

**FINAL PROGRAM PERFORMANCE
REPORT OF BAN UDYAM
(April 2001 – September 2002)**

Submitted To:

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ACRONYMS

AFO	=	Assistant Forest Officer
ANSAB	=	Asia Network for Small Scale Agricultural Bio-resources
ANSAB	=	Asia Network for Small Scale Agriculture Bio-resources
BSP	=	Biodiversity Support Program
BU	=	Ban Udyam (Forest Based Micro-enterprise Development)
BZ	=	Buffer Zone
CBFE	=	Community Based Forest Enterprise
CBO	=	Community Based Organisation
CF	=	Community Forest
CFOP	=	Community Forest Operational Plan
CFUG	=	Community Forest Users' Group
DC	=	District Co-ordinator
DFO	=	District Forest Officer
DG	=	Director General
DSCO	=	Department of Soil Conservation
EFEA	=	Environment Forest Enterprise Activity
FPP	=	Forestry Partnership Project
FUG	=	Forest Users' Group
HMG/N	=	His Majesty's Government of Nepal
HPPCL	=	Herbs Production and Processing Company Ltd.
IEDI	=	Industrial Enterprise Development Institute
INGO	=	International Non-governmental Organisation
JABAN	=	Jadibuti Association of Nepal (Association for Medicinal herbs)
JCF	=	Jallandhara Community Forest
LA	=	Line Agency
MARD	=	Market Access for Rural Development
MFSC	=	Ministry of Forest and Soil Conservation
MOP	=	Model Operational Plan
MWDR	=	Mid-western Development Region
NGO	=	Non-governmental Organisation
NMCP	=	Northern Mountain Conservation Project
NRs.	=	Nepali Rupees
NTFP	=	Non-timber Forest Product
OP	=	Operational Plan
ROI	=	Return on Interest
SIRE	=	Sustainable Income and Rural Enterprise
SO	=	Strategic Objective
USAID	=	United States Agency for International Development
VDC	=	Village Development Committee
WWF	=	World Wildlife Fund

Final Program Performance Report of Ban Udyam

1.0 Background

1.1 Environments and Forest Enterprise Activity

Environment and Forest Enterprise Activity (EFEA) was a joint effort of His Majesty's Government of Nepal (HMG/N) and United States Agency for International Development/ Nepal (USAID/N). EFEA was built on the past two decades of USAID/N's rural development programming in the Rapti Zone, and demonstrated USAID/N's continued support for Nepal's adoption of progressive legislation on community forestry and buffer zone management. EFEA contributed to broad based economic growth and conservation of the environment by supporting USAID/N's Strategic Objective (SO) 1 (*increased sustainable production and sales of forest and high value agricultural products*) and SO 3 (*increased women's empowerment*).

The goal of the Environment and Forest Enterprise Activity (EFEA) was to increase rural household incomes through sustainable private sector forestry enterprises. EFEA's specific purpose was *"to facilitate local control and management of natural resources in the Mid-Western Development Region (MWDR), to improve forest productivity and sustain the environment."*

Successful implementation of EFEA had been expected to contribute to three of USAID/Nepal's four agency goals: 1) promoting broad-based economic growth, 2) conserving the environment, and 3) building democracy in Nepal. Through EFEA, USAID had been assisting the Government of Nepal (HMG/N) to implement recently enacted legislation that devolves resource ownership rights from the government to the people. EFEA activities have been replicating and accelerating successful implementation approaches enabling local people to become stakeholders in improving forest productivity and sustaining their environment.

EFEA aimed to:

- ◆ Increase sustainable management of the resource base by accelerating local control and management of natural resources;
- ◆ Strengthen user groups' participatory decision-making, and empower women so that they may exercise increasing control over the management of user group natural and financial resources;
- ◆ Develop natural resource-based micro-enterprises which add value to forest products and, in protected areas, capture eco-tourism revenues;
- ◆ Facilitate bottom-up planning, policy reform and monitoring; and
- ◆ Through applied research, test technological and social innovations to increase user group knowledge and management capacity.

EFEA partners were working directly with the HMG/N Departments of Forests, Soil Conservation and watershed management, National Parks and Wildlife Conservation, as well

as Women Development Offices at the district level, providing support through four technical assistance components. The EFEA, Project Co-ordination Office in Tulsipur and then shifted to Nepalganj in 2002, had been co-ordinating activities of the technical assistance teams and the counterpart line agencies within the framework of an annual project review and planning cycle.

Two of the technical assistance components were established based on geographic parameters that correspond to working relationships with HMG/N counterpart agencies. These were implemented by CARE, working on community and private forestry with the Department of Forest in the mid-hills and Terai, and WWF/Nepal Program on environment conservation and management with the Department of National Parks and Wildlife Conservation in the northern mountain areas, particularly in and around Shey Phoksundo National Park and Dhorpatan Hunting Reserve.

The Forest Based Micro-enterprise Development (*Ban Udyam* in *Nepali*) component of EFEA project was implemented by Biodiversity Support Program (BSP) and New ERA from 1996 and provided technical information and lessons to support FPP-CARE/N and NMCP-WWF/N and their respective geographic and programmatic areas. BSP, a Washington based consortium of WWF; the Nature Conservancy and World Resources Institute had been providing technical support for forest enterprise development till May 2001. Thereafter, New ERA was given a separate grant by USAID/N to undertake the ongoing activities till September, 2002. In addition, Ban Udyam (BU) provided direct technical assistance to a series of pilot forest user groups, focusing on strengthening their capacity in sustainable forest management leading to the development of a range of forest-based micro-enterprises. BU also assisted pilot user groups, HMG/N line agencies and FPP-CARE/N to design and implement more appropriate and effective community forestry monitoring system. The work of the BSP and New ERA focused mainly on forest-based micro-enterprise development and monitoring.

1.2 Forest based Micro-enterprise Development (Ban Udyam) Component of EFEA Project

Ban Udyam implemented forest based mainly NTFPs based micro-enterprise component of EFEA. It provided support to communities in the EFEA project area (Dang, Salyan, Pyuthan, Rukum and Rolpa districts of Rapti Zone; Banke and Bardia districts of Bheri Zone and Dolpa district of Karnali Zone) to develop NTFPs based micro enterprises considering the fact that these enterprises have options for maintaining or improving their forests. The Project's twin goals were **enhanced livelihoods** and **improved forest management**.

Ban Udyam accomplished this in two ways:

- ◆ Directly, by supporting pilot community-based forest management, marketing and micro-enterprise development, and
- ◆ Indirectly, by providing training, technical assistance and extension information to EFEA partners (HMG/N and I/NGOs) on forest management, particularly non-timber forest products (NTFPs) management in community forests, more effective forest monitoring activities, and sustainable production of specific NTFP species.

Ban Udyam supported improved community forest management toward the development of forest product based micro-enterprises to increase rural incomes. It responded to actual needs

based on inputs from forest users and in-depth feasibility analyses. To be successful, active and organised forest user groups must support each enterprise. BU had undertaken the process of enterprise development by working with selected community forest user groups to develop comprehensive forest management plans, that assured the sustainable supply of raw materials required to sustain enterprises over time. At specific sites as well as in broader regional areas, BU also provided technical support and market information to develop and improve forest-based enterprises being run by communities.

Ban Udyam assisted communities to develop effective monitoring system for adaptive management of the forest resources needed to sustain forest-based enterprises. It aimed to strengthen user-group decision-making process, and to empower women to increase their access and control in management of the user groups' natural and financial resources.

Additional efforts to assure sustainability included fostering linkages between forest user groups and private sector entities that deal with NTFP processing, domestic; regional and international marketing, seedling production and sales etc.

Ban Udyam also worked with EFEA partners to assist for the development of monitoring system for respective component dealing with USAID/N's strategic indicators and provided guidance to partners so that data entries are consistent for compilation and producing the EFEA annual report (one of the major responsibilities of Ban Udyam) in consolidated form.

1.3 Ban Udyam Contributions to EFEA in Achieving USAID/N SOs

Ban Udyam's primary objective was to develop Community-Based Forest Enterprises (CBFE) in pilot communities. It contributed to the indicator results data for two of the USAID/N's Strategic Objectives (SOs):

- ◆ **SO 1:** Increased Sustainable Production and Sales of Forest and High-Value Agricultural Products; and
- ◆ **SO 3:** Empowerment of Women

During implementation, some of the activities were remodelled and implemented based on situation in the field and lessons learned over the past years. One of the focus areas was the development of pilot improved (model) community forest Operational Plans (OPs) leading to sustainable management of forest products incorporating conservation activities and the commercial utilisation of NTFPs.

2.0 Summary of Progress Achieved by Ban Udyam under Co-operative Agreement No. 367-A-00-01-00045-00 (April 2001- September 2002)

Mile Stone	Activities	Indicator	Progress
1.	NTFP based enterprises Development		
1.1	Dolpa NTFP distillation enterprise strengthening and smooth operation	Distillation plant in operation	Distillation plant continued producing essential oil as per available raw materials.
1.2	Technical handover of Dolpa Enterprise to the Board of Directors	Enterprise handed over	Enterprise handed-over .to Board of Directors
1.3	Sal (<i>Shorea robusta</i>) leaf plate Enterprises	Production and sell of leaf plates	During this period, 984,400 Duna/Tapari of different sizes were produced worth NRs. 312,547 and generated full employment for 2,169 person days.
1.4	Sabai grass dori (rope) Enterprise	Production and sell of babio ropes	A total of 7,500 kgs of rope was produced during project period worth NRs.112,000 and generated full employment for 769 persons days.
1.5	Basket (made of twigs and vines) Enterprise	Production and sell of baskets of various types	698 baskets made out of twigs and vines were produced worth NRs. 17,450 and generated 131 persons days full employment.
1.6	Implementation of Rattan Management plans	Management plan developed and implemented	Saraswati CFUG in Bardiya district was supported with NRs. 17,000 for the implementation of rattan management plan. Cleaning of forest area, blocking, enrichment planting of <i>Acacia catechu</i> and plantation of Rattan seedlings were the implementation activities as per the plan.
1.7	Rattan Enterprise (various products)	Production and sell of Rattan products (Furnitures)	BU/New ERA initiated to establish a Shiva Bet-Bans Furniture making Enterprise in Shiv CFUG, Suryapatuwa , Bardia. Three members of Shiva FUG were selected and trained for making rattan furniture. BU/New ERA supported advanced training for them in this fiscal year. Once members of enterprise received the advanced training, the quality of rattan furniture improved and they started having good earning. A local market linkage at Gularia was also developed.
1.8	Community based NTFP planting materials resource centres developed	NTFP resource materials produced and sold	Jalandhara NTFPs resources centre in Banke district produced 55,765 seedlings. Ban Udyam also supported Santoshi NTFP resource centre in Bardia Distract that produced around 50,000 NTFP seedlings for sale.

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Mile Stone	Activities	Indicator	Progress
1.9	NTFP based CFUG's producers association in effective operation	Producers association established	The constitutions for NTFP producers associations one each in Banke and Bardiya districts already submitted to district co-operative offices for registration
1.10	Strengthening community based Aromatic Oil production and distillation enterprise in Fulbari, Dang	Production and sell of essential oil	The enterprise is running smoothly and distilling the lemongrass produced in and around that area. However, it is not being possible to utilize the plant in its full capacity due to lack of adequate raw material. DSCO, Dang was consulted for sustainability of raw material supply and 20 hectares of more lemongrass plantation was suggested. DSCO would be looking for financial support for this endeavor.
2.	Improved Forest Management		
2.1	Assist/facilitate CFUGs and LAs on developing and implementing Model (Improved) Operational plans	MOP documented	A total of twenty CFUGs (ten in Banke and ten in Bardiya district) were facilitated for preparation of MOPs and all these 20 have been approved by concerned DFOs.
2.2	Continue post implementation support to implement model Ops developed in earlier years	MOP implemented	Two CFUGs in Banke and four CFUGs in Bardia district were supported for the implementation of approved MOPs.
3.	Cross-cutting Activities		
3.1	NTFP market price information system strengthened and expanded (NGCCI)	Price lists of NTFPs published	Market price information system developed and expanded through local newspaper, display boards, radio and electronic mails.
3.2	Support forest product market associations (JABAN)	Documents /Records from BU and JABAN	Assisted in institutional set-up and communication network development
3.3	Strengthen essential oil producers association	BU and Association documents	Technical assistance provided in institutionalisation of the organisation.
4.	Monitoring, Evaluation and Reporting		
4.1	<i>Record keeping and CFUG activities monitoring at pilot CFUGs</i>		
4.1.1	Continue follow up on earlier sites	Review of M & E format	Record keeping registers and monitoring formats developed and distributed to pilot CFUGs
4.1.2	New sites: facilitation, system establishment as an integral part of the model OPs	CFUG records	Monitoring system established as an integral part of CFOP demonstrable in four sites (two in Banke and two in Bardia)
4.1.3	Implementation and Follow-up	CFUG records	Continuous follow-up in implemented sites
4.1.4	Lessons learned, documented and strategy for further improvement and replication developed	Documents	One document of lessons learned published and submitted to USAID

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Mile Stone	Activities	Indicator	Progress
4.2	<i>NTFP based Enterprise monitoring (All enterprises that are directly supported by Ban Udyam)</i>		
4.2.1	System established and plan developed	Completed monitoring formats	Monitoring system developed and distribute to all enterprise with orientation for adoption
4.2.2	Implementation and follow up	Published reports	A study conducted through IEDI to assess the monitoring and record keeping status of the selected enterprises. Report submitted to USAID.
4.2.3	Case studies, lessons learned documented and periodic reports published	Documents published	One document of case studies, four quarterly and an annual report published and submitted
4.3	<i>Project reporting/documentation and EFEA Annual Review workshop</i>		
4.3.1	EFEA annual report published	EFEA annual report	Two EFEA annual reports published
4.3.2	Quarterly report of this component published	BU quarterly reports	Five quarterly reports of BU published
4.3.3	Annual report of this component published	BU annual reports	Two issues of BU annual report published
4.3.4	Conduct Annual progress review workshop	Workshop report	Two annual progress review workshops conducted
5.	<i>Training</i>		
5.1	Conduct up to 5 training / counselling events at field sites	Training reports	Five counselling events conducted in field sites
5.2	Conduct one business management training to NTFP based enterprise (ongoing enterprises)	Training report	One business management training conducted
5.3	Follow up training for ongoing and replicated enterprises: 5 skill transfer events	Training reports	Conducted
5.4	<i>Line Agency Training Request</i>		
5.4.1	Train HMG staff on NTFP conservation and utilisation	Training reports	Conducted
5.4.2	Response line agency request on NTFP related skill	Training reports	One NTFP conservation resource person training conducted
6	<i>Extension and Outreach</i>		
6.1	Publication and distribution	Published materials	<ul style="list-style-type: none"> • In addition to leaflets and NTFP series (1-9 on <u>jatamasi</u>, <u>sugandhawal</u>, <u>kutki</u>, <u>guchi chyau</u>, <u>ritha</u>, <u>dalchini</u>, <u>atis</u>, <u>timur</u> and <u>chiraito</u>) on potential plants of hills prepared over past years, another nine types (10 -18 on bet, pipla, satawari, sikakai, neem amala, barro, harro, and tendu) on potential plants of Terai were developed. • Over 400 copies of training manual on NTFP resource person and Technical aspects on community forest product estimation techniques were published and distributed.

