



**(PART 2: OPERATION MODALITY AND POSSIBLE SUPPORT TO
NTFP/MAP ENTERPRISE IN THE LUMBINI PROVINCE)**

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Acronyms

ADB	Agriculture Development Bank
BFI	Bank and Financial Institution
CFM	Collaborative Forest Management
CFUG	Community Forest User Group
DCSI	District Cottage and Small Industries Office
DFO	Divisional Forest Office
DFTQC	Department of Food Technology and Quality Control
FBEs	Forest-based Enterprise
FenFIT	Federation of Forest-based Industry and Trade Nepal
FGD	Focus Group Discussion
FNCCI	Federation of Nepalese Commerce and Industries
FY	Fiscal Year
GDP	Gross Domestic Product
HR	Human Resource
Kg	Kilogram
KII	Key Informant Interview
MAPs	Medicinal and Aromatic Plants
MT	Metric Tonne
NPR	Nepalese Rupees
NTFP	Non Timber Forest Product
OCR	Office of the Company Registrar
SMEs	Small and Medium Enterprises

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2. EXECUTIVE SUMMARY

The Forestry Sector Strategy (2016-25) envisions to develop support mechanism for upgrading and sustainability of forest-based enterprises while ensuring private sector involvement and investment. The ongoing Fifteenth five-year development Plan (2019/20 – 2023/24) aims to promote forest-based industries through incentivizing private sector with concessional loan, insurance, storage facilities and other supports. Additionally, The Forest Policy 2076 (2019) targeted to increase employment opportunities through promoting green enterprises.

The contribution of the agriculture, fishery and forestry together to the Gross Domestic Product (GDP) is around 23.9% in 2021/22. While acknowledging the contribution of forestry sector in national GDP, it's potential has not been exploited and there are more opportunities to increase forest-based income and employment. The provincial Ministry of Forests and Environment, Lumbini commissioned the study to assess existing operation modalities and possible support mechanism to promote NTFP/MAP based enterprises in the province. The study findings are expected to contribute towards detailing the strategies for financing NTFP/MAP-based enterprises in the Lumbini province.

The study was conducted during mid-April to May, 2024 using a mixed method involving consultative meetings with the forest officials, enterprise survey, key informant interviews, secondary data and literature review. All divisional forests officers and their team were consulted during the study. The consultation with selected MAP/NTFP based enterprises were organized to understand present business scenarios and expected support to strengthen their production and business capacities.

- a) **Nepalgunj – MAP/NTFP trade hub:** Nepalgunj in Banke district of Lumbini province is found a major trade hub for MAP/NTFP in Nepal. Majority of the species, either in crude or processed form are traded to India with around 20% internal consumption within the country. There is already an established infrastructure for MAP/NTFP based enterprise with millions of investments from the private sector. However, the business in Nepalgunj still lacks modern technologies for product diversification, laboratory for quality control, and a good cold and storage house facility. The provincial government support on these areas within the already established enterprise will help to promote the NTFP/MAP based business.
- b) **Subsidies, investment and Interest rate:** The present available bank loan is found around 13% interest which is not an encouraging for private sector investment in MAP/NTFP based enterprises, as the profit margin is not that high in this sub sector. Additionally, MAP/NTFP sectoral business is not included in government interest subsidy like in agriculture-based enterprises. The provincial government through its conducive policy provision can help to include the sector within the interest subsidy category. Additionally, any support on capital investment to private sector to enhance technologies, and facilities could positively impact on this business. The capital

investment support is not recommended as a grant, rather, a subsidized loan with higher pay back period.

- c) **Enterprise support modality under Inclusive Business model:** Enterprise support modality under Inclusive Business model: Based on existing production system, available possible capital investment within community-based forest user groups, and also potential for ensuring community stake on NTFP/MAP based enterprises, below two major modalities are recommended for public capital support in the sector.
- a. **Private enterprise:** Based on consultation with major stakeholders and review of financial and business documents, published documents, the study recommends to support private sector enterprises through a number of policy and financial measures. Key policy and financial support to private sector businesses are discussed in chapter below. Public support includes, a) capital investment for technologies as subsidized loan with long payback period b) Tax subsidies c) reform on process and procedures such as company registration d) facilitation on buy back guarantee for smallholder producers.
 - b. **Cooperative based Enterprise:** There are 4023 community forest user groups, managing 423,618 ha of forests in Lumbini province. Out of 4023, concept of scientific forest management for productive forests has been applied in 226 CF. In addition, eight collaborative forests management blocks are under managed in collaborative model covering 22,559 ha of forests. These community-based forest user groups collected around NRs 340 million (NRs 340,103,152) in fiscal year 2079/80 which can be the available investment capital for NTFP/MAP based enterprise. The available capital investment available within CFUG/CFM groups need to be invested largely in enterprise promotion where the Ministry of Forests and Environment plays a facilitating role to maximize the benefits from NTFP resources.

3. INTRODUCTION

Nepal's forests cover almost 45% of the land (DFRS 2015) and significantly contributes to local livelihoods and national economy. The Ministry of Finance estimated that the contribution of the agriculture, fishery and forestry together is around 23.9% in 2021/22 (MoF 2022). FAO estimated that the forestry sector alone contributed to 3.5% of the Gross Domestic Product (GDP) in 1990, which linearly decreased to 0.6% in 2011. The estimation, however, has limitations due to unavailability of published statistics (FAO 2014) but shows a very low GDP contribution compared to the forest cover and available forest resources in Nepal. Another study estimated that the forestry sector generates 1,30,000 full time jobs (99,000 from private sector and 31,000 from community forestry user groups (MSFP 2014). Conservatively, the same study estimated that forest-based SMEs could generate more than US\$ 8.7 billion and 1.38 million workdays through 400,000 sustainable full-time equivalent green jobs.

