jugargano	0	0.5	0.030
Kachour	0	0	0.500
Kakadsingi	0	0	2.1505
Kakoli jara	0	0	0.500
Kaladana	0	0	0.184
Kurilo jara	8.250	0	50.965
Kutki	0	0.16	0
Lohan	0	0	2.660
Maha	0	0	0
Mahuwa	0	0	0.098
Majitho	0	0	0.060
Masala pat	0	0	0.200
Nepali dalchini	0	0	4.827
Padamchal	0	0	0.225
Pakhanbed	0	1.1	3.8606
Pipla	0	0	0
Rassula	0	0	0
Rasulla	9.000	0	0
Ritha	0	0	104.560
Rohini	0	0	1.100
Salamdana	0	0	0.114
Salla simta	0	0	2.000
Satabar	0	0	3.798
Sikakai	0	0	30.268
Somlata	0	0	1.804
Sugandhakokila	0	0	74.6688
Tejpat	0	0	5.4665
Tendu leaf	0	0.08	30.155
Tigedi	0	4	4.250
Timur	0	38	183.3675
Total	17.25	58.64	2018.723

Annex 6

NTFP collection permits issued by District Forest Offices of selected Districts Development Regions

Eastern Region

Table 6.1 NTFP collection permits issued by District Forest Office, Udyapur

NTFPs	Quantity (Ton)
	058/059
Amala	.050
Ban Lasun	1.756
Bel	.180
Chiraito	7.936
Jiwanti	1.650
Kurilo	1.995
Majitha	1.845
Ritha	60.080
Sal khoto	.098
Satabari	2.181
Sikakai	.500
Simal	.500
Tejpat	27.490
Timur	.500
Total	106.761

Simal-khoto

Table 6.2 NTFP collection permits issued by District Forest Office, Dhankuta

NTFPs	Quantity (ton)
	058/059
Salla Khoto	299.961
Khair	117.378
Majitha	8.991
Chiraita	4.075
Ritha	2.430
Total	432.835

Table 6.3 NTFP collection permits issued by District Forest Office, Morang

Name of NTFPs	Quantity (Ton)		Revenue (Rs)	
	058/59		058/059	
Ritha	37.580		75160	
Indriani	1.000		8000	
Indriani ful ko ghata	.550		2750	
Pipla	.901		4505	
Majitho	7.450		14900	
Chiriato	.625		1875	
Timur	.200		600	
Bojho	.240		1200	
Tej bokra	.600		12000	
Kurilo	1.200		2400	
Lohan	.950		4750	
Nepali Dalchini	.100		2000	
Total	51.396		130140	

Table 6.4 NTFP collection permits issued by District Forest Office, Sunsari

Name of NTFPs	Quantity (Ton)			Revenue (Rs.)		
	057/58	058/59	059/60	057/58	058/59	059/60
Ritha	14.850	45.800	24.835	29700	91600	49670
Pipla	2.932	0.030	0	19660	150	0
Majitho	6.180	0.300	0	12360	600	0
Chiriato	.240	2.700	1.009	720	8100	3027
Timur	3.100	2.780	1.800	9300	8340	5400
Kurilo	0.390	1.230	0.350	780	2460	700
Chabo	12.895	16.650	10.900	25790	33000	21800
Pangro	0.050	0	0.060	250	0	300
Sitaphal	7.825	12.900	0	15650	25800	0
Bis Jara	0	0.425	0	0	2975	0
Dhupi Pat	0	0.700	0	0	1400	0
Thigure salla ko Pat	0	0.900	0	0	1800	0
Kantakari Phal	0	5.500	0	0	8250	0
Anya Phal	0	1.500	0	0	1500	0
Chayu	0	0.400	0	0	400	0
Kaiyoo Phal	0	0.850	0	0	850	0
Lohan	0	0.200	10.000	0	1000	50000
Satawari	0	0	0.050	0	0	0
Rudrakshya	0	0	4.700	0	0	0
Total	48.462	92.865	53.704	114210	184225	130897

Table 6. 5 NTFP collection permits issued by District Forest Office, Siraha*

Name of NTFPs	Quantity (Ton)			Revenue(Rs)		
	056/57	057/58	058/59	056/57	057/58	058/59
Tejpat	18.620	16.700	0	186200	167000	0
Bhorla Pat	0	21.000	372.000	0	100500	186000
Sabai Grass	0	88.000	0	0	44000	0
Kurilo Jara	3.000	31.7505	0	6000	6351	0
Total	21.620	157.4505	372.000	192200	317851	186000

* Collection permitted on the basis of auction.

Table 6.6 Collection permit issued by District Forest Office, Saptari

Name of NTFPs	Quantity (Ton)			Revenue (Rs)		
	056/57	057/58	058/59	056/57	057/58	058/59
Khair	0	67.3	234.074	0	2019	7022.22
Bhorla Pat	0	2.2	0	0	1100	0
Total		69.5	234.074	0	3119	7022.22

Central Region

Table 6.7 NTFP collection permits Issued by District Forest Office, Dhanusa

NTFPs	Quantity (ton)
	058/059
Amala	0.15
Jibanti	0.17
Kurilo	0.92
Musli	3
Sikakai	0.75
Simal	0.3
Total	4.990

Table 6.8 NTFP collection permits Issued by District Forest Office, Mahottari

NTFPs	Quantity (ton)
	058/059
Chiraito	0.18
Pipla	0.4
Harro	0.055
Kurilo	6.2
Musli	28.5
Jibanti	0.17
Total	35.505

Table 6.9 NTFP collection permitted by District Forest Office, Rautahat

Name of NTFPs	Quantity (Ton)			Revenue (Rs)		
	056/57	057/58	058/59	056/57	057/58	058/59
Sikakai Phal	2.304	3.820	7.800	6912	11460	23400
Kurilo Jara	1.550	.350	.650	2900	700	1300
Simal Khoti	.850	.850	.800	2550	2550	2400
Amla Phal	0	.1	.850	0	200	1700
Pawan Bokra	0	0	48.0	0	0	240000
Total	4.804	5.12	58.75	12362	14910	268800