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Mile Stone	Activities	Indicator	Progress
			<ul style="list-style-type: none"> • Over 1700 copies of Ban Udyam Mala (sal leaf- plate and babio rope enterprise leaflets) were distributed • Over 300 copies of Ban Udyam Brochure were distributed. • Over 120 copies of training manual on Technical aspects of community forest production were distributed. • Over 100 copies of Community forest Operation Plan Preparation manual were produced and distributed. • About 400 copies of EFEA annual reports of NFY 2057/58 and 2058/59 were distributed. • About 100 copies of Essential Oil Producers meeting Proceeding were published, and distributed. • Over 400 copies of Regional & National level NTFP workshop Proceeding were produced, and distributed. • Organised/conducted several brief orientations/ meetings with various target groups and key actors of EFEA. • BU personnel took part in various relevant field and central level meetings/seminars/ workshops to share and exchange the lessons so far learnt concerning sustainable forest management and forest-based enterprise development. • During this period over 41,000 copies of Ban Udyam outreach materials were produced and distributed.
6.2	NTFP series, extension materials update and distribution	Published Extension materials	34,100 NTFP series and 12,000 NTFP awareness leaflets published and distributed.
6.3	NTFP quarterly newsletter publication and distribution	Published newsletter	10,700 NTFP newsletter published and distributed in six issues.

Source : BU Annual Progress Report 2000-2001 and 2001-2002.

3.0 Constraints and Attempts to Overcome them

The security situation and the state of emergency, implemented during the project period in the country, delayed in achieving some of the targeted outputs. In spite of the deteriorating situation in Nepal, Ban Udyam team tried its level best to give the continuity to the scheduled work. Since the frequent visit to countryside by the Ban Udyam team members was not practical all the time, Ban Udyam rather changed its strategy by bringing-in the members of different forest users' group in the district headquarters to have various meetings and training etc.

In addition, differences in community forest operational plan (CFOP) preparation guidelines between EFEA region and other districts also created some confusion to materialize the model operational plan concept. Series of meetings with government officials (DG, DFOs, AFOs) and TA team members were held that finally yielded an understanding among various stakeholders which became a mile stone in achieving expected progress particularly in Banke and Bardia districts.

4.0 Conclusions

In conclusion it can safely be said that Ban Udyam was able to achieve the major objectives. On the overall basis, Ban Udyam achieved its objectives by:

- 4.1 Supporting community in improved forest management through model operational plan. In this model forest operational plan, not only the technicians but also the forest users were trained so that they can prepare their own operational plan and/or modify as per the need. Sustainable utilisation of forest resources especially NTFPs were prioritised in the plan that otherwise was not emphasised in the previous plans;
- 4.2 supporting community in producing and planting NTFPs seedlings to have sustainable resource base for supply of NTFPs for running NTFPs based enterprises. This activity also helped conservation of forest resources in the government forest/national parks/conservation area and helped in creating income generation activities at community level;
- 4.3 Supporting forest users in establishing NTFPs based micro-enterprises. Some of the examples as mentioned in the main text of this report are: extraction of essential oil from NTFPs in Dolpa district, production and sale of leaf plates in Banke district, production and sale of rope from wild grass in Banke district, Production and sale of rattan furniture in Bardia district, production and sale of baskets from twigs and vines in Banke district. These activities are being continued by the user groups even when the project is over;
- 4.4 In most of the enterprises mentioned above, active participation of women was emphasised. Actually, some of the enterprises such as leaf plate making and rope making are managed by women groups only. This has helped the rural women to make them realise that they can play significant role in management of income generating activities. Additionally, they have control over the income and participation in decision making. This has helped in empowering the women of the project area fulfilling one of the objectives of EFEA "Woman Empowerment";

- 4.5 Training being one of the major aspect for sustainable management and utilisation of forest resources, running NTFPs based enterprises and creating awareness on the project activities, was given enough weightage. Various types of training were conducted as pre-requisite for achieving the overall objective of NTFPs based enterprise development;
- 4.6 Monitoring at different levels were conducted as per the plan; and
- 4.7 Various types of extension materials were published and distributed to share the experiences/results/findings/lessons learned with other related donors/institution/NGOs/CBOs/private organisations and forest users.
- 4.8 Support was provided to NGCCI to collect market price of major NTFPs from trading centres in Nepal and India and communicate to the community people; traders and other related organisations/individuals through newspaper, radio and electronic mail and display boards.

ANNEX

(CASE STUDIES, LEASONS LEARNED AND SUCCESS STORIES)

5.0 Introduction

Nepal is a small and landlocked country. It is constrained in almost all facets of its development efforts by rugged terrain and limited resources. Its growing population puts escalating demand on food supplies, basic social services, and increasing pressure on its fragile environment. Economic poverty and human suffering have also limited the ability of the country to move forward.

Nepal is one of the poorest countries in the world. Over half of its 32.2 million people live on less than a dollar a day and in the past two decades, both the proportion and absolute number of poor have been increasing. Over 80% of the population still live in rural areas, their livelihood depending on agricultural, most on small, low quality lots that produce insufficient food for survival. Access to basic services has improved in recent years but remains very low - 90% of the population still does not have access to adequate health services, 29 % do not have access to safe water and 84 % do not have access to sanitation.

In this context, while Nepal is in great need of external assistance, USAID is fostering Nepal's developmental endeavors since last fifty years or so. Based on decades of experience, the strategy of USAID is to look at how the resources available for US Government assistance over the coming years can be best applied to meeting the challenge of Nepal's future development. USAID/ Nepal aims to promote broad-based economic growth through a sustainable increase in incomes. Reducing the population growth rate and improving and protecting the productive resource base are central to this strategy, as are in creasing women's participation in development and promoting democratic norms.

USAID/Nepal's Sustainable Income and Rural Enterprise (SIRE) Program is an important vehicle for achieving economic growth. The objective of the Program is **to increase rural household incomes through sustainable private sector agriculture and forestry enterprises**. The rationale for the Program is that market-oriented private initiatives, investments and incentives are vital to achieving income growth through agriculture. Of the two SIRE activities:

- i) the Environment and Forest Enterprise Activity (EFEA); and
- ii) the Market Access for Rural Development Activity (MARD).

The former (EFEA) has focused on increasing local control and sustainable management of natural resources to increase forest productivity, while MARD on increasing production of high-value crops and expanding markets for the sale of agricultural commodities. In order to focus and increase development impact SIRE has concentrated its activities in Nepal's Mid-Western Development Region (MWDR) in developing an efficient system for economic growth and poverty alleviation.

The MWDR includes over 10 percent of Nepal's population and 29 percent of national land area. The Region also forms a fairly representative geographical cross section of Nepal, as it includes a large segment of the southern plains along the Indian border, a massive section of the Middle Hills and also includes several Trans-Himalayan districts north of the Middle Hills bordering Tibet. Consequently, lessons learned in this region should be transferable to the other regions of the nation. Secondly, the MWDR is internally interdependent in terms of economy, culture and ecology. Traditional North-south trade routes and the seasonal

migration of villagers, together with common problems of poverty and a lack of economic development tie the people of this region together.

5.1 Environment and Forest Enterprise Activity (EFEA)

For the last six years, USAID/Nepal has been working to conserve and manage forests. In addition, it has expanded the opportunities of income generation based on forest products in this region through EFEA, a six-year activity that will provide assistance in eight of the fifteen MWDR districts (Dang, Pyuthan, Rolpa, Rukum, Salyan, Bardia, Banke and Dolpa). The Activity area includes 65 percent of the Region's land area and 70 percent of its population. The EFEA area is divided into three geographical zones equivalent to the agro-ecological zones of the MWDR: the Terai, Middle Hills, and Northern Mountains. With limited opportunities for increasing off-farm employment, EFEA will follow a strategy of improving forest/natural resource productivity and value-added processing of natural resource products to raise household incomes. Agriculture is, and will remain the foundation of Nepal's rural economy for the foreseeable future, but Nepal's population has increased to the point where the subsistence economy can no longer sustain it. Forests managed by the government have been over-used and open pasture lands over-grazed, resulting in a decrease in their productivity and degradation of the landscape. As fuelwood has become scarce, many people have been forced to cook with a mixture of animal dung and agricultural wastes. This has reduced the amount of available dung to be composted and returned to their fields.

The results have been a decrease in agricultural productivity that parallels the decline in forests and pastures. Forests and soil degradation is also directly linked with Nepal's history of strong centralized government control of forests. The nationalization of all forestland in 1957 and the subsequent mismanagement of forests by the forest bureaucracy undermined indigenous management systems and contributed to deforestation and environmental degradation.

The purpose of EFEA is to facilitate local control and management of natural resources in the MWDR, to improve forest productivity and sustain the environment

The key to reversing this trend of environmental degradation, and to improve forest and agricultural productivity, is to increase local control over the management of natural resources. Although the type of natural resources to manage varies along the north-south axis of the Mid-Western Development Region, the paradigm of income generation through local control of resources remains valid for every part of the MWDR.

The EFEA will contribute to broad-based economic growth and protection of the environment by supporting USAID/ Nepal's strategic objective of **achieving a sustainable increase in sales of high-value agricultural and forestry products.**

The EFEA will help increase agricultural productivity, attributable to increased nutrient transfers from forests to farms, and will increase the sustainable harvest and sales of timber and non-timber forest products (NTFPs). In addition, the EFEA will contribute to the development of natural resource based enterprises to add value to forest products. And, for the last six years, Forest based Micro-enterprise Development Project has looked after this component.

Developing Natural Resource based Micro-Enterprises

The micro-enterprise development intervention is targeted towards raising rural incomes by increasing the sustainable production and value of products from community forests, private forests, and NTFPs from middle and high elevation forests and pastures. It will also assist entrepreneurs to develop business plans for micro-enterprise development and value-added forest products processing. This intervention will take advantage of traditional trading patterns and improve the value of products along trade routes that tie the northern reaches of the EFEA area to the markets of the Terai, Kathmandu and India.

Forest Management and Income Generation Activities

Nepal's community forestry/private forestry program policies, laws and procedures for transferring management control of national forests to locally organized community forest user groups (FUGs) are now in effect. Recent amendments to the legislation embodied in the Forest Act 2050 (1993) and Forest Rules of 1995, further enhance the legal status of FUGs and give user groups as well as private forest owners additional rights to the harvest and sale of forest products. Communities now have a clear stake in the sustainable management of the productive resource base because they can legally benefit directly from their contribution to its increased productivity. Local interest in community forestry is growing rapidly.

**An important underlying assumption is that
"Success can only occur if Activity Enterprises are
environmentally sensitive and sustainable".**

Many FUG protected forests have recovered sufficiently from deforestation of the previous decades and are capable of supplying user groups with more forest products. Many of these forests are ready for thinning, pruning or harvesting. The sustainable use of these forest resources can increase household incomes and relieve pressure on adjoining government forestland.

Through the sales of forest products, many FUGs have been able to accumulate cash savings. This ability to accumulate common financial resources has given many groups the economic capacity

The growth of protected forests and the liberalization of the natural resource management legislation provide an opportunity to raise rural incomes within the EFEA area through sustainable resource management

to invest in local development. FUG generated resources have built schools, improved community water system, constructed village meeting halls and even raised school teacher salaries to improve the quality of education. Some users have also established loan funds, enabling FUG members to borrow money for income generating purposes while avoiding the intimidation of the bank or the notorious interest rates of the local moneylenders.

Incomes can be raised by increasing the value of marketable products from community and private forests and by expanding the trade in sustainably managed NTFPs. Rural income throughout the region can be increased by encouraging commodity specific value-added processing in Nepal. The establishment of private sector forest based micro-enterprises will create jobs and raise incomes by increasing market opportunities and thus, increasing the value of forest products.

Markets for Forest and Non-timber Forest Products

The forest-based micro-enterprise development intervention has raised rural income by increasing sustainable production of non-timber forest products. This commodity specific enterprise development intervention has been implemented with assistance from a USA based technical assistance firm - Biodiversity Support Program (BSP). It is a consortium of the World Wildlife Fund (WWF), the Nature Conservancy and the World Resources Institute. BSP's goal is to conserve biodiversity by i) supporting innovative, community and field-based projects that integrate conservation with social and economic development; ii) conducting applied research and analysis of conservation approaches, and iii) providing information exchange and outreach so as to disseminate lessons learned to a wide audience, including national policy-makers.

Sustainable management of the natural resource will result in the increased availability of forest and non-timber forest products. Marketing and the value added processing of these products by the local micro-enterprises would contribute to an increase in cash incomes in the EFEA area. The development and expansion of markets will have a significant aggregate impact of the spatial and economic integration of the Mid-Western Development Region

The BSP team will be focussed on micro-enterprise development. It will perform majority of the work with a Nepali partner, New ERA, who in consultation with BSP, had hired a small core team of TA professional. BSP had taken major responsibilities for EFEA monitoring, overseas training management, and oversight of Nepali partners' activities and overall program direction. New ERA's mission is to provide an independent Nepali perspective in

the design, implementation and assessment of development policy programs.