Forest supports different types of enterprises in Nepal, and significant capital is invested in this sector. The total estimated investment by private entrepreneurs in the forestry sector was about NPR 32 billion (USD 320.6 million¹) in 2013 (excluding direct foreign investment in ecotourism), of which the highest investment came from the timber processors and manufacturers, with 59% of the total investment. The investment made in NTFP enterprises, ecosystem services (mainly ecotourism), and forest bioenergy is estimated to be about NPR 5.48 billion (USD 54.9 million), NPR 6.56 billion (USD 65.7 million), and NPR 42.9 million (USD 0.43 million), respectively (MSFP 2014).

While the total impact of the forestry sector to national GDP at present is approximately 15 percent (Banko Janakari, 2004), NTFPs alone are estimated to contribute 5 percent to the national GDP (ANSAB, 1999). As a result, there are now more plant species with ethnobotanical values. The Medicinal and Aromatic Plant Data Base of Nepal (MAPDON) includes 1624 species recognized as having ethnobotanical worth (Shrestha et.al,2000). According to Rawal 2004 (quoted from Malla and Shakya, 1984), Nepal's flora includes

¹ USD 1 = NPR 99.8 for year 2013 (Source: Nepal Rastra Bank)

approximately 1000 economically significant species (14% of the nation's vascular plants), including 440 species of wild food plants, 71 species of plants that yield fiber, 50 species that are used as fish poison, and 30 species of trees that yield fodder. Out of these, over 100 MAP species are now being used for profit. Approximately 189,000 people work in this subsector, contributing between 15% and 50% of their household income, according to ANSAB (Asia Network for Sustainable Agriculture and Bioresources) (Karki and Bhattarai, 2012; MSFP, 2014). According to the Department of Forests (2016), NTFPs contributed 6.56% of the royalty received from the forest sector. Nepal trades about 150 NTFPs on the global market (Shrestha et al., 2020). Nepal trades around 10,000 to 15,000 tons of NTFPs annually in the international market. Edward (1996) also made reference to the harvesting of over 100 different species of non-timber forest products (NTFPs) from Nepal's high mountains and mid-hills, which are primarily exported to Indian markets.

Limited research and assessment have been done on various aspects of commercializing NTFPs in Nepal because individuals extract NTFPs from the wild and trade it via different marketing channels and multiple traders (Kanel, 2000). There are mainly three types of management modalities on NTFP/MAP sector business is presently existed in Nepal, a) community owned and managed b) Government enterprise, and c) private investment. In addition, many smallholder farmers are directly involved in some or other way in NTFP/MAP businesses such as collection of medicinal herbs, broom grass cultivation, and herb cultivation in their private land. Also, the fact that ongoing processing units are managed in small scale and without utilizing their optimum capacity to produce value added NTFP products. Majority of processing units are either managed by CFUGs in a smaller scale, or private sector in the Lumbini province.

In this context, the provincial Ministry of Forests, Environment and Irrigation aims to organize an assessment on existing management modalities on NTFP/MAP based business and possible support mechanism to promote such business in the province.

4. STUDY AREA AND METHODOLOGY

4.1 Study area

The assessment primarily focused on Lumbini province, where all districts are were selected for this assessment. Existing status and condition of NTFP/MAPs, volume of NTFP trade from each district, export status of major NTFPs to Indian market were assessed using available data from division forest offices, private sector entrepreneurs, community-based forest user committees.



Figure 1 : Lumbini province with districts

Lumbini province has a of 13.1% of Nepal’s GDP. Overall growth rate at purchase price is 7.5% for Lumbini compared with the national average of 7.1%. The agriculture and forestry sectors (combined) have a 16% share in Lumbini province (CBS 2019).

According to the Human Development Report for 2019, the Human Development Index (HDI) of Lumbini Province is 0.563 which is slightly lower than the national average value of 0.587 (NPC 2020). Likewise, in 2019, Lumbini Province has the fourth highest multidimensional poverty index (MPI) at 0.078 which is above the national MPI of 0.074 (NPC 2021).

Database available from the District Cottage and Small Industries Offices, the number of forest-based enterprises (FBEs) in Lumbini province are 3,385 (Development Vision Nepal, 2022). However, all these enterprises are not functional at the time of this assessment.

4.2 Methods

4.2.1 Approach

The study followed a consultative approach. All divisional forest officers and DFO officials were consulted either in person or virtual. Consultative meetings were organized with the provincial ministry of forests, environment, and irrigation including provincial secretary and officials responsible in planning. Similarly, consultations were organized with the provincial forest directorate, forests for prosperity officials. Apart from government officials, consultations with private sector entrepreneurs, members of community-based user groups and NTFP business houses were organized.

The study commenced with a meeting with provincial secretary- forests and environment to receive feedback and finalize on the set of objectives of the study, and the methodology proposed.