Table 6.10 NTFP collections permitted By District Forest Office, Sarlahi

Name of NTFPs	Quantity (Ton)			Revenue (Rs)		
	057/58	058/59	059/60	057/58	058/59	059/60
Bhorla Pat	No documentation		.70	Record has been lost.		350
Pipla Phal	Due to fire Casualty In 2059-1-18		3.5			10500
Sikakai			.513			1539
Kurilo			.800			1600
Musli			.200			
Total				5.731		13989

Musli-root, Sikakai-Fruit

Table 6.11 NTFP collection permitted by District Forest Office, Bara

Name of NTFPs	Quantity (Ton)			Revenue (Rs)		
	056/57	057/58	058/59	056/57	057/58	058/59
Bhorla ko Pat	10.500	12.300	3.800	5250	6150	1900
Khar Dhaddi	30	27	0	150	135	0
Bankas babiyo	118.4	5.250	0	59200	26250	0
Kurilo Jara	.200	.853	0	400	1706.4	0
Sikakai Phal	0	2.879	0	0	8637	0
Pawan Bokra	0	0	24	0	0	120000
Punarjawa Bokra	0	0	1	0	0	8000
Total	159.1	48.28202	28.8	65000	42878.4	129900
Khair	0	1185.44cft*	0	0	357000	0

* Khair has been sold in cft for purpose of Katha.

Table 6.12 NTFP collection permitted by District Forest Office, Parsa

Name of NTFPs	Quantity (Ton)			Revenue (Rs)		
	056/57	057/58	058/59	056/57	057/58	058/59
Kurilo Jara	6.000	0	0	12000	0	0
Bhorla bokra	0	16.000	14.00	0	8000	12500
Pawan Bokra	0	14.00	0.2	0	70000	1000
Total	3.1	30	23.2	12000	78000	13500

Table 6.13 NTFP collection permitted by the District Forest Office, Makwanpur

Name of NTFPs	Quantity (Ton)			Revenue (Rs)		
	056/57	057/58	058/59	056/57	057/58	058/59
Aakdakda	0	0.600	0	0	3000	0
Amala	0.200	0.070	1.300	400	140	2600
Ban Lasun	0.155	0	0	1550	0	0
Barro	0	0.300	0	0	600	0
Bhorla ko bokra	0.500	0	5.000	500	0	5000
Bis	0.062	0	0	434	0	0
Bisfej	3.165	4.274	0.700	22155	29918	4900
Bukephool	6.765	2.820	6.930	13530	5640	13860
Chiriato	2.800	29.280	2.500	7400	87840	7500
Dalchini	0.101	0.300	0	2020	6000	0
Daru haldi	1.250	2.000	0	2500	4000	0
Gobresalla simta	0	12.500	0	0	25000	0
Halik	5.640	12.053	31.800	11280	24106	63600
Harro	0	0.100	0	0	200	0
Jhayoo	137.400	20.000	61.500	1374000	200000	615000
Jibantii	10.487	36.524	18.340	31461	109572	55020
Karatchulti	0	1.000	0	0	3000	0
Khoto	0	17.227	14.000	0	51682.5	42000
Kukur Tarul	1.090	1.200	0	3270	3600	0
Kumkum Dhoop	0	0.100	0	0	400	0
Kurilo Jara	80.963	74.954	54.915	161926	149908	109830
Laghupatra	0.550	0.200	0	2750	1000	0
Loothsalla	0	0.400	0.500	0	10000	7500
Majitha	17.726	13.700	31.800	35452	27400	63600
Masala	0	0	2.517	0	0	2517
Pawan Bokra	1.500	4.320	3.600	7500	21600	18000
Ritha	1.920	2.100	0.075	3840	4200	150
Sal ko simta	14.550	0	0	29100	0	0
Sal dhoop	0.650	0	0.240	3250		1200
Setakchini	0	3.400	0.700	0	17000	3500
Sikakai	5.800	2.400	1.450	17400	7200	4350
Sugandhawal	0.400	0	0	6000	0	0
Tigedi	0	0	5.500	0	0	11000
Tiarri	5.225	11.300	16.000	5225	11300	16000
Timur	0.424	0	0	1272	0	0
Tukephool	0.052	0	0	104	0	0
Total	299.375	253.322	259.367	1744319	805306.5	1047127

Table 6.14 NTFP collections permits issued by District Forest Office, Chitwan

NTFPs	Quantity (ton)			Revenue (Rs)		
	056/057	057/058	058/059	056/057	057/058	058/059
Amla	0.174	0	0.339	348	0	678
Barro	2.823	0	3.523	5646	0	7046
Chiriato	0.125	0	0	375	0	0
Gurjoo	1.8725	0	3.765	9362.5	0	18825
Harro	0.003	0	1.262	6	0	1524
Jiwanti	0	0	10.400	0	0	31200
Kurilo	11.4	0	12.45	22800	0	24900
Pawan bokra	0	0	4.5	0	0	22500
Ritha	0	0	0.5	0	0	1000
Setekchini	0	0	0.2	0	0	400
Sikakai	0	0	5	0	0	15000
Total	16.3975	0	41.939	38537.5	0	123073

Table 6.15 NTFP collection permits issued by District Forest Office, Nawalparasi

NTFPs	Quantity (ton)							
	048/049	049/050	050/051	054/055	055/056	056/057	057/058	058/59
Belauni	0	0	0.5	0.843	0.6	1.6	1.12	0
Dalchini	10.45	9.35	4.25	1.225	0.9	3.543	2.73	0
Kurilo	0	0	0	19.107	28.2	25	22.4	0
Ritha	0	2.598	0.65	0	0	0.988	0	0
Satawari	36.033	11.46	8.815	7.3	0	0	0	0
Sikakai	1.705	3.4	32	14.296	18	23.8	19.8	6.2
Pipla	0	0	0	0	0	0	0	0.15
Total	48.188	26.808	46.215	42.771	47.700	54.931	46.050	6.35