5.2 Forest-Based Micro-Enterprise Development Project

Biodiversity Support Program and New ERA have given the Nepali name **Ban Udyam** to their program activities (**Forest-based Micro-enterprise Development Project**) under the Forest-based micro-enterprise component. Opened at Tulsipur, Dang District, and later shifted to Nepalgunj of Banke, Ban Udyam is a field-based project. It is committed to supporting communities in the EFEA project area to increase forest-based incomes by improving their links to markets and private sector resources through technical and financial support. Ban Udyam will accomplish this in two ways:

- i) Directly, by supporting local community groups through pilot community-based forest enterprise activities that add value to forest products, training and technical assistance, and market/product research and development (focus program); and
- ii) Indirectly, by supporting EFEA partners such as governmental and non-governmental organizations with market, processing and extension information, training and technical assistance (general support areas).

Ban Udyam's approach is conservation through utilization and monitoring by the decision-makers. Ban Udyam had supported development of forest-based micro-enterprises to increase income and motivate communities to more sustainably manage their forest resources. This

will be done through provision of technical and market information to support development of community-based forest enterprises that add value to forest products, improved forest management, and increased marketing.

Ban Udyam's Implementation Strategy

The Ban Udyam's major time and efforts has been given to community-based forest enterprise development. Monitoring and evaluation, training, outreach and general support activities are the rest.

Community-based Forest Enterprise Development

The objective of the community-based forest enterprise development is to work directly with communities in pilot activities that test the hypothesis:

If rural incomes from community-based forest enterprises are increased, and if communities are assisted to develop monitoring systems for adaptive management, then local communities will manage their forest resources more sustainable

The pilot activities are intended to demonstrate community-based forest enterprise options in each of the four agro-ecological zones in the project area: Terai, inner Terai, mid-hills and northern mountains. The pilot activities will target timber and non-timber forest-based product as well as alternative livelihood strategies that depend on natural resource conservation, such as ecotourism. Ban Udyam will develop a series of pilots over the project period, applying the following main steps:

Information Generation and Analysis

Ban Udyam has collected and generated existing information through special studies required as the basis for selecting and designing community-based forest enterprise options. For example, initially Ban Udyam launched a market feasibility and focus product study to provide overall information on forest product resources and market dynamics for identifying promising product lines and enterprise options. Sustainable harvest levels were determined for 18 types of NTFPs. Leaflets on each species having keys for identification, distribution, cultivation, harvesting and post-harvesting techniques and potential uses, were prepared and widely distributed.

Selection of Community-based Forest Enterprise Pilot Activities

The selection criteria for developing a portfolio of pilot forest enterprises include bio-geographical, resource base, market, enterprise and social factors. The selection criteria define the enterprise activity by:

- i) Its geographical location and area of influence;
- ii) Product-line (e.g., essential oils, medicinal herbs, food flavorings, dyes, fabrics, timber products, tourism services);
- iii) Focus group (e.g., community forest user groups, resource based consortia of user groups, conservation committees, private forest associations, district-level trader groups etc.) and

- iv) Point within the production/marketing chain (i.e., planting/production, harvest management, collection, low or high technology processing, local or international trading).

In the early stages of the project, Ban Udyam had concentrated its effort on three to four pilot enterprise activities. The aim was to develop replicable models for several key enterprise options. BSP experience in the Biodiversity Conservation Network supported phasing in pilot activities because the cost per pilot activity decreases significantly. Later in the project, Ban Udyam leveraged the research and development investment in these initial pilots, and credibility gained through them, to extend support across the eight districts in the EFEA project through establishment of cost efficient new pilots or replication initiatives in partnership with government line agencies, CARE Nepal and WWF Nepal.

Enterprise Facilitation

The objective of the Ban Udyam pilot activities is to test and demonstrate the potential for community-based forest enterprises to increase incomes and motivate local communities to manage their forest resources more sustainably. Through these pilot activities, Ban Udyam supported in the development of market-driven, community-managed, forest-based enterprises, emphasizing participation of women and disadvantaged groups in local control of forest resources and enterprises. Interventions included:

- i. Direct technical assistance from the full-time New ERA technical staffs;
- ii. Support from Ban Udyam community facilitators;
- iii. Monitoring and documentation;
- iv. Training; and
- v. Assistance with initial pilot starts up costs (i.e., direct financial support and/or credit source).

Market and Forest Product Research and Development

In addition to the pilot activities, Ban Udyam has supported small-scale market and forest product research and development activities that directly inform development of community-based forest enterprises. The component of Ban Udyam strategy addresses the USAID-EFEA program activity description component of applied research, and focuses it to specifically support the community-based forest enterprise pilot and replication activities.

Selection of research and development activities was based on the information to support development of ongoing or proposed community-based forest enterprises. This market and forest product research and development component enabled Ban Udyam to address research needs identified through project implementation, and respond to emerging opportunities and initiatives in the project area.

Strategic Objective Addressed by Ban Udyam

Ban Udyam's primary project output, developing community-based forest enterprise pilots, contributed to the indicators under USAID's Strategic Objectives of **increased sustainable production and sales of forest products** and **increased women's empowerment**. Ban Udyam's other program components - monitoring, evaluation and reporting; training; outreach and extension have supported implementation of the pilot activities, and promote

replication by the EFEA project partners and others. At the level of **Strategic Objective 1, (Increased Sustainable Production and Sales of Forest and high-Value Agricultural Products)**, Ban Udyam activities will directly address the following two indicators:

- Indicator 1.1: Annual production of forest and high-value agricultural commodities in project areas.
- Indicator 1.2: Annual sales of forest and high-value agricultural commodities in project areas.

Ban Udyam collected data on two levels - within pilot enterprise activity sites, detailed data on production and sales of forest commodities were collected and analyzed. At the district level, Ban Udyam coordinated with GOs, CARE/N and WWF/N to collate data from the official District Forest Office (DFO) royalty records for forest products. The DFO records were triangulated with information collected from the traders.

Under **Strategic Objective 1**, Ban Udyam addressed Intermediate Result 1.1 **Expanded Market Participation**: Its indicators are:

- Indicator 1.1.1 - Farmers producing forest and high-value agricultural products in the project area.
- Indicator 1.1.2 - Traders of forest and high-value agricultural products.
- Indicator 1.1.3 - Off-farm enterprises in project areas.

The major activities that Ban Udyam has done in the last six years to address the Intermediate Result can be broadly categorized into:

1. **Forest-based Micro-enterprise Development** in Banke, Bardia, Dang and Dolpa Districts.
2. **Support NTFPs Nurseries** at Salyan, Banke and Bardia Districts.
3. **Facilitating the preparation of Model Operational Plans** and handing over process in selected community forests of Banke and Bardia Districts.

Ban Udyam has considered No 1 and 2 as micro-enterprise and the third as the basis for running them sustainably.

1 Forest-based Micro-enterprise Development

Micro-enterprises such as Sal (*Shorea robusta*) Leaf Plate, Sabai grass (*Eulaliopsis binnata*) Rope, Distillation of Essential Oil from *Cymbopogon* spp. and *Valeriana jatamansi*, bet (Rattan-*Calamus* spp.) furniture, and baskets made of twigs have been established and operated in Banke, Bardia, Dang and Dolpa Districts.

2 Support NTFPs Nurseries

Ban Udyam has provided technical support and financial support to the selected CFs in establishing NTFP nurseries. The technical support includes layout of nursery, bed preparation, species selection, poly bag filling, appropriate time for seed sowing and seedling

transplantation, regular maintenance, etc. Siswara CF, Balapur CF and Santoshi CF of Bardia; Jalandhara of Banke; and Tarepahar CF of Salyan Districts have been provided with such supports. Nurseries in these CFs have either generated income through the sale of NTFP seedlings or have enriched their forest. This is why Ban Udyam has called them as **NTFP Resource Centers**.

3 Facilitating the preparation of Model Operational Plans

Model Operational Plans are those that include management plans and programs of NTFPs available in particular CF. Such provisions did not exist in the OPs prepared earlier. In collaboration with community people, various steps have to be taken to prepare such OPs. These include social survey, forest survey and inventory, writing-up of Operational Plans, meeting official procedures for handing over, etc. So far, ten Model OPs in Bardia and ten in Banke have been prepared and approved. Communities are implementing the activities mentioned in the Model Operational Plans, which include timber and non-timber management. The total beneficiary population embraced in these community forests is 16,643 comprising 8,270 in Bardia and 8,373 in Banke Districts.

During its six years of working with the communities in the above-mentioned areas, Ban Udyam has learned a wide range of lessons. They are described below in the form of separate case studies.

Forest-based Micro-enterprises

Ban Udyam selected the following forest based micro-enterprises based on recommendations given by two situation analyses. The first one was carried out by ANSAB in 1997 (ANSAB, 1997). As recommended by ANSAB, Ban Udyam followed the following criteria for determining whether or not a product was ready for commercialization:

1. A large, existing collection base and the potential to harvest commercial quantities in sustainable manner.
2. The potential for local value addition through improved trade practices and/or processing.
3. An established, accessible market that has a clear demand for the product.
4. Value-adding enterprise models or processing technology for the product already exist and show promise for transfer to the project areas.
5. The ability of local communities to gain control and exert management over the resources.
6. History of community collection and management of the resources

Guided by these leading points, ANSAB recommended Ban Udyam to work on the following five enterprises as shown in Table 1:

Table 1: Summary of Enterprise Recommendations

Enterprise	Area(s)	Main Products	Recommendation
1. Sawmill and Related Enterprises	Dang	Sawn timber and furnitures of Sal, Sissoo	Not recommended at this time
2. Distillation of Aromatic Plants (mid hills)	Pyuthan, Rolpa, Salyan as suppliers to an enterprise in Dang	Oil of Sugandhwal, Timur	Recommended
3. Distillation of Aromatic Plants (mountains)	Dolpa	Essential oil of Jatamansi, Sugandhwal	Recommended as first or second enterprise to be established
4. Improved Trading and Minor Processing (Mid hills)	Pyuthan, Rolpa, Salyan	Timur, Sugandhwal, Dalchini, Chiraito, Ritha	Recommended as first or second enterprise to be established
5. Improved Trading and Minor Processing (mountains)	Dolpa	Atis, Jatamansi, Sugandhwal, Guchichyau, Kutki	Recommended

All of those enterprises were targeted towards Mid-Hills and High Hills. However, the report was silent on enterprises for the Terai. In order to narrow down the above-mentioned broad criteria into the workable ones, Ban Udyam commissioned Dr. Shiva Hari Achet and Rabindra N. Shukla to conduct one more situation analysis exclusively for the Terai (Banke and Bardia Districts) in 1998. The main objective of this study were:

- To ascertain the status of present practices in trade, processing, conservation and overall situation of forest resources including non-timber forest resources and micro-enterprise development, and
- To outline an approach for the development of forest-based micro-enterprise development in Banke and Bardia Districts

Based on these bullet points, various species were identified as having potential to develop micro-enterprise. They are; Harro, Barro, Amla, Pipla, Mushroom, Seto Musli, Kalo Musli, Neem, Gokharu, Bet (Rattan), Leaf, Seed and gum of Sal (*Shorea robusta*), Flower of Dhayero (*Lagerstroemia parviflora*) Rohini (*Malotus philippines*) and Jarakush.

For comparing and ranking presently collected and potential NTFP in the project area, a prioritizing tool was developed that embraced technical, institutional, social, economical and biodiversity issues. Thus, they narrowed down the items to be used in enterprises on the basis of:

- Presently collected items
- Abundantly available in the project area
- Items that can be promoted either by processing or through cultivation

The items falling into these categories were:

- i) Shikakai powder for shampoo and soap;
- ii) Honey collection and packing;
- iii) Rope making
- iv) Sal seed based industry
- v) Mushroom collection
- vi) Rattan furniture
- vii) Bidi making
- viii) Baskets making

Similarly, based on additional items abundantly available the following potential enterprises for the Terai were also identified:

- i) Establishment of NTFP nurseries and NTFPs purchasing depots
- ii) Preparation of Barro powder, and Neem based products
- iii) Duna Tapari (plate made of *Shorea robusta* leaf)
- iv) Plantation of Asparagus, Mulberry, bamboo, Khus-khus (*Vitiver zizanoides*)
- v) Processing of wood and veneers
- vi) Herbal tea, and Bel (*Aegle marmelos*) juice etc.

Overall, Ban Udyam was recommended to intervene in the following areas:

Table 2: Action Plan Showing Enterprise Development Activities, Time Frame, Responsible Agency, Collaborators and Main Concern

Enterprise	Time Frame	Responsible	Collaborators	Main Concern(s)	Main Risks
Based on present collection					
Shikakai Sampoo	S	BU	FUG\JABAN\DFO	Operational FUG	Sustained Yield
Honey	S	BU	FUG\Collectors\DFO	Operational FUG	Sustained Yield and Quality
Rope making	S	FUG	BU\DFO	Cultivation FUG\BZ	Start up capital and Marketing
Sal Seed Industry	S	BU	BU\DFO\MFSC	Operational Plan FUG	Ad-hoc Policy
Dona Tapari (sal leaf-plate) Udhyog	S	BU	BU\Informal groups	Group Formation	Harvest Method
Mushrooms	S	BU	BU\DFO\Users	Operational Plan FUG	Sustained Yield
Rattan Furniture	S	Furniture Industry	BU\DFO	Operational Plan FUG	Raw Material
Bidi making	S	Factory	BU\DFO	Operational Plan FUG	Sustained Yield
Based on Potentials					
Purchase Depot	S	BU\HPPCL	DFO	District Level	Price Fluctuation Quality Control
Integrated Cultivation	S	BU\HPPCL\DFO	BZ Users\FUG	Operational Plan FUG	Marketing

Enterprise	Time Frame	Responsible	Collaborators	Main Concern(s)	Main Risks
Neem based Products	M	BU\HPPCL	FUG\DFOMFSC	District Level	Marketing
Barro Powder Preparation	M	HPPCL	BU\DFO\FUG	District Level	Marketing
Baskets from Sissoo Twigs	S	BU	FNCI	District Level	Competition with Indian Market
Wood and Veneer Waste Products	S	BU	FNCI\DFO	District Level	Marketing
Herbal Tea	M	HPPCL	BU\FUG	District Level	Marketing
Field Facilitation and Support in Marketing	SM	BU\HPPCL\ DFO\CARE	EFEA	District Level	Co-ordination



Ban Udyam worked with forest users while preparing Model Operational Plans

Following this, Ban Udyam organized a stakeholders' workshop in Nepalgunj. Upon rigorous exercise, participants prioritized micro-enterprises such as sal-leaf plate, rattan furniture, sabai grass-rope for the Terai only, and essential oil distillation and NTFP nurseries for both the Terai and the Mountains. As Ban Udyam aimed to help uplift livelihood of the village communities, its approach was to closely work with them, build-up their confidence so that, the communities with whom BU had worked could be able to self sustain even after the termination of this project. In order to achieve

the mentioned goal, Ban Udyam, in last six years, supported the communities with a number of incomes generating activities based on value-addition of locally available forest resources. These include enterprises such as Sal-leaf plate, rope making, essential oil distillation, rattan products, and resource nurseries. The most important aspect is that, Ban Udyam organized the local communities in groups, helped build their capacity through training, counseling, facilitation, observation tours on various aspects related to enterprise so that they could be able to run these enterprises smoothly. Moreover, it may not be amplification to claim that BU created a type of enthusiasm (craze) of NTFPs at community level in EFEA area during its implementation period of last six years. In additions, Ban Udyam facilitated to prepare and implement model operational plans for selected community forests of Banke and Bardia districts as a potential means of sustainable management of forest resources.