4.2.2 Desk review

Publications of Ministry of Forests and Environment, provincial ministry, and associated divisional forests offices were reviewed to understand the NTFP/MAP related policies and provisions. These publications include, but not limited to, annual plans, five-year forest sector strategy, forest database. Major policy and legal documents reviewed included Constitution of Nepal 2015, Forestry Sector Strategy (2016-2025), Local Government Operation Act 2017, Nepal National REDD+ strategy 2018, Land Use Policy 2019, Forest Act 2019, National Forestry Policy 2019, National Agroforestry Policy 2019, Climate Change Policy 2019, Fifteenth Plan 2076/77-2080/81 (2020), The Industrial Enterprises Act 2020 and Nepal's Second Nationally Determined Contribution (NDC) 2020. Likewise, annual plans of provincial forest ministry, Division Forest Offices, the Small and Cottage Industry and Office of the Company Registrar were reviewed during the survey.

The review disclosed that most of the policy and legal documents mention to promote mass scale production, enterprise development, and sustainability. Despite these enabling policies, the progress is very slow. The major reasons are: multiple registrations, practical difficulties to comply the policy (e.g., waiver of royalty for cultivated species), the *ad-hoc* based quota system for forest products and so on. The review also showed that coordination with three levels of government and the private sector is needed to achieve prosperity from forests.

4.2.3 Consultative meetings and Key Informant Interviews

A consultative meeting with the officials from provincial Ministry of Forests, Environment and Irrigation was organized to review terms of reference, agree on methods and methodology, and assessment process. Similar meeting was organized with the officials from provincial forest directorate. These meetings provide clear guidelines on methods, methodology, assessment process and stakeholders identification during the feasibility assessment.

Similarly, consultative meetings were organized with divisional forest officers, or their representatives. The consultant team visited all districts (except east Rukum) to discuss with DFOs, and access quantitative data on NTFP/MAP from each district. Meeting with DFO-east Rukum was organized virtually. In addition, the team also access data available on existing processing units, their status and operation modality. Consultations with DFOs, private sector entrepreneurs help to understand present status of NTFP/MAP, enterprise operational modality for proposed NTFP processing unit.

Key informant interviews with NTFP based entrepreneurs, such as JABAN, processing unit owners, CFUGs and relevant stakeholders were organized to understand market and value chain of selected NTFP/MAP species. These interviews provide qualitative information and data on status of existing processing units, operation modality of processing units, and existing NTFP trade scenarios.

4.2.4 Data Collection/ Secondary Data

Source of Data and Data Collection

The list of NTFP/MAP based enterprise was obtained from Office of the Company Register (OCR), District cottage and small-scale industries and DFOs. The list was used to classify NTFP/MAP enterprise based on the types of raw materials used and the products these enterprise manufactures. Accordingly, the enterprises were categorized as following:

- *Kattha*
- Rosin and turpentine, pine products
- Essential oils
- Ayurvedic products
- Honey
- Other NTFPs based enterprise (*Allo*, handmade paper, broom, Tejpat raw leaves)

Interviews were conducted with the forest-based enterprises of the above-mentioned category in selected districts of the province.

Interviews and Checklist for Interviews

A total of 16 NTFP/MAP based enterprises in the province were interviewed using the checklist. The checklist has nine headings: (i) general information, (ii) understanding the product/key offerings, capacity, and utilization levels, (iii) raw material supply, (iv) market demand, (v) cost of production, (vi) financial details, (vii) knowledge on loan, grants and subsidies, (viii) legal aspects, and (ix) risk analysis. Elaborated checklist is given in annex 1. Given below is the summary of interviewed FBEs.

Table 1: Selected enterprises interviewed

Districts	Bael , Honey	Essential oils	NTFPs (paper, broom)	Ka tth a	Rosin / Turpen tine / Pine	Ayu rved ic	Others (nurser y, handicr aft	To tal
Nawalparasi –West		1						1
Rupendehi	1			1	2			4
Palpa		1				1		2
Kapilbastu		1						1
Dang	1		2				1	4
Pyuthan	1							1
Banke		1					1	2
Total enterprise visited and interviewed								15

The respondents were asked for their consent to take part in the survey. Once the verbal consensus is received, interviews with the respondents were conducted using the checklist.

4.2.5 Secondary Data Collection

Secondary data on NTFP/MAP availability, trade was obtained from divisional forests offices and private sector association such as JAWAN in Nepalgunj. Available data is primarily based on DFO records and issue permits. Production from private lands was also collected from local MAP/NTFP business person/vendors. However, amount of MAP/NTFP production in private land may not be fully covered. This is particularly because of the fact that district level trade of few NTFP/MAPs, such as broom grass, *Tejpat* is not recorded in DFO database. Therefore, production of few NTFP/MAP species may be more than the amount presented in this report.



5. STATUS OF NTFP/MAP-BASED ENTERPRISES

5.1 NTFP/MAP based enterprises in Lumbini provinces

List of NTFP/MAP-based enterprises were obtained from multiple sources, including office of the company register, small and cottage industry office, Divisional Forest offices. The list is not comprehensive and accurate as many of the registered industries are not functional. In addition, there is limited monitoring and update from government entities. There are 231 forest-based industries registered within the Company Register Office in Lumbini province. However, 3,385 forest-based industries are registered in small and cottage development office (Development Vision 2022). As most of the micro and cottage industries are registered only in DCSI, the number is much higher in DCSI record. Table 2 gives an overview of forest-based enterprises, including NTFP/MAP based enterprise in the Lumbini province.