Table 6.16 NTFP collection permits Issued by District Forest Office, Rupandehi

NTFPs	Quantity (ton)			Revenue (Rs)		
	056/057	057/058	058/059	056/057	057/058	058/059
Amriso	0.8	2.5	0	1600	5000	0
Bilaune	46.105	52.455	14.1	161050	224550	49350
Chiriato	0.025	0	0	75	0	0
Dalchini	46.516	54.816	14.525	930320	1096700	290500
Kurilo	2.221	2.3	0.609	4442	4600	1218
Pipla	0.04	0	0	200	0	0
Ritha	2.480	0	0	4960	0	0
Timur	4.272	1.985	0	12816	5955	0
Total	102.459	114.056	29.234	1115463	1336805	341068

Table 6.17 NTFP collection permits issued by District Forest Office, Kapilbastu

NTFPs	Quantity (Ton)			Revenue (Rs)		
	056/057	057/058	058/059	056/057	057/058	058/059
Babiyo	644.5	566.4	631.1	644500	566400	631100
Bojho	0.2	0	0	400	0	0
Kurilo	0.193	0	0	386	0	0
Thakal	0	5.5	0	0	5500	0
Total	644.893	571.9	631.1	645286	571900	631100

Western Region

Table 6.18 NTFP collection permits issued by District Forest Office, Dang

NTFPs	Quantity (ton)
	058/059
Amala	3.106
Amalbed	4.276
Atis	1.897
Bhutkesh	8.100
Bishma	0.019
Bojho	0.120
Chiraito	0.3925
Dalchini	5.678
Kakadsingi	2.1305
Kakoli jara	0.500
Kaladana	0.184
Kurilo jara	14.239
Lohan	0.150
Majitho	0.060
Padamchal	0.200
Pakhanbed	0.040
Ritha	51.520
Salamdana	0.114
Satabar	1.993
Somlata	0.800
Sugandhakokila	74.6688
Tejpat	1.005
Tigedi	4.250
Timur	128.8325
Total	2867.573

Table 6.19 NTFP collection permits issued by District Forest Office, Nepalganj, Banke

NTFPs	Quantity (ton)		
	057/058	058/059	Total
Amala	0.800	0	0.800
Amriso	1.000	1.000	2
Babiyo	0	1384.900	1384.900
Jugargano	0	0.030	0.030
Kurilo jara	2.300	0.400	2.700
Maha	0.300	0	0.300
Mahuwa (flower)	0.500	0.098	0.598
Pipla	0.080	0	0.080
Rohini phal	0	1.100	1.100
Satawari	0.160	0	0.160
Sikakai	12.700	30.155	42.855
Tendu leaf	0	30.155	30.155
Total	17.840	1447.838	1465.678

Table 6.20 NTFP collection permits issued by District Forest Office, Surkhet

NTFPs	Quantity (ton)
	058/059
Amalbed	0.085
Bojho jara	0.250
Chiraito	11.350
Jhyau	12.100
Kakadsingi phal	0.020
Kurilo Jara	26.551
Lohan	2.510
Main	0.200
Masalapat	0.200
Nepali Dalchini	3.965
Padamchal	0.025
Ritha	29.805
Somlata	1.004
Sugandhawal Jara	4.700
Tejpat	0.100
Timur	54.535
Total	147.400

Table 6.21 NTFPs Collection permit issued by District Forest Office of Bardia

NTFPs	Quantity (ton)		
	057/058	056/057	055/056
Jadibuti	1.100	-	0
Kurilo	1.700	8.250	0
Rasulla	0	9.000	0
Sikakai	11.000	-	0
Kutki	38.000	-	0
Total	51.8	17.25	0

Table 6.22 NTFP collections permits issued by District Forest Office, Kailali

NTFPs	Quantity (ton)
	058/059
Amala	1.495
Bhorla ko bokra	42.3275
Bojho	0.4148
Daruhaldi	0.200
Harro	0.050
Kachur Jara	0.500
Kurilo Jara	1.525
Nepali Dalchini	0.812
Pakhanbed Jara	3.8206
Ritha	23.235
Salla ko simta	2.000
Satawari Jara	1.805
Sikakai	0.113
Tejpat	4.3615
Total	82.6594

Table 6.23 NTFP Collection permit issued by DFO, Kanchanpur-2058/59

S.N	NTFPs	Quantity (ton.)	Revenue (Rs.)
1.	Vorla Leaf	23.100	23,900.00
2.	Nepali Dalchini	0.050	1,000.00
3.	Budhani Phool	10.000	20,000.00
4.	Cinnamon leaf	0.050	500.00
	Total	33.2	45,400.00

Annex 7

Export of NTFPs From the Major Customs Points of Nepal

Table 7.1 Exports of NTFPs from Customs Office, Kakarvitta

Name of NTFPs	Quantity (ton)				Royalty (Rs)			
	055/056	056/057	057/058	058/059	055/056	056/057	057/058	058/059
Amriso	5332	6183	6259.335	5277	255382	30932	312736	297278
Jadibuti	42.912	57.363	68	832.558	5279	5847	11752	49635
Tejpat	0.05	3.3	7.885	10.1	2675	151	391	1010
Bamboo	835	345	23360	0	49.75	18	1911	0
Resin & Turpentine	0	251.266	418.075	628.93	0	36970	56954	103837
Sugandhakokila oil	0	0	0	2.09	0	0	0	3430
Tarpintel	0	0	0	33.925	0	0	0	3285
Sutho	0	0	0	341.505	0	0	0	41020
Total	6209.962	6839.929	30113.3	7126.108	263385.8	73918	383744	499495

Table 7.2 Exports of NTFPs from Bhandabari Customs Office, Sunsari

Name of NTFPs	Quantity (ton)			Royalty (Rs)		
	056/057	057/058	058/059	056/057	057/058	058/059
Amriso	0	96040.45	0	0	186000	0
Bamboo	0	875	0	0	16000	0
Jadibuti	104.129	73.393	0	675750	1093000	0
Bel	0	2	0	0	2900	0
Bet	0	3.19	0	0	3300	0
Tejpat	13.7	1	0	1245	3000	0
Ritha	0	0.15	0	0	300	0
Pater	2.2	0	0	1100	0	0
Katha	0	0.02	0	0	300	0
Total	120.029	96995.2	0	678095	1304800	0