6.0 Case Studies and Lessons Learned

Case 1: Sal-leaf Plate Micro-enterprise

Sal (*Shorea robusta*) - a gregarious and multipurpose tree species occurs throughout Nepal's Terai and inner Terai regions. It is famous mostly for its robust stem for timber, fuelwood and its seed for oil. Moreover, its leaves are used for making plates.



Making Sal leaf plate is a potential income generating activity of women in Ban Udyam's project area

The use of Sal leaf-plate is a customary practice in Nepal. Nepali (people of Nepal) considered its leaf plate as a *chokho* (religiously clean) item, and hence prefers such plates than the metal utensils during holy occasions such as worshipping. Because it is very cheap as against metal plates, poor people serve

foodstuff in its plate during village parties.

Based on size, there are three types of plates. The biggest one is called as Tapari, the middle sized is Bota and the smallest one is Duna. However, a rectangular form of plate (called *Charkune*) is made especially to put items for worshipping. The former three are used mostly for keeping foodstuff while food is not generally eaten in the latter.

For the last two decades, sal leaf plate has not remained confined to the villages. Considering that it is healthier than to eat in dirty plates of small hotels and *chatwala* (sweetmeat seller), its advantage over metal plates has become pronounced. Thus, it saw its way to small towns and in cities to be used as a replacement of metal plates, which often remains contaminated because of improper cleaning.

The Indians, innovative as usual, have devised a simple machine to make such plates. The machine has dies of different shapes and sizes. Through heating, it gives shape to the *lafa* (hand stitched leaves) into the required size. The machine is gradually becoming popular in Nepal too. As yet, we do not have big number of such machines installed in Nepal, however, we can simply imagine that it is a potential micro-enterprise, which through the



Using simple technique a considerable value is added to sal leaf, which is often wasted. There is a huge demand of these products not only in the local market but also in Kathmandu, and even overseas.

enhanced use of local resource can provide income to the rural poor.

Business Plan

1.	Fixed Costs (NRs.)	85,800
a	Machine (two) and accessory equipments	81,000
b	Furniture	2,800
c	Pre-operating expenses	2,000
2.	Depreciation on fixed capital @ 15% per annum	12, 570
3.	Monthly requirement of raw materials 51,000 lafa worth NRs. 7,970 with different size (please see table 3 for detail)	

Assumptions

Monthly machine operating days	25
Daily machine running hours	8
Daily number of plate production of different size	1000

Table 3: Monthly Requirements of Raw Materials

S. N.	Particular	Monthly amount (Number)	Buying rate (NRs.)	Total amount (NRs.)
1	Lafa for duna	17,000	0.10	1,700
2	Lafa for tapari	17,000	0.15	2,550
3	Lafa for plate	8,500	0.12	1,020
4	Lafa for bit plate	8,500	0.2	1,700
5	Packaging for jute sac	500	2.00	1,000
Total				7,970

Table 4: Monthly Production of Finished Products form Raw Materials

No. of Machine	Monthly Demand of Raw Materials (# of lafa)	Possible Damage (2%)	Net Production (# of duna/tapari)	Capacity of the Machines
2	51,000	500 to 1,000	50,000	Daily 1,000 piece of duna / tapari per 8 hours per machine

4.	Monthly wages (NRs.) for labor (50,000 piece * 0.05)	2,500
5.	Monthly other overhead costs (NRs.)	4,550
a.	House rent	800
b.	Salary	3,000
c.	Maintenance	100
d.	Lubricants	50
e.	Travel and per diam	200
f.	Business promotion	200
g.	Office materials and miscellaneous	200

$$\text{Daily Production cost} = \frac{\text{Monthly costs (raw material + wages for labor + overhead)}}{\text{Monthly working days}}$$

$$\frac{7970 + 2500 + 4550}{25}$$

$$= \text{NRs. } 600.8$$

Table 5: Capital Requirement Descriptions for Running the Enterprise

Particulars	Amount (NRs.)
Total Capital Requirement	117,201
Fixed capital	85,800
Running capital (on monthly basis)	31,401
Raw material stock (two months)	15,940
Finished goods stock (Daily production for 7 days = 600.8 * 7 days)	4,205
Supply credit for 7 days	4,205
Labor's wages for one month	2,500
Overhead for one month	4,550

Statement of Annual Profit and Loss

Annual Income (NRs.) **230,000**
(Please see table 6 for details)

Table 6: Annual Income of Sal Leaf Plate Enterprise

S. No.	Particulars	Quantity (Number)	Wholesale price (NRs.)	Total Sale amount (NRs.)
1	Duna	200,000	0.20	40,000
2	Tapari	200,000	0.50	100,000
3	Plate	100,000	0.40	40,000
4	Big plate	100,000	0.50	50,000
	Total	600,000		230,000

Annual Expenses (NRs.)

1.	Variable expenses	125,640
	Raw materials	95,640
	Labor	30,000
2.	Fixed expenses	67,170
	a. Other Overhead costs	54,600
	b. Annual depreciation of fixed costs @ 15%	12,570

Gross profit = Annual income – variable expenses = 230,000 – 125,640 = NRs. 104,360
Net Profit = Gross profit – fixed expenses = 104,360 – 67,170 = NRs. 37,190

$$\begin{aligned} \text{Break Even Point} &= \frac{\text{Fixed expenses} * 100}{\text{Sales} - \text{variable expenses}} \\ &= \frac{67,170 * 100}{(230,000 - 125,640)} \\ &= \mathbf{64 (\%)} \text{ i.e. } \mathbf{1,47,200} \text{ (in sales price)} \end{aligned}$$

$$\begin{aligned} \text{Return on Investment} &= \frac{\text{Net annual income (profit)} * 100}{\text{Total investment}} \\ &= \frac{37190 * 100}{117,201} \\ &= \mathbf{31.73 \%} \end{aligned}$$

Based on the adequate market and feasibility studies, Ban Udyam rightly selected this micro-enterprise. The aspects included in the study were: availability of raw materials and supply mechanism, users' need, demand and supply, manpower needed to run the enterprise, information on spare parts and skilled mechanics, appropriate place for installation of the machine, etc. Having all such information in hand, Ban Udyam contacted a potential women's organization, The Mahila Upkar Manch (literal meaning is Women's Welfare Forum) of Kohalpur, Banke to run this micro-enterprise. The Forum formed a group of four women to get involved in this job who were then trained in every aspect for successfully run this micro-enterprise. However, there are 35 people directly benefited with this enterprise who are involved in various activities such as leaf collection, lafa-making, plate making, business promotion etc. The Training and awareness package provided on various occasions included:

- 1 Running of machine and its repairing techniques
- 2 Appropriate places for finding spare parts
- 3 Counseling on enterprise growth, record keeping
- 4 Markets (supply and demand)

Based on the lessons learned and strategies developed for the replication, one more Sal leaf plate making enterprise was established with SATHI, a Nepalganj branch of the national NGO. This enterprise is also running smoothly providing opportunities of income and employment for domestic victims and socially and/or economically deprived rural poor women.

Lessons Learned from Sal Leaf plate making enterprise promotion with SATHI and MUM

Based on the promoting NGOs for installation and running micro enterprise

(e. g., Sal leaf plate enterprise in operation through MUM and SATHI) One of the major lessons learned is that *"a group should focus in one enterprise at a time, and keep on*



Conducting a wide range of women welfare activities by a forum of women is a welcoming step. However, such a workload should not overburden them

developing specialization on it". A NGO (or a group) already involved in various other jobs might not show proper interest in running leaf-plate enterprises, as is evident in the case of MUM. The Munch is involved in various activities such as saving-credit, anti-trafficking of

One enterprise at a time

women, community forestry, informal education, social-politics, banking, etc. It is understandable that the groups of women, who lead the Munch, prioritize their jobs of their interest. Others only follow them. Also, projects tend to find an established group of women such as MUM to conduct various jobs of their target. As soon as a 'project' makes contacts with NGO(s) and expresses interest to work with them, they see nothing but 'benefit'. Their expectation is raised. Moreover, they welcome whatever is on their way without knowing whether at the end of the project, they can successfully accomplish the jobs given to them. Having various objectives, the members of executive committee are always diverted elsewhere and show less interest in running enterprise that 'they' consider to be of 'marginal profit making' such as Sal-leaf plate. However, making them successful is not extremely difficult. Of course, it takes time to make them realize the importance of such micro-enterprise. Projects should continue their effort unless the communities fully realize it. After all, having seen a hint of benefit out of any enterprise, who else could ignore it?

Proper establishment and profit making of any enterprise is a time taking procedure. It takes at least a couple of years even if run by a prompt and smart private party. Similarly, there is a great role of leadership in community-based enterprises. The group members should trust the

leader, and s/he should be dynamic enough to take the enterprise through to profit making. S/he should set a series of transparent mechanisms of benefit sharing. Otherwise, given that the machine is in good condition, there is work force, and the buyer has promised to buy a substantial quantity of leaf plate, there seems no reason why production could not be done. This shows nothing but a

Quick and timely decision-making, which is a vital element of running enterprise, is found lacking in enterprises run by NGOs. Members tend to put every small thing in meeting for decision thus hampering its timely functioning.

lack of interest amongst the group members in such work, which has probably i) lower margin of profit ii) unclear benefit sharing mechanism. One more lesson learned from the NGO operated Sal leaf plate making enterprise is that "*quick and timely decision-making, which is a vital element of running enterprise, is found lacking in enterprises run by NGOs. Members tend to put every small thing in meeting for decision thus hampering its timely functioning*".

Case 2: Sabai Grass (*Eulaliopsis binata*) Rope : A Small-Scale Enterprise

Background

Sabai grass (*Eulaliopsis binata*) is found in the open and degraded areas of the Terai and Mid-hills. Since time immemorial, the Tharu (an indigenous ethnic and disadvantaged group of Nepal's Terai) community, which constitutes considerably high proportion of households over there have been using this resource to make ropes for domestic purposes such as tying roof, and fencing as well as in making cots and bullock carts.

Self-organizing potential and confidence of rural women can be enhanced with awareness programs and technical support.

With this background, it was justified that a micro-enterprise based on such raw materials be established in one of such areas. For this purpose, Tharu Samaj Udyamsil Mahila Dori Udyam (TSUMDU)

initiated by the Tharu women of the Rimna Community Forest of Mahadevpuri VDC, Dhakeri, Banke was chosen. In this micro-enterprise, the Tharu women were organized to work in a group to produce rope from Sabai grass using manual operating machines. It was expected that this activity would enhance income generation through increased production of rope, which has a local demand.

Traditionally, Tharu women and men use their palm for twisting the grass during rope making. This is a time taking process. Hence, in order to save time and enhance production, Ban Udyam organized thirteen Tharu women in a group, provided them with two weaving machines, trained in various aspects of rope making such as machine operation, maintenance, and marketing of their product. This manually operated machine is small, and costs around NRs. 5000 (US \$ 75).

Rope making is a traditional work of Tharu. Establishing such enterprise in their communities has a great potential of providing additional income.

Ban Udyam helped establish this micro-enterprise at Dhakeri of Mahadevpuri VDC in August 1999. Looking at its adaptability and success, the same was replicated at Khaskusma, Kusum in May 2000. At Dhakari there are 28 beneficiary households (13 of them are directly benefited). Similarly, there are 12 households direct beneficiary of this enterprise at Kusum. The former group purchases Sabai grass (raw material) from Rimna Community Forest (RCF), of which they are also the users. The RCF has agreed to provide raw material to the micro-enterprise at the rate of NRs.1 per kg, and a written agreement is in place. The members of the enterprise at Kusum collect the raw materials from near by areas without any cost.



These bundles of Sabai grass rope have provided Tharu women of Dhakeri, a much-needed cash not only to meet their utmost needs, but also supported to further income generation activities of their choice

Benefit Scenario

The communities realize following benefits;

- Optimum utilization of Sabai grass in RCF
- Increased employment and income generation activities through rope making and marketing
- Enhanced decision making capability and increased awareness amongst Tharu women
- Time saving for household works.
- Production of better quality of rope

Business Plan

1. Fixed Capital

Following table (table 7) provides details of fixed cost required to run Sabai grass rope making enterprise

Table 7: Fixed Capital Required for Running Sabai Grass Rope Making Enterprise

S No.	Fixed Capital	Amount (NRs.)
1	Machine (two)	10,000
2	Weighing balance	1,000
3	Equipment and spare parts	5,000
4	Others equipments (spare parts)	1,000
5	Furniture	2,000
6	Pre-operating expenses	2,000
Total (Fixed capital)		21,000

2. Depreciation on fixed capital @ 15% per annum (NRs.) **2,850**
3. Monthly requirement of raw materials 1600 kg of Sabai grass worth NRs. 8,000 (@ NRs. 5 / kg).