Category	Number of Enterprise
Sawmill	823
Furniture	1264
Nursery and agroforestry	89
Medicinal Plants	43
Handicrafts	52
Other forest-based enterprises	163
Total	2434

Table 2: Category wise number of Forest based enterprise in Lumbini Province

Source: DCSI 2021, cited from Baseline survey report (Development Vision 2022)

5.2 Legal provisions on forest-based enterprises

National Forest Policy 2019 highlights and focus on sustainable production and promotion of green enterprises. The policy also focus on commercialization and forest products export is primary focus to create green sector jobs contributing to national economy. The Forest Act 2019 envisions to promote forest-based enterprises while the Industrial Enterprise Act 2020 identifies forest-based enterprise as a nationally prioritized enterprise to provide tax incentives and other facilities from the government.

The policy of Nepal Rastra Bank is to allocate at least 10% loan to the agriculture sector including NTPF/ MAPs/herbs farming and businesses (Paudyal et al. 2021). In mid-July 2022, Nepal Rastra Bank revisited the policy and instructed all commercial banks to provide at least 12% of the total credit to the agriculture sector, including herbs/MAP sector. With this policy, commercial banks disbursed 12.28% of total credit i.e. NPR 490.15 billion to the agriculture sector by mid-April 2022.

The Government of Nepal is providing interest subsidy to different types of loans. Among others, commercial agricultural and livestock loan, women entrepreneurship loan, deprived sector loan and youth self-employment loans are the types of loans that government is providing subsidies on. Till mid-July 2023, government has provided interest subsidy worth NPR 22390.8 million to 145,778 loan seekers/borrowers under 10 different types of loans².

Major policies and legislative instrument relevant to MAP/NTFP enterprise, such as forest sector policy, discussed on promotion of mass scale production, enterprise development, and sustainability. Despite policy discussion, the MAP/NTFP based enterprise development is getting limited progress which may be because of provision on multiple registrations, practical difficulties to comply with the policy (e.g., waiver of royalty for cultivated species), the *ad-hoc* based quota system for forest products. The review also showed that coordination with three levels of government and the private sector is imperative to achieve prosperity from forests.

The government initiatives and policies have primarily focused on promotion of community-based conservation and fulfilment of their subsistence needs, undermining the focus towards promotion of enterprises (MSFP 2014b). Similarly, interpretation of the policy, legal and institutional framework has affected administrative procedures for harvesting MAP/NTFP harvesting, processing, transport, and marketing for forest-based enterprise and thus their operation and management (MSFP 2014a).

Several legal frameworks such as the Cooperatives Act, 1992; the Companies Act, 2006; the Industrial Enterprise Act, 2016 and 2020; and Local Government Operation Act, 2017 provide legal basis and offer opportunities to register forest-based enterprises of different institutional modalities: cottage, micro, small, medium and large industries, cooperatives and private limited companies. These multiple provisions are, therefore, confusing entrepreneurs and takes longer time to follow the procedural guidelines which ultimately discourage MAP/NTFP based enterprise development in Nepal.

In Lumbini province, while Municipalities are registering cottage and micro industries, provincial authorities are reluctant to recognize their legal status. Also, frequent merger and

² <https://www.nrb.org.np/contents/uploads/2023/08/Interest-subsidized-loan-to-be-published-Asar-2080.pdf>

separation of the Provincial Ministries of Industry and Forest have also affected these service centers. There are challenges in regards to the time taken, and cost association with the registration process for forest-based enterprises, irrespective of the institutional modality (Adhikary and Paudel 2020). One of the other challenges, and perhaps a serious issues faced by small-scaled forest enterprises is the legal provision regarding the distance that is to be maintained between them and forested areas. In Lumbini Province, minimum distance from forest area is set based on specific bandwidth of sawmills (500 meter for above 36-inch, 300 meters for 18 – 35 inch, and 250 meters for less than 18 inch) (Lumbini gazette *Rajpatra* 16 Sept, 2022).

In recent years, especially after the implementation of federal governance structure, tax on forest products has substantially increased. Before, there was 15% royalty and 13% VAT. Now local governments are allowed to impose a separate 10% tax (LGO Act 2017). On top of this, provincial governments have imposed separate tax (e.g. 25% in Lumbini province). At the same time, the government has substantially increased the royalty rate (Forest Regulations 2022: Annex 6). This has created a confusion among the entrepreneurs who often face the burden of multiple-taxation, especially in case of NTFPs (Timsina et al. 2021).

Other than VAT, royalty and local government taxes, following are the amount collected by government of Nepal during business operation. They included, but not limited to, (i) payment for registration of enterprises, (ii) payment for getting recommendation for enterprise registration from ward/municipality, (iii) payment for approval on setting up structure from municipality, (iv) Excise tax (the Excise Act 2001 imposes excise duty on the products of Kattha, wine produced from wild fruits, and the wine mixed with the extraction of NTFPs/MAPs; and (v) customs duty.

While exporting from Nepal, the documents namely (i) payment of all relevant taxes including local tax, (ii) plant quarantine certificate, (iii) certificate of origin and (iv) CITES certificate for CITES listed species are required. Additional regulations in the importing country to meet phyto-sanitary, human health, environmental codes, and international treaty obligations may also apply.

There are however some special considerations for FBEs. Income tax act 2001 has a provision of tax exemption in the production and marketing of forest products and the Financial Act 2013/14 has provided tax exemption in land registration for NTFP farming and processing.