Table 7.3 Exports of NTFPs from Biratnagar Customs Office, Morang

Name of NTFPs	Quantity (ton)			Royalty (Rs)		
	056/057	057/058	058/059	056/057	057/058	058/059
Amriso	40.911	47.723	154.612	1161	1398	7602
Rudraksha	94.615	44.94	51.08	7915	3923	3640
Majitho	25.145	31.316	16.309	2675	3572	1079
Chiraito	74.757	54.71	12.632	10261	10029	2170
Ritha	131.737	43.982	0	7497	2740	0
Jadibuti (with Lohan)	19.205	0	0	1790	0	0
Resin	68.555	204.206	48.316	11800	40416	10364
Jadibuti (with Pipla)	0	0.65	0	0	178	0
Katha	0	0	12	0	0	60000
Tejpat	0	0	4.291	0	0	478
Total	454.925	427.527	299.24	43099	62256	85333

Table 7.4 Exports of NTFPs from Sarlahi Customs Office, Sarlahi

Name of NTFPs	Quantity	Royalty
	057/058	057/058
Kurilo Jara	16.6	9300
Majitha	7	3500
Tapari	2.3	1150
Jiwanti	1.1	500
Chiraito	2.036	1100
Nirmasi	0.026	200
Somlata	1	500
Halik	2.5	1200
Haleso	2.5	1200
Total	35.062	18650

Table 7.5 Exports of NTFPs from Vittamor Custom's office, Mahottari

Name of NTFPs		Quantity (Kg)			Revenue (Rs.)		
		057/058	058/059	059/060	057/058	058/059	059/060
1	Ritha	26035	320		39225	9600	
2	Dried ginger	95000	5302		218621	2200	
3	Ginger	92600	9560		82500	128605	
4	Jiwanti	0	0	26035			18800

Table 7.6 Exports of NTFPs from Gaur Customs Office, Rhutahat

Name of NTFPs	Quantity (ton)		Royalty (Rs)	
	056/057	057/058	056/057	057/058
Simal ko Khoto	3.4	0	17275	0
Kurilo jara	17.462	2.375	221070	63000
Chiraito	11.655	1.000	136400	30000
Katha	2.22	0	518900	0
Nirmasi	1.298	7.880	40928	23660
Jadibuti	4.142	0.250	35420	7500
Bishpage	0.1	0	20000	0
Babiyo	4	13.000	160000	130000
Sikakai	18.029	0	52360	0
Nepali Jadibuti	31.348	0.700	17457	2100
Bish jara	0.128	0	7040	0
Jiwanti	5.200	1.500	15600	45000
Nirmasi, Chiraita & Amalbed	0.389	0	7700	0
Bishpage & Kurilo jara	2.500	0	8200	0
Bhorla ko Bark	0	0.500	0	5000
Pawan bark	0	1.500	0	15000
Pawan bark & Kurilo jara	0	1.500	0	4500
Khas, Chulthya & Nirmasi	0	0.365	0	1500
Chiraito & nirmasi	0	1.080	0	11540
Musli & Yakleabir	0	3.70	0	11100
Total	101.871	35.35	1258350	349900

Table 7.7 Exports of NTFPs from Birgunj Customs Office, Bara (Export to India)

Name of NTFPs	Quantity				Royalty			
	055/056	056/057	057/058	058/059	055/056	056/057	057/058	058/059
Katha	117.7	173.288	193.3	104.445	51439000	132173000	67662000	5417000
Kutch	145.3	170.275	3	184.96	16005000	6177000	504000	79407000
Jadibuti	236	176.636	68.081	0	3733000	3948000	1814000	0
Resin	0	17.6	0	0	0	12640000	0	0
Total	499	537.799	264.381	289.405	71177000	154938000	69980000	84824000

Table 7.7 (a): Exports of NTFPs from Birgunj Customs Office, Bara (Export to India)

NTFPs	Quantity (ton)/ Revenue					
	056/057		057/058		058/059	
Rudrakcha	3.859	551.87	0	0	0	0
Chiraito	4.500	2949750	11.520	4561816	4.000	2193801
Others	0	0	0	0	5.000	1053241
Total	8.359	3501437	11.520	4561816	9.000	3247042

Table 7.8 Exports of NTFPs from Customs Office, Bhairahawa

NTFPs	Quantity (ton)			Revenue (Rs)		
	056/057	057/058	058/059	056/057	057/058	058/059
Dalchini	78.094	34.920	18.960	8606	3830	2086
Jadibuti	158.724	194.732	0.018	10765	18220	5363
Timur	54.360	1.210	0.018	2734	67	536
Cardamom	0	14.105	403.623	0	9844	199076
Total	291.178	244.967	422.691	22105	31961	207016

Table 7.9 Exports of NTFPs from Kishannagar Customs Office, Kapilbastu

Name Of NTFPs	Quantity					Revenue				
	054/055	055/056	056/057	057/058	058/059	054/055	055/056	056/057	057/058	058/059
Jadibuti	93.792	148.911	164.359	157.482	87.454	3009826	4692000	7641000	6124000	3592000
Thakal	0	0	0	0	5	0	0	0	0	25
Bhorla pat	0	0	0	0	6	0	0	0	0	30
Tendu Leaf	0	0	0	0	30	0	0	0	0	150
Babiyo	0	0	0	0	4	0	0	0	0	20
Total	93.792	148.911	164.359	157.482	132.454	3009826	4692000	7641000	6124000	3592225

Note: Jadibuti include Chiraito, Kurilo jara, Tetipati, Timur, Dalchini, Ritha, Amalbed, Pakanbed, Padmachal, Jiwanti, Majitha, and Kaladana

Table 7.10 Exports of NTFPs from Customs Office, Nepalgunj (to India)