Assumptions

Monthly machine operating days	25
Daily machine running hours	8
Daily kgs of rope production by a machine	30

Table 8 shows the monthly production of finished products from TSUMS rope enterprise

Table 8: Production of Finished Products from Raw Materials

No. of Machine	Monthly Demand of Raw Materials (kg)	Possible Damage (2%) kg	Net Production (kg)	Capacity of Production of the Machines
2	19200	1200	18000	Daily 30 kg of rope per machine

4.	Monthly wages for labor (@ NRs. 4 per kg * 1500 kg)	6,000
5.	Monthly other overhead costs	4,700
a.	House rent	800
b.	Salary	3000
c.	Maintenance	200
d.	Lubricants	200
e.	Travel and per diam	100
f.	Business promotion	200
g.	Office materials	200

Daily Production cost = $\frac{\text{Monthly costs (raw material + wages for labor + overhead)}}{\text{Monthly working days}}$

$\frac{8000 + 6000 + 4700}{25}$

25

NRs. 748

Production cost /kg =

NRs. 12.47

Table 9: Description of Capital Required for Running the Enterprise

Particulars	Amount (NRs.)
Total Capital Requirement	138,175
Fixed capital	21,000
Running capital	117,175
Raw material stock (for a year)	96,000
Finished goods stock for 7 days	5,237
Credit for 7 days	5,237
Labor's wages for one month	6,000
Overhead for one month	4,700

Statement of Annual Profit and Loss

Annual Income (NRs.) **288,000**

(Annual production of 18000 kg of rope sold @ NRs. 16 / kg)

Annual Expenses

1.	Variable expenses	168,000
	Raw materials	96,000
	Labor	72,000
2.	Fixed Expenses	59,250
	Other overhead costs	56,400
	Annual depreciation of fixed cost @ 15%	2,850

Gross profit = Annual Income – Variable Expenses = 288,000 – 168,000 = 120,000

Net Profit = Gross profit – Fixed Expenses = 120,000 – 59,250 = 60,750

Break Even Point = $\frac{\text{Fixed Expenses} * 100}{\text{Sales} - \text{variable expenses}}$
 $= \frac{59,250 * 100}{288,000 - 168,000}$
= 49 (%) i.e. 142,200.00 (in sales price)

$$\begin{aligned} \text{Return on Investment} &= \frac{\text{Net profit} * 100}{\text{Total investment}} \\ &= \frac{60,750 * 100}{138,175} \end{aligned}$$

= 44 %

Cost-benefit Scenario

The following picture was revealed upon analyzing the cost-benefit of this micro- enterprise.

Expenses

Resource input

Manpower to run the machine (person/day) = NRs. 70 (for 20 kg rope)

Raw material (harvesting, transportation, drying, storing and tax) = NRs. 5/ kg

Making bundle of rope = NRs. 1 / kg

Miscellaneous (stationery, meeting, maintenance, transportation, etc.) = Rs. 2 / kg

Total expense = NRs. 11.50 per kg of finished product (rope)

Selling price of rope at the factory gate = NRs. 15 per kg

Profit margin = 3.50 per kg

Considering that, a woman makes 20 kg of rope per day per machine and there are three such machines, the total quantity of production at Dhakeri is 60 kg of rope a day, which is worth of NRs. 900. This is a significant amount of income especially for a place such as Dhakeri, where daily wages is the only available opportunity of income for the local women. This shows that there is more than one hundred percent earning from this small, locally established, community oriented and NTFPs-based enterprise. This is the reason why these groups of women have generated more than NRs.15,000 in just a few months of time. In addition, the most important contribution that this micro-enterprise has done in the Tharu community is that, the amount thus generated has been disbursed amongst the enterprise members at a soft loan to be in dire need, such as for food and medicine, and livestock rearing. This amount is not small considering that these women run the machine only when they feel leisure from their household responsibilities. Should they entirely focus themselves to run it as a commercial enterprise, their income will undoubtedly be increased. Ban Udyam is happy in either of the cases.

The enterprise is now on its way to increase its buying and storing capacity of the raw materials for the whole year. In addition, a written agreement between the buyer and purchaser has been made before harvesting. However, it is better if such arrangement is clearly indicated in the Operational Plan of the Community

Forest. Though, it is interesting to learn that, the CF did not follow even a well-written agreement, which was approved by



Production of rope has been possible only through Ban Udyam's support in building entrepreneurs' capacity

the general assembly and signed by the authoritative member of the CF. Ban Udyam learned that *"not always, a written document ensures supply of raw materials"*. After repeated counseling and users meeting, Ban Udyam succeeded in solving this problem and learned that, *"in some occasions even an understanding is good enough to the written agreement"*.

There should be at least some members, who are more or less equally trained in running, and maintaining the machines, so that even if some one leaves the group, others could continue it. Such lesson was learned through Tharu Samaj Dori Udyam, Dhakeri after a dynamic and trained member upon being married left the group, and the enterprise could not run for some time, unless others were trained.

Dalits and rural ethnic groups having neither educational background nor exposure are initially found difficult to communicate. Given such circumstances, either the presence of few informed members who can build trust in the committee is needed or it will take much longer for project staff in rapport building. Otherwise, the deprived members become initially skeptic about the new program.

The limiting factor for this enterprise is that, one has to go to India to buy every single spare part of its machine. Hence, the group needs more time to collect and replace them. However, spare parts could be available at Nepalgunj or at locality if enough machines are established in and around. Similarly, at least a 15-day training is necessary for appropriately transferring the skill required to confidently operate and repair the machine. However, farmers could not give such a long time, it should be splinted into three five-day training. Training less than five days is of no help. In addition, there should be at least one member in each group, who is a high school graduate and can keep necessary records and accounting of the enterprise. The most significant contribution that this enterprise has provided to the women is that it has diverted the women from stone thrashing job, a much difficult one by any means than rope making. They have now more time to look after their household responsibilities.

A transparent mechanism of benefit sharing should be in place before the enterprise starts making profit, and constant follow-ups and organizing regular community meeting is needed to discuss on the existing problems and finding reliable solutions

At a glance, the income that these 13 women are making from this enterprise might look miniscule, but it is indicative that a social transformation is on their way.

Case 3: Rattan Furniture Enterprise



These people of Suryapatuwa, Bardia who were once seasonal agricultural labor, have now been able to produce such a wide range of rattan products simply because Ban Udyam provided them a month long training. Is not it a great transformation?

There is enough availability of Bet (rattan; Scientific name is *Calamus* sp.) in and around Bardia District. Enterprise based on it has a considerable potential in providing additional income to rural households. However, quality furniture could be made only after advanced training and long experience. In addition, thicker rattan (called as Gauri Bet) available only in India, is needed to make a wide range of furniture. The existence of this enterprise is doubtful, if it depends only on raw materials available in Nepal. Products such as coat and bangle stands, frames, holders, light chair (stools), small baskets, etc. could be made from thinner bet that are available in Nepal. However, they should attract tourists. Otherwise, profit

making only through the local market would be difficult. Therefore, to mitigate this problem, either the regular supply of thick rattan from India should be ensured, or explore the potentiality of introducing this particular species in suitable natural condition in Nepal. Ban Udyam has achieved success in establishing and running rattan furniture micro-enterprise at Suryapatuwa of Bardia District.

Within some months of establishment, the three people whom Ban Udyam trained for about a month developed confidence not only to make rattan furniture but in their own words "*are also capable of providing their service as resource persons*" explains all.

Management of rattan may provide quick and probably more return than trees for timber. In addition, enterprise based on rattan is potential to provide income to the local people. The income generated either through the sell of rattan or through the levy on rattan furniture can be a source for local development activities

Community's Initiatives for Managing Rattans

Sati Karnali Community Forest of Kailali District is an exemplary citation for the management and income generation from rattan. Handed over (298 ha of forest) in 1993, the FUG consisting of 685 households of Bramhin, Chhetri, Tharu, Newar, Damai, and Kami. It has a beneficiary population of 4,108. The executive committee consists of 13 members (11 male and 2 female).

With the help of an expert, the CF conducted a resource inventory and prepared a community forest operational plan for five years. Its objectives were to fulfill the basic needs of the local people for forest products, to protect the area from soil erosion, and to generate income through intensive management of the land, especially through the judicious use of rattan.

After obtaining management authority, the users protected the area and carried out enrichment plantation of native trees like *Dalbergia sisoo* and *Acacia catechu* on barren land. About half of the total forest area (i.e., about 140 ha) was set aside for rattan management and a separate plan was prepared for it. This area was divided into six blocks based on some physical features, e.g., rivers, fire lines, roads, and canals. The maturity period for rattan, based on local climate, soils, and species type, was considered five years in the area. Therefore, a felling cycle of five years was fixed. One block was allocated for seed production and research. The five-year rattan management plan included simple management prescriptions for each year.



Ban Udyam's technical staff discusses appropriate rattan management practices with entrepreneurs so that a perpetual harvest could be done

Cost and Benefit Sharing

The management plan for rattan was simple. At the initial stage, technical capacity was built-up through product-specific enterprise development training, by Ban Udyam. Technical and management capacity was gradually improved through practice, over time. Following the plan, the users carried out technical work themselves: weeding, pruning of forest trees, cleaning of forest and fire lines, as well as controlled burning in particular blocks, prior to harvesting. Grazing was stopped in rattan growing area, thus enhancing their natural regeneration. Users learned how to handle hook-like spiny rattan stems during clear felling and how to carefully harvest selected mature canes and collect, clean, dry, and store them, to protect them from rain.

The major income to the users came from the sale of rattan (canes, leaf sheathes, fruits, seedlings), thatch grass, honey, fencing materials, small poles, fodder grass, and dead and dying trees. Another source of income was the training for outsiders that they conducted.

Unlike other forest products, the local people do not use rattan regularly. However, rattan has great cultural and spiritual value to Tharu communities. After meeting the users' demands the surplus was auctioned.

People's participation in Decision Making

A general assembly is called once a year, where users participate in decision-making on various issues, such as election of the executive committee, policy formulation, operational plan revision, the selling rate of rattan and other forest products, investment in community development, and examination of incomes and expenditures. Financial transactions are made in a transparent way. All types of incomes are deposited in the bank. Auditing is done every year and the report is submitted to, and approved by the general assembly. During the general assembly, the users discuss their problems to identify solutions. Women and representatives from disadvantaged communities also participate in both the FUG executive committee and the general assembly. Rights and responsibilities of the committee, FUG, and the District

Forest Office (DFO) have been clearly specified in the operational plan and constitution of the FUG. Overall, authority for managing the forest rests with the FUG, with the executive committee taking responsibility for routine and day-to-day operations. The committee holds meetings every month. It plays a coordinating role between the DFO and the FUG. Some of the responsibilities of the committee in relation to the DFO are: submitting the audit report and meeting minutes, making requests for technical and extension support, and interactions arising from any government policy changes. The DFO, for its part, provides the support requested by the CFUG as far as possible; evaluates their activities; invites them to participate in cross visits and workshops; provides decisions on operational plan revision, if needed; and provides detailed information on rattan management and enterprise development. The committee is responsible for informing the group members when they are scheduled to participate in forest management activities.

Future of Resource Conservation and Income Securities

The success in managing rattan at Sati Karnali and income generation has been possible through technical assistance provided in the initial stage by Ban Udyam. This has enabled the FUG to perform most of the management and sales activities by them. However, need assessment should continue to deliver more benefits from rattan management.

The rattan present at Sati Karnali are solid, long, cylindrical and of uniform thickness. Their color is straw yellow. Upon finding proper support for climbing, the canes may reach upto 30m. They are strong, tough and elastic. Rattans of Sati Karnali have been used for a variety of purposes. Users have started making furniture, walking sticks, brooms, caps, and baskets. They are used for roofing and tying purposes. However, imported canes from Malaysia and India are considered superior than that of Sati Karnali because of their variable sizes, good color, smoothness, flexibility and durability. Research should be carried out so that the rattans of Sati Karnali could also be made as good as Malaysian or Indian. Dissemination of booklets on rattan management, harvesting, and processing techniques should be done.

Sati Karnali can be considered as a pilot CF for replicating the lessons learned on successful management of rattan. Following this, the lessons learned at Sati Karnali have been replicated in other USAID supported community forests such as Shiva and Saraswati of Bardia District. To develop rattan enterprise, forest users should be supported to increase their skills in marketing and value addition to its products.

Case 4: Enterprises on Essential Oils

There are two essential oil enterprises supported by Ban Udyam. One is at Dolpa District (Tripurasundari Jadibuti Prashodhan Udyog) and the other is at Dang (Fulbari).

Tripurasundari Jadibuti Prashodhan Udyog (TJPU), an essential oil distillation unit was established in Galligad of Dolpa in June/July 1998. The enterprise processes *Valeriana jatamansi* (Jatamansi) and *Valeriana wallichii* (Sugandhawal, also called as Samayo) to produce essential oils. These species are found in and collected by the communities of Dolpa especially from the buffer zones of Shey-Phoksundo National Park. Since long, these items are being collected by the local people, and sell them to local brokers and traders who in turn sell them to brokers or traders in Nepalgunj. The bulk of the raw materials are taken away to India where traders and processors gain the bulk of the value-added income from these

lucrative products such as perfumes, incense, medicines, cosmetics and flavoring agents for tobacco and liquor.

Before establishing the enterprise at Dolpa, a thorough study on various aspects of NTFPs available in the area was done. Based on this, the following criteria were set to prioritize plant species for inclusion in commercial activities, especially to establish NTFP based enterprise.

- Existing collection by Dolpali (people of Dolpa) of plant material. Collection and sale of profit must also be legal in Nepal and foreign countries.
- Cost effective technology is available that would allow product to be processed in Dolpa in an efficient and environmentally sound basis
- Markets exist for the product and demand is expected to grow
- Processing of the product in Dolpa encourages and provides incentives for the conservation of biodiversity and will bring additional value-added benefits to the community members of Dolpa.

Based on these criteria, Jatamansi and Sugandhawal were among the NTFPs selected for commercialization and this led to the conceptualization of an essential oil processing enterprise and setting up of a company that will implement the business.

The Company purchases raw materials (roots/rhizomes, berries, leaves flowers, etc.) and processes them through steam distillation into high-grade essential oils. This has allowed for local value-adding and greater returns to the community giving them economic power and incentive to better manage the habitats from which the NTFPs are collected.

The Company had the following objectives:

1. Provide incentives for sustainable harvesting of individual species (required to conserve biodiversity as well as sustain long-term viability of the processing enterprise); and through diversified NTFPs processing allow for conservation of habitats and species interactions; and
2. Increase the local communities control over the management of the raw materials by providing greater economic returns to the community members who participate in sustainable harvesting group.

Brief Profile of the Company

The distillation unit, store and office building, etc. of the Company occupies about 0.05 ha of land at Galligad, some three hours walking distance from Juphal-the only airstrip of the district. A board of members runs the company. The current Chairperson is Mr. Om Bahadur Budha, a sincere entrepreneur trusted in the locality.