6. FINDINGS

6.1 4.1 NTFP/MAP based Enterprise Cost Analysis

There are five major types NTFP/MAP based enterprise in Lumbini province, a) essential oil, b) fiber-based c) Rosin and Turpentine d) Kattha and 5) broom grass-based enterprise. Except for broom grass, which is mostly a home based and labor intensive without any machinery requirement, major costs are a) labor b) raw materials c) machinery and d) management costs. Except for fiber based enterprise, all other types, as indicated below in figure, need around 30 to 35% costs on technology. The fiber-based enterprise is mostly raw materials cost with minimum technology costs.

Capital investment for machineries, tax subsidies in MAP based products and raw materials, and technical support to diversify products and export are major possible government support to enhance the capacity of MAP/NTFP based enterprises for generating additional income and employment. Government can have multiple options to support these enterprises, such as concessional loans (max 5% interest) with long pay back period, incentive on product or outcome, tax subsidies on export and raw materials.

For the purpose of possible government support in Lumbini province, the study team assessed a number of possible enterprise modalities and possible support. Table below provides synopsis on area of investment and possible government support in Lumbini province.

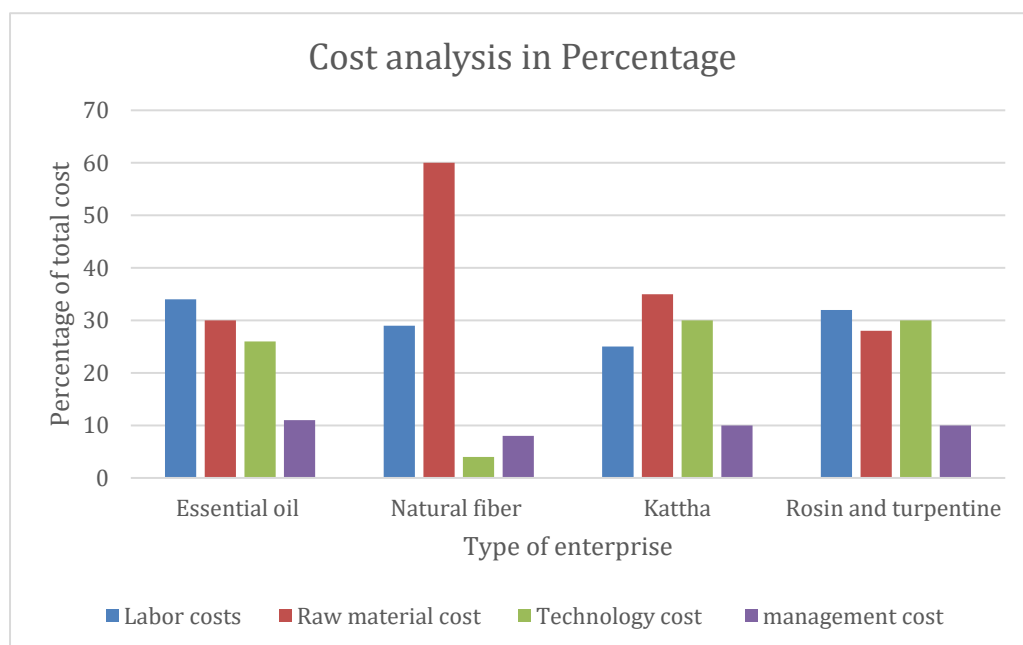


Figure 2: Cost head analysis of different category of MAP/NTFP based enterprise

6.2 4.2 Financial need assessment and areas of investment

Financial needs and area of investment for all type of NTFP/MAP based enterprise is assessed based on key informant interviews (government officials, enterprise owners and business houses). Primary qualitative information is further validated through available secondary data and information, including published scientific articles, assessment reports. Financial need assessment and area of investment discussed below is an indicative for possible government support to strengthen production and marketing capacity of enterprises in the province.

Table 4: Financial need Need Assessment of NTFP/MAP based enterprises

Enterprises	Financial Service Requirement	Business Service Requirement	Areas of Investment	Amount Required (NPR)
<u>Essential Oils</u>				
Type A: MAPs plantation and seasonal distillation	Distillation units being obtained from grants/subsidies. Regular financial flow is needed to pay labor. Currently, enterprises are managing such payments	Promotion of Good Agricultural Practices towards organic farming Analysis of opportunity cost for plantation of MAPs with a crop calendar	Investment is needed in supply chain of existing enterprises	NPR 100,000 for per Ropani (508.7 sq m) investment for MAPs production
Type B: Plantation, Collection and Distillation	Cash requirement on purchase of raw materials and labor Investing on farmers for MAPs production in public- private partnership	Marketing of the products Quality standards and Certification	Laboratory facility for extraction and distillation units	Up to 2 million
<u>NTFPs based</u>				
Type A: Artisan/ Micro Enterprise/ Cultural producers	Mainly required finance for festive season Local Government providing capacity building and seed funding for Micro Enterprises	Market led design and product development Plantation of Natural Fiber, identification of underutilized fiber and its commercial importance	Seed Capital as loan to artisans to formalize	0.5 million
Type B: Enterprise	Cash requirement on purchase of raw	Product development Design and Branding	Type B enterprises (investment on	Above 2 million