NTFPs	Quantity (ton)						Total
	053/054	054/055	055/056	056/057	057/058	058/059	
Amala	33.638	28.750	25.000	22.500	17.800	11.873	139.561
Amalbed	30.267	46.267	33.048	30.555	35.158	25.113	200.408
Atis	9.960	9.309	6.206	7.053	7.759	3.291	43.578
Bhutkesh	51.650	64.563	43.042	48.911	53.756	27.348	289.270
Bojho	4.144	64.563	2.832	3.255	3.611	1.741	80.146
Chiraito	52.113	49.632	33.088	37.600	30.672	19.720	222.825
Chyau	9.582	11.375	3.900	4.840	4.980	3.379	38.056
Dalchini	57.550	54.810	45.676	51.905	41.953	21.116	273.010
Jatamasi	57.336	88.210	66.315	75.358	85.452	56.968	429.639
Jatamasi kotel (litre)	0.620	1.433	1.113	7.544	2.641	1.481	14.832
Kakadsinghi	12.124	10.010	7.700	8.850	10.055	5.077	53.816
Kaladana	0.375	0.452	0.340	0.825	1.233	0.725	3.950
Kurilo	59.162	71.280	53.594	60.905	60.252	38.835	344.028
Others	10.736	26.374	31.111	36.704	26.064	15.575	146.564
Padamchal	6.244	6.938	5.216	5.892	8.710	3.941	36.941
Pakhanbed	44.320	40.291	26.861	30.524	33.433	23.881	199.310
Ritha	214.293	370.705	354.551	37.4197	397.525	238.350	1949.621
Satuwa	9.802	11.810	8.748	10.055	8.340	3.560	52.315
Sikakai	123.744	112.494	83.329	95.781	100.376	80.301	596.025
Tejpat	4.063	8.808	6.525	11.680	5.425	2.170	38.671
Timur	44.149	237.867	176.198	200.255	193.231	138.821	990.521
Titepati	2.860	2.288	1.720	2.355	4.220	3.220	16.663
Total	838.732	1318.229	1016.113	1127.544	1132.646	726.486	6159.750

Table 7.11 Exports of NTFPs from Customs Office, Kailali (to India)

NTFPs	Quantity (ton)	
	057/058	058/059
Tejpat	12.250	0
Bet	6.700	4.980
Ramdana	42.512	1.692
Ritha	55.960	51.120
Sallako Khoto	2551.146	2299.388
Jadibuti	0	3.925
Kubhindo	0	18.050
Total	2668.568	2424.155

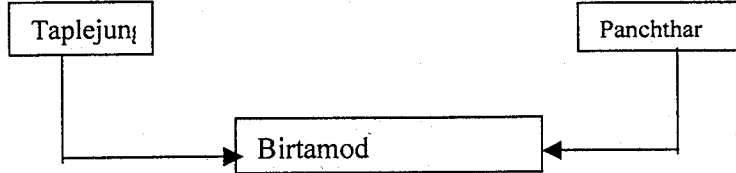
Table 7.12 Exports of NTFPs from Customs Office, Kanchanpur (to India)

NTFPs	Quantity (Kg)		
	057/058	058/059	Total
Jadibuti	231000	318205	549205
Bet	140165	769	140934
Total	371165	318974	690139

Annex 8

Quantity of NTFPs Traded (Information based on Trade Center/Traders)

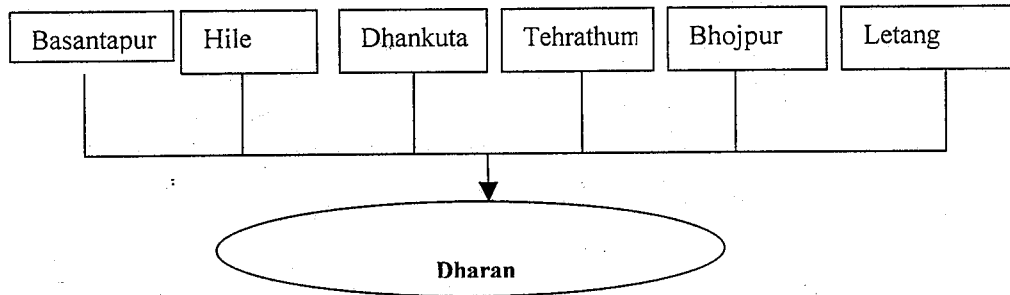
Table 8.1 NTFP Information based on Trade Center/Traders: Birtamod, Jhapa



Major NTFPs In trade	Average quantity (ton) traded in Year (057/058)	Buying price
Chiraito	6.5	100-150
Kurilo Jara	1.2	100-150
Timur	2	50-60
Pawan Bark	5	70-80
Sikakai	2	40-55
Tejpat	7	20-25

Note: Pakaging cost of these NTFPs @ Rs20/ 50 kg bundle

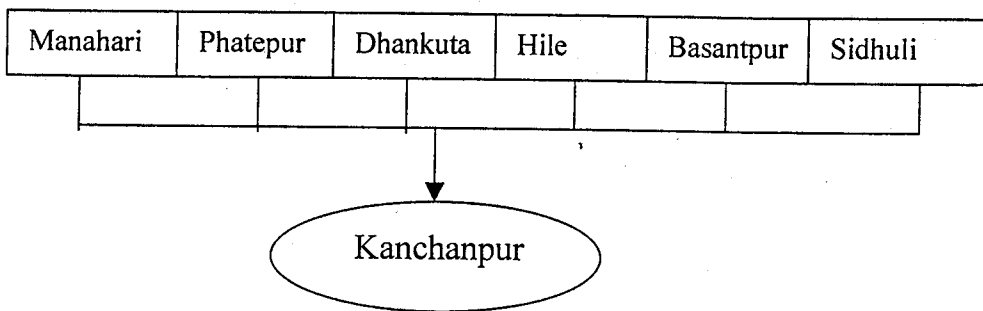
Table 8.2 NTFP Information based on Trade Center/Traders: Dharan, Sunsari



Major NTFPs In trade	Average quantity (ton) traded in Year (057/058)	Buying price
Chiraito	20-50	100-120
Ritha	400	12-15
Majitho	5	28-30
Dalchini	4	20
Sutho	140	15-30
Tejpat	156	15-17
Kurilo Jara	5	100-120
Pipla	650	12-15
Pangra	10	30-35
Indrini ko seed	0.3	50-70

Note: Processing cost for all NTFPs @ Rs 50/ bora.