Ban Udyam provided technical, financial and other supports needed to establish this enterprise. The total investment for establishing this enterprise is NRs. 27,22,967.

Breakdown of support in NRs. is:

Ban Udyam	1,528,100
Partner VDC's support	205,000
Sale of shares	636,800
Shareholder's equity	226,800
Bank loan	126,267
Total	2,722,967

After September 2001, Board of Directors of the enterprise constituted by local community has taken the enterprise over from Ban Udyam for its further management.

The distillation unit has a capacity of 200 kg of raw materials (mostly Jatamansi, and Sote, scientific name is *Cymbopogon* sp., and berries of Juniper- *Juniperus indica*) at a time. One batch of distillation needs four hours for completion. Four persons (two each for boiler operation and distillation tank filling) are needed during each batch of distillation.

The distillation unit is estimated to process 22 tons of Jatamansi and 3 tons of Sugandhawal, along with Sote and Juniper as per need. High-grade essential oils and Jatamansi marc (a by-product) are the final products. With this quantity of processing, the plant is expected to make profit should it catch its target markets such as the cosmetic and perfume manufacturers in Nepal, India and abroad. The financial projections prepared by a team of experts had showed that the enterprise would generate a Return on Investment (ROI) of 17.44% and Internal Rate of Return (IRR) of 19.49%.

Appropriate Time of Harvesting Raw Materials

Generally, *Nardostachys grandiflora* and *Cymbopogon* sp. is harvested during September/October. At this period, they shed mature seeds, which support further regeneration. However, local collectors are seen to harvest them also during August. Research should be conducted to identify the most appropriate season during which species yield highest percentage of oil.

Available Quantity of Raw Material

In Dolpa District Jatamansi is available in a large volume such that there is possibility of establishing at least one more distillation unit such as one established at Galligad. Nepalgunj based Jatamansi traders have estimated that about 150 to 200 tons of raw Jatamansi finds its way to India. However, this is the accumulated volume produced at mainly from Dolpa, Jumla, Humla and few from adjoining districts. Nonetheless, Dolpa based NTFP traders have estimated that around 50 tons of Jatamansi is collected annually from Dolpa District only.

Marketing

Jatamansi and Sugandhawal oil has a good market. The potential buyers are those based at Lucknow, Kanpur, Delhi and Mumbai. However, the rate of Jatamansi oil fluctuates between NRs. 7000 to 9000 per kg while that of Sugandhawal is between NRs.16000 to 19000. As obvious, the rate of oil depends on its quality; the producers must always continue to produce good quality so that they always have the bargaining capacity over the traders. Otherwise, it has been found that the buyers always brag excuse.

Ban Udyam has helped THCPELP to find the market and its channel. M/s. Kelkar Fragrance and Flavors Co. Ltd., Mumbai, India has shown interest and commitment to buy oils produced by THCPELP in large quantity. Very recently, THCPELP has sold 32 kg of jatamansi oil in Kathmandu at a rate of NRs. 7000 per kg, thus generating NRs. 224,000 which is, by any means, a substantial amount for a recently established enterprise run by local communities.

Profit/Loss

Even if there is 1.5% recovery of Jatamansi oil, the distillation unit is all set to gain substantial profit if it runs constantly during the harvesting season. The operational cost of the distillation unit for a day is as follows:

S. No.	Particulars	Quantity (kg)	Rate (NRs.)	Amount (NRs.)
1	Raw Jatamansi needed for one batch of distillation	200	75 per kg	15,000
2	Manpower (persons)	4	150 per day	600
3	Fuelwood	400	2 per kg	800
4	Others			100
Total				16,500

Upon the above input, the distillation unit is capable of producing three liters of Jatamansi oil, which worth NRs 21,000 (to a maximum of NRs 27000) at the current market price.

This simple calculation shows that the unit will make a minimum profit of NRs. 4500.00 (to a maximum of NRs. 10500.00) at a time through the extraction of Jatamansi, a major commodity targeted for distillation. The cost of fuel wood reduces largely if the second batch of distillation immediately follows the first one.

Within the third year of establishment, the Company has now beginning to show the sign of profit, which is a significant progress. However, a great risk of culmination will always be there if there is a lack of transparent benefit sharing mechanism. In addition, building of trust by the board member amongst the majority of the local poor is equally a vital element. People should always believe that the share distributed to local organizations (not to individuals) would contribute in generating income of the poorest people, rather than supporting the rich who have often upper hand in such organizations. Also, the leading members those who are responsible to run the enterprise should not exhibit their political inclination in public.

Enterprise is for all

A community based enterprise such as THCPELP should be advertised in a way that more and more people have a chance to know about it. All the Forest User Committees and Buffer Zone User Committees of Dolpa should be made familiar with, and embraced in it. The THCPELP should be able to give impression that it is for all of them and the more beneficiary people, especially the poor are involved in it, and there is more chance of feeling of ownership. Moreover, they support it whole-heartedly. The present understanding of the majority of Dolpali (people of Dolpa) that THCPELP is only for those living in Buffer Zone should be eliminated.

Community based enterprise runs smoothly even a few board members show their commitment.

As success of the enterprise depends also on;

- i. Market assurance
- ii. Cash flow to collectors prior to harvest of raw materials
- iii. Timely purchasing of raw materials
- iv. Agreement with collectors on transporting raw materials up to farm gate
- v. Clarity in division of labor of the management team

The board members of THCPELP have taken into account these elements in their management endeavor. Incentive return to the members involved in the management team should be specified and paid accordingly.

Lack of individual ownership is possible in community-based enterprise, thereby hampering to achieve its targeted goal. However, proper social mobilization coupled with transparent benefit sharing mechanism and accountability satisfies the public. This must be maintained.

Enterprises such as this run smoothly and make profit if the local people are made full aware of its strength. Proper social mobilization through community discussions, awareness campaign, publicity and information dissemination on benefit sharing mechanism, work plan and schedule, training on technical aspects etc. are therefore, necessary. This is followed by

constant follow-ups, organizing regular community meeting to discuss problems and bringing out their solutions. To achieve them Ban Udyam has left no stone unturned. Its specialist had given more time in fields to identify communities' need, their problems and possible solutions. In addition, the board members, particularly the enterprise manager was given the responsibility to follow the work plan that leads the enterprise towards progress. Only after such efforts, a remote community based enterprise is showing a sign of progress.

Case 5: Improved Forest Operational Plan: an Apparatus for Biodiversity Conservation and Income Generation

Ban Udyam is supporting the District Forest Offices of Banke and Bardia Districts in implementing Improved Forest Operational Plans (also called as Model Operational Plans) in 20 Community Forests corresponding to 10 in Banke and 10 in Bardia districts. These OPs additionally focus on management, sustainable harvesting and marketing of NTFP resources present in respective CFs.

All NTFPs of a given Community Forests are listed first. Prioritizing them based on market potential follows this. Conducting resource inventories and clearly writing their management

A small intervention such as establishing a micro-enterprise could prove worthy to foster long-term sustainable forest-based economic development.

prescriptions in Operational Plans including their harvesting schedule is the third step. The fourth step includes providing technical skill on post harvesting operations for NTFPs and related market information. And, as usual this follows constant monitoring of the communities to see whether they have rightly followed the operational plans. These four steps are the keys to success of NTFPs related programs in any CF as experienced by BU.

Jalandhara Community Forest: a Model of Locally Taken Initiative Towards Biodiversity Conservation and Economic Development

Background

Jalandhara Community Forest provides an example of efforts on sustainable forest management and biodiversity conservation for replication elsewhere. If only community forests are conserved and managed properly, many native and economically important species, once lost, can be restored. Jalandhara Community Forest is a good example of such kind. Although the cash income it earned from Pilpa (*Piper longum*) and other NTFPs management may not be too high, but through this, the users have realized the importance of integrating NTFP in the existing forest management practices, which has so far focussed only on timber production. Therefore, conservation efforts that recognize the economic benefits for the local communities are likely to succeed. The institutionalization of FUG activities, if calculated in terms of processes involved in biodiversity conservation, appears to be highly effective.

Jalandhara community forest (JCF) presents an example of such pilot activities where an initiative was taken to restore the

biodiversity. This community forest is situated in Banke District along the East West Highway. The 32 households manage 76 ha forest area. More than 85% of the households are



Establishing Resource Nursery in community forest is worthwhile in providing additional income through the sale of NTFP seedlings. Mushrooming of such nurseries in neighborhood indicates a 'demonstration effect' of Ban Udyam's success. However, the risk of failure in marketing of seedling should be minimized

Tharu, one of the indigenous communities of the Terai. The forest was handed over to local communities for management in 1996 the operational plan was revised in 2002 with technical support of Ban Udyam.

Since 1969, landless people have encroached the area around Jalandhara for agricultural purposes. Most of the trees and shrubs were removed; annual and perennial herbs were cleared. When the District Forest Office vacated the area from encroachers, the forest had nothing but species of no economic value. However, little regeneration of *Acacia catechu* and a couple of mature trees of *Syzygium cumini*, *Bombax ceiba*, *Semecarpus anacardium*, *Ficus glomerata* were. In 1991, the District Forest Office planted *Dalbergia sissoo*, *Albizia* sp. and *Cassia siamea* in the forest. There was also a grazing problem in the forest because of a large population of domestic animals from the surrounding communities.

New Interventions

In order to restore and rehabilitate this degraded forest, Ban Udyam initiated new interventions to develop a community forestry **model operational plan**. The required socio-economic data having population, ethnicity, demand of forest products such as fuel wood, timber, fodder and grasses were collected using participatory rural appraisal tools. The users then divided forest into 5 blocks for management purpose. This is followed by species inventory, estimation of growing stock, average annual increment, and allowable cut for timber, poles and fuel wood. A list was prepared with species name, regeneration count, number of stems with varying diameter in each block. Similar list for NTFPs was also prepared with name of species, parts used, quantity of production, and the trend (increasing or decreasing). Rotation of 40 years was fixed for timber in case of Khair Sissoo forest.

The major objectives of managing this forest were:

- i) To protect biodiversity and
- ii) To provide economic benefits to the local people through the sustainable management of the resources.

The users, together with Ban Udyam's staff planned for major activities and set up management prescriptions.

Increasing Species Richness

The results of such interventions show that with only a few species having low stem density in 1996, Ban Udyam's staff and the users recorded more than 30 species in the forest in 2000 while revisiting the forest for revising the Operational Plan. This included species such as *Shorea robusta*, *Adina cordifolia*, *Syzygium cumini*, and *Terminalia bellirica*. Several medicinal plant species native to the Terai such as *Piper longum*, *Terminalia chebula*, *Phyllanthus emblica*, *Holarrhena antidysenterica*, *Acacia concinna*, *Asparagus racemosus*, *Mallotus philippinensis*, *Cassia fistula*, *Vetiveria zizanioides*, *Aegle marmelos*, *Centella asiatica*, *Achyranthes aspera*, and *Rauwolfia serpentina* have also been recorded.

Before the project intervention, users were neither familiar with NTFPs, their management practices, nor site suitability. The operational plan prepared in 1996 had no management prescriptions for NTFPs, partly because species were not identified or were neglected because of extremely low quantity. Few plants of *Piper longum* were noticed only after the plantation and protection of the forest.

Early Recognizable Results

In 1999, Jalandhara FUG earned about US\$ 41.00 from the sales of *Piper longum*. This was possible only after Ban Udyam through technical assistance, made the users aware of its management. After realizing the economic benefits from *Piper longum*, users created its plot of 0.2 ha inside the community forest. From this much area, they harvested 300 kg of fresh *Pipla* in 2000. After drying and cleaning, the marketable volume was 90 kg, which was worth of US\$ 105. The area was then extended to 8.5 ha in the first six months of 2000.



Nursery of *Piper longum* (Pipla) is ready to be enriched in suitable sites of Shree Jalandhara Community Forest of Banke District as a potential means to generate its income

After the implementation of model operational plan, the FUG earned US\$ 219 from the sales of thatch grass and US\$ 233 from the sales of NTFP seedlings such as *Piper longum*, *Asparagus racemosus*, *Cassia fistula*, *Aegle marmelos*, and *Rauwolfia serpentina* from their nursery.

Since *Piper longum* grows well in partial shade, users have started protecting this species. The users observed that most of the plants could be propagated vegetatively, but flowering and fruiting were not taking place. They also did not realize that *Piper longum* from their own forest could be used for medicinal purposes and spice. They found that the species is easy to manage, needs no irrigation and grows well in their forest. It does. The frequent cleaning and weeding needed for several other agricultural species are not required for *Pipla*. *Pipla* requires only simple attention during the growing period, for example, twig support for climbing. Timely harvesting is also important otherwise fruits may get damaged.

Institutional Set Up

The JCF has been able to institutionalize its activities in terms of cost and benefit sharing, user participation, identification of problems and attempts made to resolve them, and involvement of users in local development activities. Silvicultural activities have been planned for five years, with all the member households providing labor input. In the operational plan, the management prescription for each plant species has been made. A system of forest product distribution has been established on the basis of the availability of the products. Fodder and thatch grass collected from the cleaning operation is distributed to the users free of cost whereas nominal prices have been fixed for timber and fuel wood sales. However, most of the forest products such as timber, fuel wood, poles, fodder, grass, thatch grass, and bedding materials are in short supply. Equal distribution of forest products has been noticed in the operating rules. No discrimination is done in terms of caste, ethnicity, and economic status of the households regarding benefit sharing. Products are distributed free of cost to member households in case of emergencies, during natural calamities and festivals. If there are surplus forest products, prices are fixed for the sale to outsiders. Collection rules are defined for both timber and NTFP. Individual households collect Grasses after taking the permit whereas timber and fuel wood is collected collectively after the decision of the general assembly. For illegal collection of any kind of forest products, fines are imposed. A

mechanism has been established to protect the forest from fire, grazing, hunting, and illegal collection of any kind. It is done either by paid watchers or FUG members themselves.