Enterprises	Financial Service Requirement	Business Service Requirement	Areas of Investment	Amount Required (NPR)
with processing and finished products	materials Technology for volume production and reducing HR cost		plantation and sustainable harvesting through Public- Private Partnership) Technology upgrade	
Type C: Marketing Agency	Cash Requirement on purchase of finished products from Type 1 and Type 2 enterprises	Global market outreach Certification on eco-friendly products	Marketing positioning	Above 10 million
<i>Kattha</i>				
Type D	Huge amount of cash required during purchase of Khayar	The demand of Kattha and biproduct (Cutch) is very high in India. No additional service required	Saturated	From 300 – 350 million in a collection season
<i>Rosin and Turpentine</i>				
Type D	Cash requirement during purchase of crude pine Rosin	Product diversification (pine oil, pinene, DDT)	Introduction of technology for finished products after rosin and turpentine.	Up to 300 million

6.3 4.3 Possible Financing options for NTFP/MAP based Enterprises

Based on key interviews with NTFP/MAP based entrepreneurs in Lumbini province, majority of medium and large-scale enterprise are under bank loan. Few community-owned essential oil processing owners managed to get grants for machineries and initial operation capital through the government or/and externally funded projects such as MSFP, LFP. The interest rate ranging between 11.5 – 16.0% (mean 13.7%).

With bank liquidity crunch and high interest rates, forest entrepreneurs expect public finance support either with concessional loans through banking process or public grant for machineries and technologies. However, maintaining standards of governance, effectiveness and efficiency has always been a challenge in Nepal's history of concessional loans and interest subsidy schemes especially in agricultural sector.

Based on field assessment and review of literatures, the study analyzed possible public support and enterprise operation modality for NTFP/MAP based enterprises in the Lumbini

province and suggest below key dimensions to consider while providing public financial support.

6.3.1 4.3.1 Enterprise Operation Governance and Modality

There are mainly three operation and governance modality existed in NTFP/MAP based processing enterprises in Nepal.

- a) *Private sector owned business*: Private and individual natural persons owned the business while associated with likeminded business association. These privately owned businesses are mostly lending loan from the banking sector, and active in market with a number of products. In Lumbini province, private sector has been investing on a) essential oil b) Resin and turpentine c) Kattha and d) Nepali paper (Lokta). These entrepreneurs also buy essential oil from smallholders' farmers and community owned small scale essential oil processing units. Majority of private sector entrepreneurs face difficulties in lending bank loan, as loan interest is very high and also collateral needed to obtain the loan. In addition, procedural formalities, including legal provisions, multiple taxation, machineries and technologies are major bottlenecks where public sector entities can facilitate the business.
- b) *Government owned entity/ public enterprise*: Government owned public enterprise such as Nepal herb production and processing company (HPCCL) are engaged in essential oil business. These enterprises mostly use public funds for operation and production.
- c) *Community owned processing units*: There are a number of community owned essential oil processing units under operations. These enterprises are mostly owned by community forests user groups (CFUGs), and received grants and support from the government and externally funded projects for machineries and technologies, initial operation investment capital. Despite external support, majority of these enterprises either not functional or functional with limited capacity. The commons-based enterprises success rate is found very low throughout Nepal, and also in Lumbini province.

6.3.2 4.3.2 Concessional loan for Infrastructure, technology and Business operation

Concessional loan with high pay-back period is the choice of many private businesses. The present average lending rate is about 13%, which is higher than the most NTFP/MAP based profit margin. Private enterprise from the province argued for the concessional loan through banking system with around 5 to 7%. One of the Allo entrepreneur from Dang take the loan from the informal market at the rate of 24%, as bank loan access become difficult and time consuming. Another difficulty that the enterprise facing is the time duration to get loan, more often bank takes longer period to release the loan. Availability of loan during the period that they need is the prime concerns, as the seasonality matters in most NTFP/MAP based enterprises.

With present scenario of lending and access to bank loan, there is a need from provincial government to ensure concessional loan to NTFP/MAP based enterprises. Also important to ensure NTFP/MAP based enterprise be included in agriculture loan subsidy directives.

6.3.3 4.3.3 Interest subsidy

Presently, agricultural enterprises enjoy interest subsidy where banks disburse loan at base rate plus 2% premium, and 5% of the total interest is subsidized by government. This is important to discuss similar policy domain for NTFP/MAP based enterprises where provincial government can offer interest subsidy for this sub sector.

6.3.4 4.3.4 Value chain financing

NTFP/MAP based enterprise, as also discussed in previous section, possesses unique value chain and cash flow. For example, Kattha enterprise follow different cash flow and value chain than that of essential oil. Broom grass-based enterprise does have simple value chain and cash flow need. This is important for provincial government and other external support institution to understand these unique cash flow of different NTFP/MAP based enterprise and support mechanism to deal.

6.3.5 4.3.5 Financing and Financial Governance

In order to access the loan, a wide range of documents need to be provided, including the collateral guarantee. Even with all documents are provided and collateral is available, it is time consuming. Another issue is bank compliance which not every NTFP/MAP based enterprise may meet, which limits the access to loan.

Input based subsidy if not found effective, as a reason, there is a need to explore output-based subsidy. Similarly, cash based payment for grant or other subsidies may have highest chance to misuse the funds. Therefore, kind or voucher-based support is recommended.

6.4 Recommendation for Possible Management Modality(ies) for Lumbini

Common property-based enterprises are great interest and concerns of local communities, as required raw materials are mostly supplied from commons land, such as community forests. The state also does have its interest to ensure sustainability and equitable benefit sharing among the communities. As a reason, designing a common resource-based enterprise and supporting these enterprises from the public funds is important, not only to ensure community stake on enterprise, also benefit sharing among them.