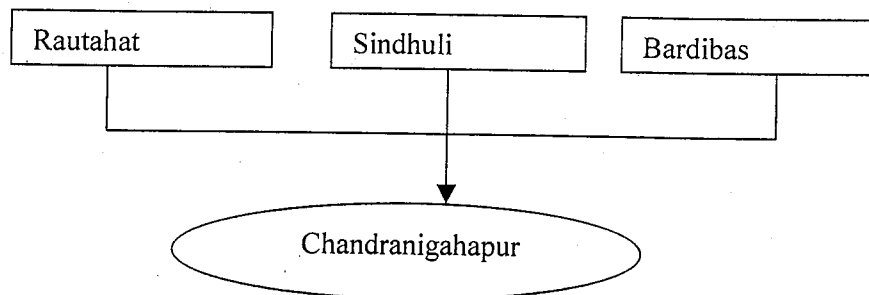
Table 8.3 NTFP Information based on Trade Center/Traders: Kanchanpur, Saptari



Major NTFPs In trade	Average quantity (ton) traded in Year (058/059)	Buying price
Sikakai	40-50	15-30
Salla Khoto	5-6	15-35
Kurilo	10	100-150
Majitho	12	28-30
Tejpat	4	25-30
Dalchini	1	40-45
Pipla	2	15-30
Nirmasi	1	300-400

Note: processing cost @ Rs 50/ Bora

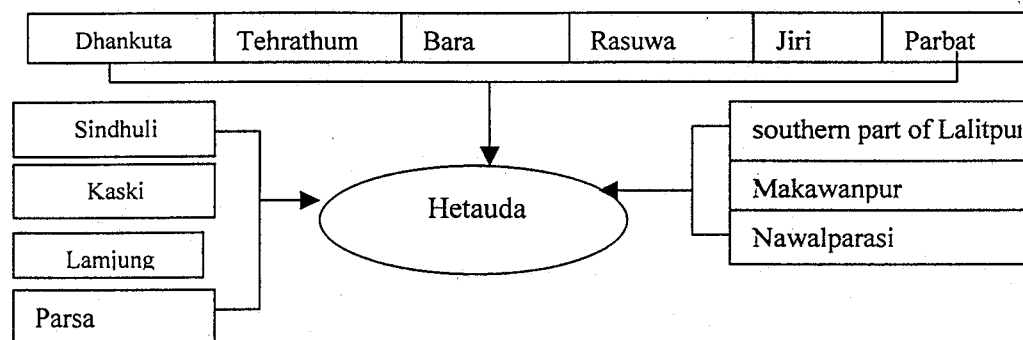
Table 8.4 NTFP Information based on Trade Center/Traders: Chandranigahapur, Rautahat.



Major NTFPs In trade	Average quantity (ton) traded in Year (058/059)	Buying price
Sikakai	10	20-30
Kurilo	5	100-150
Pipla	1	15-20

Note: Processing cost @ 50\ Bora

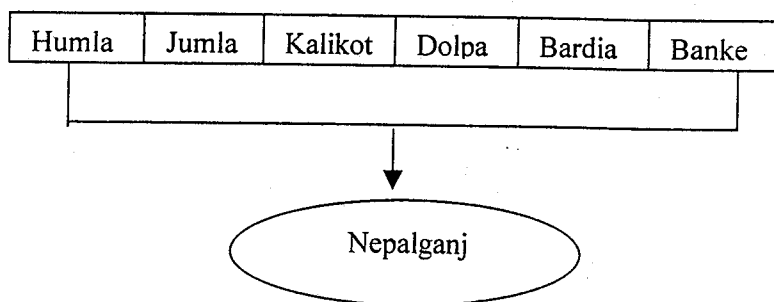
Table 8.5 NTFP Information based on Trade Center/Traders: Hetunda, Makawanpur



Major NTFPs in Trade	Average Quantity (ton) in Year (058/059)	Buying price
Kurilo	38	100-150
Jhyau	68	100-160
Amala	9	70-80
Harro	2	40
Musli	5	15
Chiraito	26	120
Jiwanti	11	70-80
Majitho	35	15-20
Halik	15	27-28
Bojho	1	20-30
Jatamasi	8	40
Tigadi	10	100-120
Kakuli	1.2	60
Simal Khoto	1.4	185-200
Bikh	0.4	20-30
Ban Lasun	0.5	70-75
Nepali Musali	0.03	30-35

Note: Processing and packaging cost @ Rs 5/kg

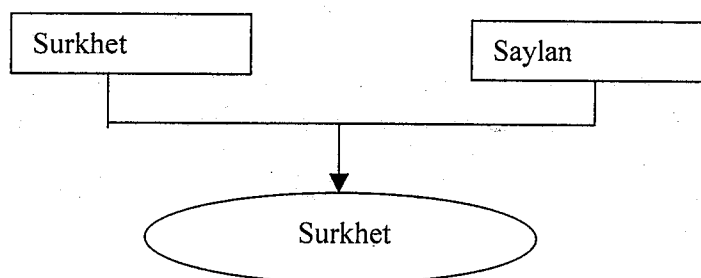
Table 8.6 NTFP Information based on Trade Center/Traders: Nepalganj, Banke District



Major NTFPs In trade	Average quantity traded in Year (058/059)	Buying price
Amala	25-30000	28-30
Amalved	35000	70-75
Atis	6--7000	180-200
Barro	12-15000	9--10
Bhorla (Bark)	25-30000	10--12
Bhutkesh	80-85000	65-70
Bikh	20-2200	100-120
Bikhma	30-3200	110-120
Bojho	10-12000	24-28
Budhani	350-400000	50-55
Chiraito	30-32000	160-180
Chulthi	4--5000	65-70
Dalchini	28-30000	30-35
Daruhaldi	2000	140-150
Dhupi	30-35000	25-35
Dhupjadi	80-85000	70-75
Gucchi chyau	3800-4000	4000-4200
Harro	6--8000	11--12
Jatamasi	180-200000	130-140
Jiwanti	10--11000	40-45
Kakadsingi	7--8000	150-200
Kakoli	12--1500	70-75
Kurilo	60-65000	160
Kutki	55-60000	160
Majitho	5--6000	25-30
Musli	9--10000	40-42
Nirmasi	500-800	250-130
Okhar bokra	2000-2200	125-130
Padamchal	9--10000	40-45
Pakhanbet	22-24000	14-15
Panchaunle	800-1000	1000-1200