The General Assembly, which is called once a year, is the formal forum where users participate in decision-making. If problems arise during the implementation of the operational plan, there are provisions in the plan to discuss them and get approval of the general assembly for any necessary changes in the operational plan. The users participate during the general assembly and discuss problems with a view to identifying solutions. They decide on the rate for sales of timber and NTFPs, they approve business plans for the establishment of forest-based enterprises (e.g., NTFP resource center as a community based enterprise), and they plan for investment in community development and income generating activities. Financial records are also checked and verified. Women participate in the CFUG executive committee as well as in the general assembly. There are nine executive members, seven males and two females. All committee members, except vice-chairman, come from the *Tharu* community. There is also representation of disadvantaged and poor people in the executive committee.

The FUG, has accumulated about US\$ 3,300 from the sales of forest products, NTFP seedlings, and fines. Out of which about 68% have been spent for nursery establishment, forest watchers' salary and support for non-formal education. Financial transactions are made through the banks. Auditing is done every year. Provisions have been made to spend money for productive and social welfare activities. The FUG plans to establish forest-based enterprises, such as seedling production for sales, basket making, and cultivation of high value medicinal plants. Users have planned for awareness raising programs for school children, the establishment of a co-operative for marketing NTFPs, and biodiversity conservation, through formulating and applying strict rules. There exists a system for forest resource monitoring. Monitoring formats, developed by Ban Udyam are filled in and submitted to the related district forest office each year.

Simple management intervention could lead to higher production of NTFPs. For example, erecting *Piper longum* - a runner, through physical support increased production in Jalandhara Community Forest of Banke District. This could be replicated elsewhere. Research should continue to find out management prescription for other species too.

A quantitative evaluation of forest resources before and after the local control and management has not been yet. However, users have experienced such changes in the condition of the forest through qualitative judgement. When it was under state control, the local people were not motivated to protect and manage forest. At that time, forest products were collected haphazardly leading to a decline in growing stock. Because forestland was being converted into agricultural land, degradation occurred rapidly. Through regulated use of its products, they have experienced and recorded healthy growth of seedlings of both timber and NTFPs.

Case 6: NTFP Resource Center: a Community Based Micro Enterprise

Jalandhara CFUGs after receiving inspiration from Ban Udyam went ahead establishing a NTFP resource center in the form of community based micro enterprise in 2000. Model Operational Plan prepared by them in technical support of Ban Udyam and DFO Banke provided them the opportunity to develop the resource center as an income generating activity.

This resource center is in the Mahadevpuri VDC of Banke district along East – West highway and covers a total 0.31 ha of land inside the boundary of JCF. In the fiscal year 2000/01, it produced 40,000 seedlings of valuable NTFPs (e. g., Sarpagandha, Sikaki, Kurilo, Pipla, Rattan, Bel, Amla, Harro, Neem, Bamboo, Barro, Arjun, etc.). Non of these seedlings remained in nursery as most of them were sold and reste were distributed to the FUGs for plantation in their private lands.

During the fiscal year 2001/02, this resource center has produced 55,765 seedlings of 17 different species. Major of them are Bet (17,000), Malu (8000), Sikakai (5000), Harro, Ratogedi, Mahuwa (3000 each) etc. Resource center has received order for all of these seedlings from different organizations and they are expecting to earn more that NRs 100,000 from selling these seedlings.

Table 10: Financial Analysis of the Enterprise

Capital and liabilities	Worth (NRs)
Capital	61,336
Profit and Loss	112,043 (70,786 profit)
Subsidy	122,560
Total Capital	122,560
Assets	
Fifed Assets: Machinery and tools	1,000
Furniture	3,400
Total Fixed Assets	4,400
Current Assets: Cash	20,705
Bank	131,648
Loan	9,000
Stocks	120,000
Debtors	10,186
Total Current Assets	291,539
Total Assets	295,939
Return On Investment (ROI)	23.96%

ROI seems adequate in this enterprise indicating healthy environment of the enterprise. However, high liquidity of the enterprise indicates lack of investment opportunity in the community. It can be brought significant change in the livelihood of the community upon mobilizing the money in other household level income generating activities.

7.0 Summary

During the last six years, ground works related to community forestry development have been completed. It has sensitized them, and helped mobilize them to participate in income generating activities through conservation and management of forest resources, especially NTFPs. Similarly, works related to establishment, management and running the forest-based micro-enterprises have also been done. The major achievement of the project could be seen in the form of confidence building of the community people, especially that of the ethnic groups and dalits (so called untouchables) who were, as usual, shy and skeptic to outsiders. The increased level of their awareness has empowered the ethnic people, particularly women, who have now become pro-active and full of confidence and dynamism. They have come to realize that they can substantially increase their income through the sustainable use of and value-addition in forest resources. It can be claimed that Ban Udyam's six-year effort of last six year has been able to create enthusiasm (craze) of NTFPs at community level in EFEA area.



Feeling of insecurity in recent days affected the project's activities. The vehicle supposed to run in fields is kept under tarpaulin cover immediately after the declaration of the state of emergency in the country

After the completion of the project too, communities need further strengthening, and constant monitoring and follow-up of the activities they will be carrying out. If maintained, the launching pad thus made will help communities uplift their socio-economic status, which is the main goal of the project.

8.0 Success Story

8.1 A Micro-enterprise Based on Rattan

In an attempt to find an appropriate income generation activities for the rural community through the sustainable utilization of local forest resources, Ban Udyam (Forest-based Micro-enterprise Development Project) initiated a base-line study in Bardia District in 1999. Following the recommendations given by the study, Ban Udyam asked one of its staffs - the District Coordinator (DC) of Bardia to find the appropriate place and people so that a micro-enterprise based on rattan could be established. After a rigorous exploration, the DC found Suryapatuwa as an appropriate place where three young people of around 20 to 25 were also found having a little knowledge on making ordinary rattan baskets – but knew nothing about rattan furniture.

Meeting family expenses was difficult for these people. Barring seasonal labor in agricultural fields, they had no other choices of livelihood. As they saw in their locality, a Project's staff searching for workers potential of making rattan furniture, they found it a opportune moment if they had to do something for them. Seeing their interest and willingness, the staff brought them to Nepalgunj to provide a seven-day basic training in making simple rattan products such as stool, stand, tea table, etc. Despite Ban Udyam's offer, the other people who were not much impressed from a number of training provided by different projects did not show any interest to join them.

Having a great desire to learn as much as possible and best utilize the training, the boys did hard work throughout. As obvious, at the end of the seven-day training, they learned more than Ban Udyam expected. Impressed, Ban Udyam provided a set of equipment and few bundles of rattan so that they could use their knowledge gained from the training. Obligated with Ban Udyam's support and generosity, the boys were determined to prove that Ban Udyam's investment was not superfluous, whereas the Project in turn, had no other interest than to see their skill enhanced.



Ban Udyam provided the entrepreneurs tools and raw materials to establish a micro-enterprise based on rattan

One who works hard is bound to get success. The boys involved themselves deeply in making rattan products. Moreover, the items, which they initially made, found market in the hotels and lodges in the locality around Royal Bardia National Park. However, after certain duration, the demand ceased in the locality and for some reasons the boys could not find new market places at far off distances. Nevertheless, without being worried, they started to find reasons as to why their items failed to impress the costumers. With some support from Ban Udyam and their own efforts they learned that, the products they made were neither, strong enough to last for long nor variety of choice were there. In addition, in order to

make a wide range of attractive as well as strong products, the locally available rattan (called Pani bet) is not good enough, and they needed thicker rattan (called Gauri bet), available only in India near Eastern Nepal. In additions, realizing that it was unfair to seek a wide range of rattan products from the poor fellows who had been trained for a mere seven-day, Ban Udyam organized one more training – not long, but reasonable enough to enhance their capacity. This twenty-day advance training helped considerably to boost their confidence; a participant's own voice *"this training has boosted our confidence, and as per clients' need, we can now make attractive chairs, tables, hangers, etc"*. However, they have still to make luxury sofa, and bed-cum-sofa sets, Ban Udyam is quite assured that with some practice they could do it in due course of time, as they keep on making the items taught to them.



An example of their increased confidence is revealed when they exhibited the confidence to provide their service as resource persons in the locality should there is such need. Ban Udyam and/or other similar projects now need not go far to find resource persons as Ban Udyam did.

The target for these entrepreneurs for the coming days is to expand their enterprise through adding few more labors. The future work plan is to recruit labor only to harvest rattan, a much difficult and time taking job in which they, as skilled people do not want to waste their time. Similarly, the other grade is to be given the responsibility of peeling the rattans only; some one master minding only on making products of various designs, and measure rattan accordingly, which needs a highest form of skill. Some others involved in heating and bending jobs; and finally some one fitting and preparing the final products. This is how, they have thought of increasing the job opportunity in the locality. They are willing to take Tharu, the local ethnic community in their enterprise as in their own words *"Tharus are laborious"*. This is how they have thought of diversifying their enterprise through the involvement of different communities thereby presenting an example of coexistence in the mixed society.

Making rattan furniture is not an easy job. As stated, difficulty starts right from harvesting, as the sharp claw-like thorns of rattan are likely to hurt the harvester, especially when it is very long. Moreover, the choice is to harvest the longer rattan as much as possible. Peeling-off the thorns and unwanted bark is yet another hard job. Harvesting is done during the hot summer days (April – June), and it needs at least 20 to 30 days drying in full sun – all making the situation still worse. Storing is done in dry and airy place and regular check-up is done to avoid any chance of them from damping off.

Accurate measurement of rattan, heating, bending, etc. needs patience and extreme care, otherwise the raw material is wasted and/or the quality of furniture becomes low. Hard effort and experience are only needed for successfully making quality items such as shown in the pictures. Kadam is especially appealing. It is for sure that these items will find market in big towns and cities such as Kathmandu and others.



Kadam Chair: a costly but worth keeping items

At a glance, the items they have so far made may look a bit expensive (see the rate) but considering that only rattan have been used and no bamboo have been disguised in here, they are strong and durable and can be kept for years. Those items in which small and big bamboo has been used are of no value as the rattan products are supposed to carry.

As stated, harvesting is difficult, and while doing this, seedlings and regeneration are stamped. There is no choice than to sacrifice a few, but as this might affect perpetual harvesting, Ban Udyam has designed a block management plan, and has

suggested them to follow the plan as a viable means of reducing the seedling damage at a given place.

According to this plan, the rattan growing areas of Shiva Community Forest (SCF) has been divided into four blocks, and because rattan needs three years for maturing, harvesting in one block per year is suggested. Such block harvesting is expected to provide a sustainable supply of raw materials needed. However, upon the growth of the enterprise, they have planned to buy raw materials from the near-by community forests such as Durga, Saraswati where similar block management plans will be adopted.

Initiated last year, the enterprise is still in its infant stage. Till date, it has only five people in it. To avoid any disturbance that might arise in the future, it is better if it could be registered with the government. Ban Udyam is planning to facilitate this activity. The target that these people have set is nothing but to produce and sell more and more products of different varieties. However, for this they need to ascertain the regular supply of thicker rattan (Gauri bet) from India, for which they have initiated contacts with the related personnel.

Being recently established, the entrepreneurs, as obvious are willing to publicize their products and earn goodwill at first. Hence, they are not too much inclined towards profit making. Currently they buy thinner rattan (Pani bet) from Shiva Community Forest User Group (SCFUG) at a rate of NRs 3.00 per piece, which goes to the bank account of SCFUG. Since harvesting is a difficult as well as time consuming job, not always these skilled work force would involve them for harvesting. Instead, they could use their time in furniture making, which is more productive. Involving the local people in the enterprise means increased opportunity of income generation in the local level. In additions, increased income of SCFUG means increased opportunity of local developmental works, as is evident from the fact that SCF has supported construction of a culvert in the village road that facilitated the movement of the villagers in rainy season as well.

Cost-benefit Analysis

The cost-benefit scenario of the rattan enterprise is presented here in terms of a product, the Kadam chair

Collection of Raw material (Pani bet) = NRs 2.00 per pieces

Charge of community forest = NRs 3.00 per piece

Drying and storing = NRs 0.50 per piece

Raw materials needed

- i) 16 pieces of Pani bet = NRs. 88.00
- ii) 10 pieces of Gauri bet = NRs. 620.00
- iii) Labor for making tying material = NRs 40.00
- iv) Skill man-power (2 man-days * NRs. 150.00 / day) = NRs 300.00
- v) Nails and varnish = NRs 50.00
- vi) **Total expense = NRs 1048.00**

Selling price of a chair = NRs 1300.00

Net benefit = Nrs 252.00

One percent of the net benefit thus obtained is further levied to Shiva Community Forest User Group.

Conclusion

It is pleasing to note that the people, who had hand-to-mouth problem just a couple of months back, are now providing some amount to the community forest from their earning. Now they are also set to provide job opportunity to the local people. This is indeed a big transformation, especially for a remote and backward place such as Suryapatuwa. The local people have increased their income, whilst the community forest has raised its fund, which is to be utilized ultimately for social development activities. This outcome has been possible because of the initiatives and sincere efforts taken by Ban Udyam. Experiences of Ban Udyam would be highly fruitful in replicating similar entrepreneurship building activities that are based on local forest resources. Projects of such local welfare are worthwhile. No wonder, if one learns lessons from it.

Rate of various products of Shiva Bet-Bans Furniture Enterprise, Surya Patuwa

Products	Rate Per Piece (NRS) ¹				
Stool	150	180	200		
Rack	250	300	350	400	
Chair	400	600	800	1000	1300
Tea -Table	300				
Hanger	500				
Basket	150				

¹ The rate of products that depends on quality is liable to change any time.

8.2 Tripurasundari Jadibuti Sanrakshan Tatha Prasodhan Udyam Pvt. Ltd. (TJSPUL), Dolpa

Sote grass (*Cymbopogon spp*) has been nature's boon for the people living around Shey Phoksundo National park this time. People living around there have started producing essential oil from this wild grass (Pire in local language) using distillation plant installed over there with technical and financial aid of EFEA/ BSP-New ERA in 2000. The aromatic oil extracted from this grass is thought to be used for medicinal purposes. This enterprise (TJSPUL) was established at Galligarh, Dolpa in year 2000 with the aim of processing major medicinal and aromatic plants available naturally in Dolpa district to get rid from the burden of mass transportation of raw material via expensive air transport and to add value in the resources at local level so that collectors of these resources could be benefited the most. Before Sote was used to produce high value essential oil, its meager use was only for animal bedding and compost.

Laxmi Neupane of Tripurakot VDC- 3 is delighted to observe essential oil production from Sote grass. She states, "we were thinking nothing special to this stupid grass and using for animal bedding. It is amazing that it can produce essential oil". She further adds, "it also provided us employment at local level".