There are number of modalities existed globally on these enterprises to operate. The common modality is a private run enterprise with government interventions through public policies. For example, the concept of “inclusive business” where communities are ensured with a

possible buy back guarantee for their products. Another modality is based on government control over these enterprises which is not found an effective in terms of productivity. Private- public partnership is most commonly adopted during 1990s where public funds are invested together with the private entities, and stake of smallholder producers are ensured.

Community based forest user groups (CFUG, CFM) are major producers of NTFP/MAP in the province, besides private growers. Data revealed that about 70% high value MAP are still collected either from national or community-based forests. In addition, low land aromatic plants such as citronella, Mentha are also cultivated within the community managed forest area. These community-based forest user groups also collected significant amount of revenue from the sale of forest products which can be a potential investment capital for NTFP/MAP based enterprise in the province.

Based on existing production system, available possible capital investment within community-based forest user groups, and also potential for ensuring community stake on NTFP/MAP based enterprises, below two major modalities are recommended for public capital support in the sector.

a) Private enterprise: Based on consultation with major stakeholders and review of financial and business documents, published documents, the study recommends to support private sector enterprises through a number of policy and financial measures. Key policy and financial support to private sector businesses are discussed in chapter below. Public support includes, a) capital investment for technologies as subsidized loan with long pay back period b) Tax subsidies c) reform on process and procedures such as company registration d) facilitation on buy back guarantee for smallholder producers.

b) Community owned within the Cooperative model: The existing Company Act does not allow community owned business registration; however, the Act is under revision with a possible provision on community-based enterprises. The Cooperative Act of Nepal allows registration and operation of member-based company or enterprises in Nepal. Although, the cooperative based saving schemes are largely criticized in Nepal recently, there are limited attempt on cooperative based enterprises in the forestry sector. Cooperative based saw mill in Kavre district is one of the examples of such attempt and success of this enterprise is largely at par.

There are 4023 community forest user groups, managing 423,618 ha of forests in Lumbini province. Out of 4023, concept of scientific forest management for productive forests has been applied in 226 CF. In addition, eight collaborative forests management blocks are under managed in collaborative model covering 22,559 ha of forests. These community-based forest user groups collected around NRs 340 million (NRs 340,103,152) in fiscal year 2079/80 which can be the available investment capital for NTFP/MAP based enterprise. The available capital investment available within CFUG/CFM groups need to be invested largely in enterprise promotion where the Ministry of Forests and Environment plays a facilitating role to maximize the benefits from NTFP resources.

This proposed modality needs to be registered as cooperative based enterprise with investment from CFUG/CFM groups. The operation management can be developed within the private enterprise model, and cooperative can employ skilled human resources, does marketing of products, and also make contract with smallholder producers, including CFUG/CFM groups

7. CONCLUSION

The assessment revealed that there are mainly three types of NTFP/MAP-based enterprises operated in the Lumbini province, a) privately owned b) community based and c) Government enterprise. Besides, smallholder farmers are also involved in small scale business mainly collection of MAP/NTFP and sale in local market. Out of more than three thousand forest based enterprises, forty percent are directly related to MAP/NTFPs, providing direct and indirect employment opportunities for communities. Despite economic contribution of MAP/NTFP based enterprises, they are also facing a number of challenges; policy and legal frameworks, technological, human resources, financial and market.

While having multiple challenges, access to affordable, timely and accessible financing support is found critical to sustain NTFP/MAP based enterprises. Availability of raw materials and supply chain is another critical issue to sustain these enterprises, which need more investment in production system. Multiple taxation, constraints in export, lengthy process to get government permission to collect and transport raw materials are key to address to sustain sub sector business in the province.

Private sector already invested millions in essential oil, Kathha, resin and turpentine-based industries. However, they are lacking modern technologies to diversity products (such as Resin), storage and cold house. The provincial government needs to consider supporting existing businesses instead of creating new similar enterprises. For example, essential oil sector is well established in Nepalgunj, and private sector already does have knowledge on market and products. However, they are lacking some critical infrastructure such as cold house, and lab for quality control. This is important to consider while providing any public support from the provincial government. Similarly, Resin and turpentine-based industry in the province has already been established in the province, which may need additional technological support to diversify their products, other than resin and turpentine.

The study suggests that the government support should focus on already established and under operational enterprise, instead of creating new venture. Major capital investment is needed to strengthen and increase production capacity through technological support and machineries. Besides, support also needed to ensure and secure access to bank loans with subsidized interest and procedural support.

8. RECOMMENDATIONS

Public support to existing enterprises: NTFP/MAP based enterprise is well established in Lumbini province with a significant investment from the private sector. However, private sector is facing challenges in accessing loan, new technologies and laboratory for quality control. The study suggests that the public sector support be focus on existing enterprises instead of establishing new one.

Inclusive business concept: Existing community-based processing unit for essential oil are found not much effective as that of privately owned. Therefore, the study suggests that the public support be oriented towards private sector while ensuring benefits to local communities under the concept of inclusive business.

Interest rates: The present interest rates are found 11.5 – 16.0% with a mean of 13.7%. Most entrepreneurs discussed during the assessment process suggest that if concessional loan can be accessed to promote MAP/NTFP sub sector. The existing government subsidy on interest to agriculture-based enterprise can be a good fit for NTFP/MAP based enterprise, as well.