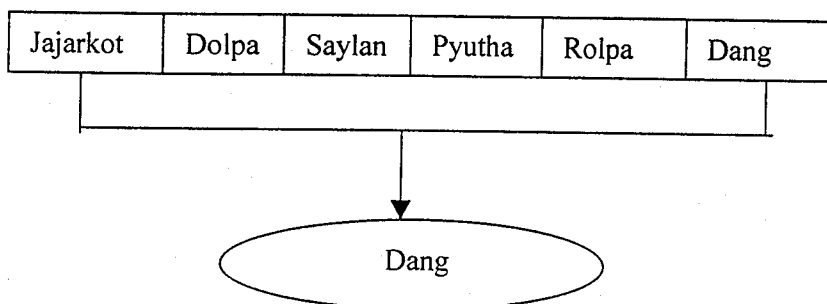
Pipla	35-40000	110-130
Ritha	300-320000	12--14
Salamdana	10000	90-110
Satuwa	4--5000	160
Sikakai	80-85000	13-15
Somlata	15-16000	40-45
Sugandhawala	80-100000	150
Sugandhakokila	60-70000	65-75
Tejpat	80-90000	12--14
Tigedi	3000	60-70
Timur	140-145000	70-75

Table 8.7 NTFP Information based on Trade Centre/Traders, Surkhet , District



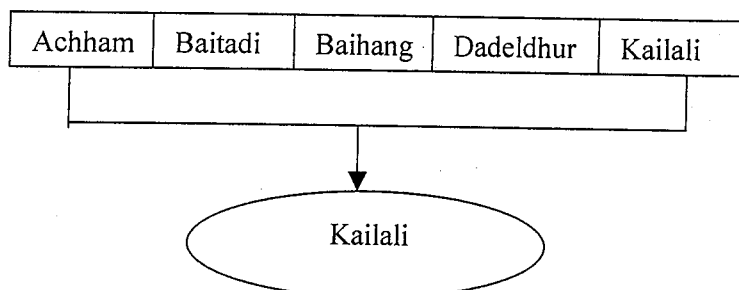
Major NTFPs In trade	Average quantity (ton) traded in Year (058/059)	Buying price
Bojho	6.000	15-18
Dalchini	7.000	20-25
Kurilo	20.000	130-140
Pakhanbed	32.00	5--6
Ritha	21.000	7--8
Samayo	36.00	50-55
Tejpat	22.00	10--11
Timur	23.000	60-65
Total	167	

Table 8.8 NTFP Information based on Trade Centre/Traders: Dang District.



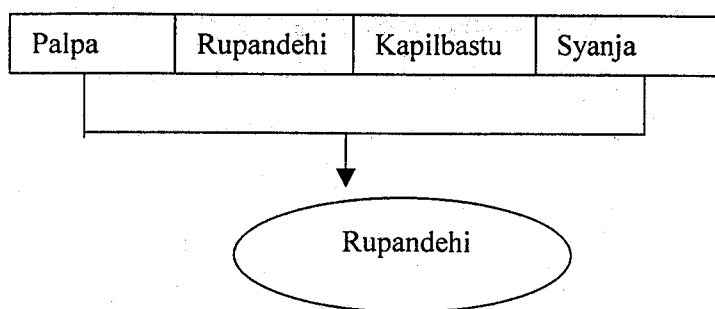
Major NTFPs in trade	Average quantity Traded year (ton)	Buying price (058/59)
Amalbet	1.000	
Chiraito	3.000	200
Dalchini	10.000	20
Kurilo	26.000	135
Ritha	100.800	9
Sugandhakokila	10.400	65
Sugandhawal	1.500	80
Timur	2750.000	90
Total	2902.7	

Table 8.9 NTFP Information based on Trade Centre/Traders: Kailali District



Major NTFPs In trade	Average quantity Traded year	Buying price (058/59)
Bojho	5000	15-20
Chutro	2000	140
Dalchini	8000	45-50
Majitho	300	50-55
Pakhanbed	2000	12-14
Ritha	8500	10
Samayo	8500	80-85
Tejpat	18000	18-22
Total	52300	

Table 8.10 NTFP Information based on Trade Centre/Traders: Rupandehi District



Major NTFPs in Trade	Average Quantity (ton) in year (058/059)	Buying Price
Dalchini	14	30-35
Kurilo	4	130-150
Timur	4	60-70
Bilauni Bark	0.7	30-40

Annex 9

Imports of NTFPs from Prominent Indian Markets

Table 9.1 Annual Imports of NTFPs from Nepal by Indian Trade Centre by Excel Drug House, Kolkata (2001)

Major NTFPs	Quantity Traded (Kg)	Market Price NRs/ Kg
Alaichi	20000	400
Amala	30000	60
Atis	2000	560
Bojho	10000	48
Chiraita	10000	272
Jatamasi	5000	168
Kakarsinghi	2000	208
Majitho	NA	48
Ritha	50000	16
Satawari	20000	112-208
Satuwa	10000	
Sikakai	35000	36.8
Silajit	2000	240
Sugandhawal	5000	160
Sutho	50000	48
Timur	20000	140
Total	192000	

Table 9.2 Annual Imports of NTFPs from Nepal by Indian Trade Center, Kanpur (2000)

NTFPs	Quantity (ton)	Route
Sugandha Kokila	6	Via Krishana Nager
Timur	30	Via Krishana Nager
Jatamasi	7	Via Krishana Nager
Satawari	20	Via Krishana Nager
Dried Ginger	40	Via Krishana Nager
Dalchine	25	Via Krishana Nager
Jatamasi oil	3	Via Krishana Nager
Wintergreen oil	0.6	Via Krishana Nager
Total	131.6	

Table 9.3 Annual Imports of NTFPs from Nepal by Indian Trade Center, Lucknow (2000)

NTFPs	Quantity Imported (ton)	Total Demand (ton)
Dried Genger	100	
Pakhanbed	70	
Timur	30	
Dalchini	100	
Ritha	120	
Sikakai	15	
Satawari	7	
Lichen	10	
Jatamasi oil	70	---
Palmarosa oil	40	---
Lemongrass oil	---	600
Ginger oil	---	500
Total	552	