In the beginning, enterprise started to use this grass (Sote) as fuel to distill Jatamasi (*Nardostachys grandiflora*), a high value medicinal and aromatic plant (MAP) available in high altitude zones of Nepal. Jatamasi and Sugandhawal (*Valeriana jatamasi*) were the major focus for distillation while establishing the enterprise.

Om Bahadur Budha, Chairman of the Board of Directors mentioned that enterprise is purchasing the Sote grass from collectors at plant site at the rate of NRs. 4/kg. Now they are using Sote grass for dual purpose; extraction of essential oil from it first then using the mark as fuel for distilling other MAPs. He claims that substantial flow of cash has taken place in rural economy due to sale of Sote grass. Chairman Budha urges to explore the international market for high quality essential oil produced over there to contribute in economic development of remote Karnali zone in general and Dolpa district in particular. He told that the oil produced over there could be used nationally as well as internationally.

TJSPUL is probably the first enterprise in the nation to use steam distillation technique. Chairman Budha disclosed the market price of essential oil produced from Sote grass to be NRs. 1,760 in Nepal and could be more in international market. He also mentioned that they have enormous resource of this species in their locality.

8.3 Conservation of Pipla in Siswara Community Forest, Bardiya

The Siswara Community Forest (CF) in Bardia district is mainly a sissou (*Dalbargia sissou*) plantation in the handed over of a degraded forest, as are many in EFEA Terai. Over the Past years of increased protection by users, natural regeneration has proven both swift and diverse. Of particular note is the large number of simal trees (*Bombax ceiba*) evidenced in certain areas, which is traditionally important for honeybees and plywood enterprises. Found here naturally as well is the vine "pipla" (*Piper longum*), a spice in the pepper family used for medicinal and traditional food ingredient purposes, and that also has a potentially very large commercial market. However, the economic potential of this species was often less

understood and these were collected from the wild whenever needed for domestic purposes without managing it properly. In many cases these plants were destroyed while "cleaning the forest" as a prescribed management practice targeting for large tree species, which have created the risk of vanishing of these species. Ban Udyam under EFEA serving as catalyst through various activities such as conservation awareness training and sharing of market information, users of this CF understood the importance of this species and adopted management practices for this naturally grown species. The pipla used to creep/grow on the ground without fruiting because of the zero support in the previous years. Recently, 0.5 hectare inside 45 hectare of CF area has been treated as intensive 'pipla' block management. In this block users did not remove small plants (grasses, small bushes etc. previously unwanted plants) and dead and dried twigs and branches of trees from the ground in order to provide support for "pipla" vine to grow. As a result, in last season, users were able to harvest about 140 Kg. worth of NRs. 20,000 approximately of "pipla" just from this plot while conserving the entire forest and learned about the plant's character such as growth, fruiting condition etc. Furthermore, they also noticed the enhanced regeneration of many other important species as a result of this practice.

8.4 Women's Innovative Entrepreneurial Activities : Sal-Leaf Plate Making Enterprise

Owned by:	Mahila Upkar Manch (a local women owned NGO) in close coordination with women CFUG (Mahiia Upkar Community Forest User Group) in Kohaipur area, Banke District.
Location	Kohaipur 3, Banke
Expected monthly income	NRs. 11,435 (in full operation).
Direct Beneficiaries	7 persons
Indirect Beneficiaries	12 community forests belonging to 1,400 beneficiary households comprising 5,500 individual beneficiaries, approximately.
Product	Disposable plate, which is environmentally sound in terms of pollution, conservation and retaining economic benefit to poorer class of people.

The Mahila Upkar (Women CFUG) and Srijana (mixed) CFUGs in Kohaipur area, Banke were the sites of a Ban Udyam/EFEA sponsored community resource mapping training. After this training, the CFUGs took it upon themselves to develop a community forest resource map, which indicates the types of species available in their forests and where the major species are located in relation to other species. This is an essential step toward more sustainable forest management. It is important to note that these forests are close to the high-fuel wood demands of Neplagunj, but CFUGs have been vigilant about protecting and managing these forests. Valuable species found regenerating after community management / protection are pipla (*Piper longum*), simal (*Bombax ceiba*), tendu (*Diospyrous tomentosa*), jamun (*Eugenia jamboolana*), Raj Brichha (*Cassia fistula*), sal (*Shorea robusta*), Babio (*Eliopsis binnata*), Barro (*Termenelia chebula*), harro (*Termenelia belarica*), Neem (*Azadircta indica*) etc. In addition to several other development activities, these communities were in search of some income generation activities. In this juncture, members of these CFUGs learned about various potential plant products and related enterprises during their participation in a BU/EFEA sponsored CFUGs workshop, where one of the potential small

enterprises discussed was of course a machine made Sal leaves plate enterprise (Duna-Tapad Udyam). To start this Udyam, these two CFUGs coordinated with a local NGO, Mahila Upakar Manch (MUM) and with other 10 neighboring CFUGS, which are the source of raw materials (Sal leaves). With a technical support (training) and a small matching grant, at present two machines are installed in MUM complex and production has been started. With close coordination of Mahila Upakar CFUG, interested women (mostly from low income groups) collect Sal leaves from forests and make hand made loose plate (lafa) which later they sale it to MUM. MUM then with the "molding machine" produces plates and small bowls etc. and supplies to market. Examples such as this demonstrate the interests and capacity to organize themselves women have for managing and utilizing their resources, only they need exposure and initial technical supports. This also provides the opportunity for development worker to enrich forest management for economically viable non-timber forest products (even minor products as Sal leaves) while working with such CFUGs to foster long term objectives that meet self defined economic, social (as in this example giving women choices for earning income), and ecological needs.

9.0 Lesson Learned in the Process of Developing Forest-Based Enterprise Development

Forests/forest products-based enterprise development is both a feasible and a desirable strategy for increasing rural incomes from community forestry. However, the very "formal" enterprise approach is less appropriate in Terai areas, where influxes of diverse immigrants have occurred. These immigrants face the dual challenge of relocating in areas where many of the forests are degraded, and where the economic potential of the forests, especially the non-timber forest resources, is often less understood. Most of the Non-Timber Forest Products (NTFPs) grow in natural conditions and are collected from the wild, which creates the risk of over-exploitation. In many cases in the Terai communities, the outside motivation for establishing "formal" forests/forest product based enterprise is a bit like putting the cart before the horse. However, one can also look at the forests of EFEA Terai districts as enterprises waiting to happen, although it is equally important to note that this will not always be the appropriate final objective.

The Ban Udyam approach under EFEA takes into account a wide range of interventions that can be done to increase production and / or marketing of existing products, all of which can increase incomes and foster sustainable forest management without establishment of "formal" enterprises. This approach is based on a solid foundation of forest management, resource inventories, capacity building and market analyses to assure that the economic, if not enterprise potential, of these products is realized in a sustainable fashion. Through working with Community Forest User Groups (CFUGs) over the past years, EFEA built the understanding that in order to have community-based forest enterprise development, sustainable community forest management is necessary as a precondition. A total of 20 CFUGs from Banke and Bardia have been selected as pilot. These CFUGs have potential for developing community based forest enterprise and are interested to develop community forest Operational Plans (OPs) in order to develop sustainable forest management practices including conservation and commercial utilization of NTFPs through improved OPs as a first step in enterprise development. Summary of the lessons learned during the implementation of Ban Udyam for last six years has been presented below.

10. Summary of the Lessons Learned during Implementation of Ban Udyam Project

Tripurasundari Jadibuti Prashodhan Udyog, Galligad, Tripura Sundari, Dolpa

1. The enterprises can make profit if the local people are made full aware of its strength, and the strength of this enterprise is that, it has enough raw materials, work force, good machine (distillation unit), and above all, assured market of the essential oil. The only need is a dynamic leadership and commitment of the Board of Directors who are responsible to run it.
2. Upon seeing the benefit, and a transparent mechanism of benefit sharing, shareholders obviously give their time and effort for this enterprise.
3. Regular follow up and regular community meeting to solve problems, if any, is necessary to run the community owned enterprise smoothly.
4. Any activity that helps shareholders in strengthening their ownership to the enterprise is better carry out.
5. It is for the interest of the enterprise, that no board members should exhibit political inclination in public.

Parbati Janajati Mahila Babio Dori Udyam (PJMBDU), Kusum

1. Dalits (disadvantaged groups) and ethnic groups, those having neither any educational background nor exposure, are found difficult to communicate. Presence of few informed members in the committee who can build trust with the rest seems necessary. Otherwise, the deprived members become initially skeptic about the new program, and might even misunderstand that the elites will dominate and cheat them through this activity. It takes a longer time to build rapport with them.
2. A transparent mechanism of benefit sharing should be established before the enterprise starts making profit. The responsible person should brief all those involved immediately after the enterprise earns some amount.
3. It is utmost necessary to regularly organize community meeting to discuss on the existing problems, if any and finding reliable solutions.

Fulbari Distillation Unit, Tulsipur, Dang

1. A sound business plan of such enterprise is needed to run the community owned enterprise smoothly.
2. Wage should be paid immediately and no due is better to maintain to run the enterprise smoothly. Otherwise, from the next time onwards wage labors tend to turn their blind eye, and beg excuse for not running the unit. Similarly, the group members also exhibit no enthusiasm in operating the distillation unit; so long they are assured of profit.
3. Constant follow-up, and organizing regular community meeting to discuss on existing problems and finding reliable solutions is necessary. A social motivator should work for longer period in group dynamism so as to motivate the group. In addition, a suitable work plan that gives all the necessary details of a successful community-based enterprise should be prepared and followed.

4. Establishment, smooth operation, profit making and benefit sharing, etc. of any community based enterprise take more time than expected and planned. One must not lose the patience, and should continue to motivate the group for ultimate success.

Sal leaf-plate Enterprises

1. Quick and timely decision-making is a vital element of running enterprises. Normally, enterprise run by communities is found lacking in it. Members tend to put every small thing in meeting for decision thus hampering its timely functioning. In order to solve this problem, certain authority should be given by the community to those responsible to run it. Continuous facilitation is needed unless the group has confidently build-up their capacity to carry out the activities necessary for making an enterprise successful. Moreover, once the group is found to have developed the confidence, they should be left alone on their own regarding decision making process.
2. For capacity building of enterprises, proper extension should be given, which includes, awareness build-up, personal contacts, observation tours, publicity, training on skill transfer, marketing, etc.
3. NGO(s) already having various responsibilities might show little interest in micro-enterprises such as Sal-leaf plate making. It is possible that the amount of benefit is less than they expected. Also, having various responsibilities, the members of executive committee are always diverted elsewhere.
4. Developing a working policy and work schedule is a must for a community-based enterprise. Initially, the group should be facilitated to develop a well-defined working policy on labor input, agreement for raw material, market arrangement, benefit sharing, etc. Thereafter, an activity schedule should be developed indicating the responsibilities of each member of the community. Care should always be taken that 'easy jobs' are taken-up by some one influential, and the hardest are given to those deprived of access and control to the resources.

Sabai Grass Rope Making Enterprise, Dhakeri

1. Culturally acceptable work such as Rope-making is a culturally acceptable job of the Tharus. Hence, it has potential for income generation for this community.
2. The enterprise should have at least some members who are more or less equally trained in running, and maintaining the machines. Otherwise, there is always a chance of some skilled member leaving the group thus, jeopardizing the smooth functioning of enterprise. Such lesson was learned through Tharu Samaj Dori Udyam, Dhakeri after a dynamic and trained member upon being married left the group. Ban Udyam had to organize additional training for the new comers so as to continue running of the enterprise.
3. Sabai grass, the raw material for Babio Dori Enterprise should be harvested from Mid Mangsir to Mid Magh. Cut should be made at about six inch above the ground, and care should be taken not to mix other grasses with it. This would otherwise, result in lower quality of rope.
4. A written agreement between the purchaser and supplier of raw material (*Eulaliopsis binnata*) should be made before it's harvesting. Verbal agreement generally works in villages, but it is better if there are written memorandum, and arrangement is made to clearly state these opportunities in the Community Forestry Operational Plan.

5. The limiting factor for this enterprise is that, every spare parts of its machine are available only in India. Hence, the group has to unnecessarily spend more time in replacing them.
6. At least a 15-day training is necessary for appropriately transferring the skill on operating and repairing the machine. However, farmers, especially the women could not give such a long time. So it is better to split such a package in three of five days each. Training less than that was not found much useful.
7. For record keeping and accounting of the enterprise, there should be at least one high school graduate in each group.

Rattan (bet) Enterprise

1. Considering that there is enough availability of rattan (Bet) in and around Bardia District, enterprise based on this resource is potential in providing additional income to rural households. However, bigger (thicker) bet (Gauri Bet), which has to be brought from India, is needed for making quality bet products. Hence, the existence of this enterprise seems doubtful. Therefore, either its supply from India should be ensured, or the potentiality of introducing this particular species in suitable condition in Nepal should be explored and tested.

Major Issues in NTFP management in Nepal in general and in EFEA area in particular Improved Forest Operational Plan

1. Simple management intervention could lead to higher production of NTFPs. For example, erecting *Piper longum* - a runner, through physical support has increased its production in Jalandhara Community Forest of Banke District. This could be replicated in other potential areas.
2. List all NTFPs of a given community forest. Prioritize them based on market potential. Conduct resource inventory and clearly write their management prescriptions in OP including their harvesting schedule. Monitor them constantly and provide technical skill on post harvesting, and market information. This four step intervention was found key step in promoting NTFP based benefit to the FUGs in EFEA area.
3. Establishing a NTFP Cooperative Association of the community forestry user groups, and marketing of all NTFPs through it should be done to increase bargaining power of the forest users and/or NTFP collectors.
 - Improper harvest and post harvest treatment (e. g., early harvesting, cleaning, drying, grading and storage etc.) of collected NTFPs and adulteration of collected items still persists.
 - Inconsistent / irregular demand/supply exists for various raw materials from the part of buyers (bulk buyers and/or final buyers) as well as suppliers (collectors and middlemen).
 - Inadequate knowledge on demand and price information for the products exists so the favorable markets are not accessed.
 - Inconsistent and sometimes retrogressive circulars issuance from government side discourages communities for community forestry activities and therefore NTFP promotion.