Lending ceiling: The agricultural interest subsidy has the maximum cap of NPR 50 million i.e., entrepreneurs can receive the interest subsidy for loan amount up to NPR 50 million. If similar ceiling can be set for the NTFP/MAP-based enterprise, could be more attractive for investment in the sub sector.

Simplifying the lending process: The lending process is similar for all types of loans. Provincial government policy supporting adoption of simplified and hassle-free registration process may help these enterprises.

Investment on raw material production: Sustained supply of forest-based resources such as Khayar for Kattha, MAPs and NTFPs is one of the major concerns for investors. Continuous supply of raw materials needs to focus on production and supply. In situ cultivation of essential oil-based species, proper management of high-altitude medicinal plants need a better focus.

Business development services: There is no specific government institutions in place to provide dedicated support to forest-based enterprises, including business planning and marketing. As a reason, timely technical advice on NTFP based enterprise needs a dedicated team of experts within the provincial government.

Enterprise support modality: Enterprise support modality under Inclusive Business model: Based on existing production system, available possible capital investment within community-based forest user groups, and also potential for ensuring community stake on NTFP/MAP based enterprises, below two major modalities are recommended for public capital support in the sector.

A) Private enterprise: Based on consultation with major stakeholders and review of financial and business documents, published documents, the study recommends to support private sector enterprises through a number of policy and financial measures. Key policy and financial support to private sector businesses are discussed in chapter below. Public support includes, a) capital investment for technologies as subsidized loan with long payback period b) Tax subsidies c) reform on process and procedures such as company registration d) facilitation on buy back guarantee for smallholder producers.

B) Cooperative based Enterprise: There are 4023 community forest user groups, managing 423,618 ha of forests in Lumbini province. Out of 4023, concept of scientific forest management for productive forests has been applied in 226 CF. In addition, eight collaborative forests management blocks are under managed in collaborative model covering 22,559 ha of forests. These community-based forest user groups collected around NRs 340 million (NRs 340,103,152) in fiscal year 2079/80 which can be the available investment capital for NTFP/MAP based enterprise. The available capital investment available within CFUG/CFM groups need to be invested largely in enterprise promotion where the Ministry of Forests and Environment plays a facilitating role to maximize the benefits from NTFP resources.

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10. Annexes

10.1 Annex 1: Persons, Institutions and Enterprise interviewed

Provincial authorities

1. Mr Mohan Kafle, Provincial Secretary
2. Mr Dadhi Lal Kandel, Provincial Forest Directorate and his team
3. Mr Keshar Khadka, Provincial ministry of forests and environment
4. Mr Damodar Sharma, Forests for Prosperity Project
5. Mr Lila Paudel, Forests for Prosperity Project
6. Mr.Sujan Dhimal ,7th level Officer-Ministry of Forests and Environment, Lumbini
7. Mr Prabhat Sapkota, DFO Rupandehi and his team
8. Mr Ajit Karna, DFO Banke and his team
9. Mr. Narayan Bhattarai DFO- DFO Palpa
10. Mr. Samyog Basnet , Officer-DFO Palpa
11. Mr. Ram Chandra lama, Officer-DFO, Palpa
12. Mr. Raju chhetri,DFO-DFO Lamahi ,Dang
13. Mr. Tek Neupane, Officer- DFO, Banke
14. Mr. Ram Prasad Sharma, JABAN and team
15. Mr. Madan Sapkota , Officer-DFO, Dang, Ghorahi
16. Mr. Tekan Prasad Acharya -DFO,Dang,Ghorahi
17. Mr. Prem Shankhar Chaudhary, DFO,Liwang,Rolpa
18. Mr. Dasharam Chaudhary, Officer-DFO, liwang, Rolpa
19. Mr. Jay prakash Gupta, Officer- DFO,Pyuthan
20. Mr. Ishwori Poudel, DFO-DFO Arghakhanchi
21. Mr. Yadav Prasad Sapkota, Information Officer-DFO, Arghakhanchi
22. Mr.Netra Bahadur Kunwar,Forester-DFO,Gulmi
23. Mr.Pankaj Kumar Thakur,DFO-DFO,Gulmi

DFO interviewed virtually

1. DFO – Kapilbastu
2. DFO- Bardiya
3. DFO – Rukum -east

Enterprises discussed

- | | |
|--|------------------------------|
| 1. Daya Ram | MAPs plantation Banke |
| 2. Mohamad Azam Halwai | Essential oil, Banke |
| 3. Jhula Dangi | Allo and hemp, Dang |
| 4. Ram Sharan Chaudhari | Amriso Dang |
| 5. Shiva Raj Giri | Handmade paper Dang |
| 6. Prabhat Neupane | Essential oil Kapilvastu |
| 7. Hom Bahadur Gurung | Essential oil Nawalparasi |
| 8. Govinda Prasad Pandey | Essential oil Palpa |
| 9. Basant Rokka Chhetri | Kattha Rupandehi |
| 10. Nawaraj Rokka Chhetri | Rosin / Turpentine Rupandehi |
| 11. New Resunga Jadibuti Prasodhan Kendra , Resunga 2,Gulmi ,Nepal | |

Persons/Institution interviewed in Kathmandu

1. Govinda Gimire Essential oil entrepreneur
2. FNCCI/ Agriculture Enterprise Centre
3. Herbs Production and Processing Company Limited
4. Dipak Gyawali – DDG, Department of Forests and Soil Conservation
5. Dr Rajendra KC – Director General, Forest Research and Training Center