Table 9.4. Annual Import of NTFPs from Nepal by Indian Trade Center, Kannauj

NTFPs	Quantity Imported (ton)	Total Demand (ton)
Sugandha kokila oil	0.2	---
Jatamasi oil	0.25	---
Jatamasi	20	---
Lichen	10	100
Sugandhakokila	6	100
Total	36.45	200

Table 9.5 Annual Imports of NTFPs from Nepal by Indian Trade Center: Delhi (2001)

Major NTFPs imported from Nepal		Buying rate (IRs/kg)	Average annual Import from Nepal
Kutki	<i>Picrorhiza scrophulariiflora</i>	160-180	400
Dalchini	<i>Cinnamomum tamala</i> (bark)	28-30	220
Bhorla	<i>Bauhinia vahlii</i> (bark)	20-22	250
Tejpat	<i>Cinnamomum tamala</i> (leaf)	24	350
Bojho	<i>Acorus calamus</i>	25	120
Jhyau	Lichen sp.	40-50	300
Satawar	<i>Asparagus racemosus</i>	100-160	300
Jatamansi	<i>Nardostachys grandiflora</i>	100-110	180
Pipla	<i>Piper longum</i> (Fruit)	85	10
Pipla mul	<i>Piper longum</i> (Root)	120-125	15
Timur	<i>Zanthoxylum armatum</i>	60-70	75
Ritha	<i>Sapindus mukorossi</i>	10-11	700
Salamdana	<i>Brachycorythis obcordata</i>	90	8
Sarpagandha	<i>Rauvolfia serpentina</i>	200-225	50
Amala	<i>Phyllanthus emblica</i>	30-35	200
Sugandhawal	<i>Valeriana jatamansii</i>	90-95	120
Atis	<i>Aconitum heterophyllum</i>	1000	12
Pakhanbed	<i>Bergenia ciliata</i>	17	300
Satuwa	<i>Paris polyphylla</i>	160-200	16
Majitho	<i>Rubia manjith</i>	35	325
Kakadsingi	<i>Pistacia chinensis</i>	125	8
Dhup lakad	<i>Jurinea dolomiaea</i>	70	300
Okhar bokra	<i>Juglans regia</i>	100-150	225
Padamchal	<i>Rheum australe</i>	35-40	15
Chiraito (Tita)	<i>Swertia chirayita</i>	150-160	225
Chiraito (Mitha)	<i>Swertia</i> sp.	30-35	400
Sikakai	<i>Acacia rugata</i>	30	300
Bish (Mitha jahar)	<i>Aconitum ferox</i>	100	8
Panchaunle	<i>Dactylorhiza hatagirea</i>	1200	1
Atis Nepali	<i>Delphinium himalayai</i>	250	15
Kaphal	<i>Myrica esculenta</i> (bark)	20	50
Gucchi	<i>Morchella conica</i>	3400	7
Amalbed	<i>Rheum australe</i> (petiole)	90	40
Kakoli	<i>Fritillaria cirrhosa</i>	55	12
Jiwanti	<i>Ephemerantha macraei</i>	65	350
Bisphase	<i>Popypodium vulgare</i>	54	55
Sugandhakokila	<i>Cinnamomum glaucescens</i>	60-65	150
Total			6112

Table 9.6 Annual Imports of NTFPs from Nepal by Indian Trade Center, Tanakpur

Major NTFPs imported from Nepal		Buying rate (IRs/kg)	Average annual Import from Nepal
Kutki	<i>Picrorhiza scrophulariiflora</i>	100-125	80
Dalchini	<i>Cinnamomum tamala</i> (bark)	30-35	50
Bhorla	<i>Bauhinia vahlii</i> (bark)	15-18	200
Tejpat	<i>Cinnamomum tamala</i> (leaf)	20	120
Bojho	<i>Acorus calamus</i>	20	20
Jhyau	Lichen sp.	50	140
Satawar	<i>Asparagus racemosus</i>	100-125	80
Jatamansi	<i>Nardostachys grandiflora</i>	100	80
Pipla	<i>Piper longum</i> (Fruit)	70-80	3
Pipla mul	<i>Piper longum</i> (Root)	100	6
Timur	<i>Zanthoxylum armatum</i>	55-60	10
Ritha	<i>Sapindus mukorossi</i>	10	350
Salamdana	<i>Brachycorythis obcordata</i>	75-80	2.5
Sarpagandha	<i>Rauvolfia serpentina</i>	190-210	15
Amala	<i>Phyllanthus emblica</i>	30	90
Sugandhawal	<i>Valeriana jatamansii</i>	60-65	90
Atis	<i>Aconitum heterophyllum</i>	850	5
Pakhanbed	<i>Bergenia ciliata</i>	13-15	120
Satuwa	<i>Paris polyphylla</i>	120-150	5
Majitho	<i>Rubia manjith</i>	28-30	80
Kakadsingi	<i>Pistacia chinensis</i>	110-120	4
Dhup lakad	<i>Jurinea dolomiaea</i>	55-60	50
Okhar bokra	<i>Juglans regia</i>	110	50
Padamchal	<i>Rheum australe</i>	30-35	8
Chiraito (Tita)	<i>Swertia chirayita</i>	100-120	30
Chiraito (Mitha)	<i>Swertia</i> sp.	20-25	80
Sikakai	<i>Acacia rugata</i>	20-25	60
Total			1828.5

Table 9.7 Percentage of Major Herbs Supplied to Delhi Market by Different Countries (2001)

Medicinal Herbs	Nepal (%)	Bhutan (%)	India (%)	Pakistan (%)
Jatamansi	85	5	10	-
Dhup Jadi	25	-	75	-
Jhyau	15	-	85	-
Kutki	75	5	20	-
Salamdana	40	10	50	-
Gucchi	5	-	95	-
Chiraito	60	40	-	-
Kakoli	70	-	30	-
Bojho	20	10	70	-
Okhar bokra	10	5	85	-
Panchaunle	40	20	40	-
Sugandhawal	75	5	20	-
Ritha	35	5	60	-
Jiwanti	85	-	15	-
Atis	5	-	95	-
Atis (Nepali)	100	-	-	-
Timur	100	-	-	-
Satawar	60	-	40	-
Kakadsinghi	10	-	20	70
Sugandhakokila	100	-	-	-
Majitho	5	95	-	-