Community Forest - based Enterprise Development Plan

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Forest Department

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Acknowledgement

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Abbreviations

CF	Community Forest
CFE	Community Forest Based Enterprise
CBT	Community Based Tourism
NTFP	Non- Timber Forest Product
CFI	Community Forestry Instruction
CSOs	Civil Society Organizations
FD	Forest Department
NGOs	Non- Governmental Organizations
CFUGs	Community Forest User Groups
CFMP	Community Forest Management Plan
MRBEA	Myanmar Rattan and Bamboo Entrepreneurs Association
ASEAN	Association of Southeast Asian Nations
CBFESs	Community-Based Forestry Enterprises
CIT	Community Involvement in Tourism
MA&D	Market Analysis and Development
FAO	Food and Agriculture Organization
EFY	Elephant Foot Yam
FUGs	Forest User Groups
SWOT	Strength, Weakness, Opportunity and Threaten
CBNE	Community Based Nature Enterprise
UNDP	United Nation Development Program
RECOFTC	The Center for People and Forests
MKCF	Mekong- Republic of Korea Cooperation Fund

Executive Summary

In Myanmar, about 70% of total population live in rural areas and mostly depends on forests for their basic needs and livelihoods. On the other hand, Myanmar forests have been facing not only deforestation but also forest degradation. With this, Myanmar Forest Policy (1995) recognized the importance of the provision of the basic needs of people and local participation in the conservation and use of forests.

To fulfill the basic needs of local communities and to strengthen the participation of local people, Community forestry initiatives have been implemented as one of the major national programs for sustainable forest management in Myanmar since 1990s. It has been targeted to achieve 10% of the total country area (2.27 million acres [919,000 hectares (ha)] of community forests by fiscal year 2030/31) as the community forest areas in the National Forestry Master Plan (2001-2030).

Community Forestry Instructions (1995) had been developed to guide the implementation of Community Forest (CF) emphasizing the basic needs of local communities. The revised Community Forestry Instructions (2019) was developed focusing on strengthening the commercialization of forests products for livelihood development while conserving the forests.

Creating viable community-based enterprises is essential to improve livelihoods while providing incentives for sustainable natural resource management of community forest. In this regard, it needs to have enabled environment such as accessibility to markets and transportation, financial and technical support and economic viability are the commonly occurred ones in current situation.

Aiming to assess the potential of Community Forest-based Enterprise in Myanmar enhancing the sustainable community forest management and improving the livelihood of forest user groups, this study conducted the survey on the current situation of the Community Forest in terms of resources availability, resources utilization, the potential forest products or services provided by the Community Forest so as to practice as Community -based Forest Enterprise, the current market situation, demand and supply of the main products or services so as to be ensure in practicing as Community -based Forest Enterprise.

To develop sustainable CFE, FAO's innovative market analysis and development (MA&D) approach has been used in this report. This is a step-by-step

process that enhance the capacity of forest community members for identification and developing CFE. Assessing the following five areas ensure the MA & D as an appropriate methodology for successful rural small-scale enterprises. Screening the five areas of enterprise development ensures the systematic inclusion of these five aspects of enterprise development to identify the products with the highest potential success;

- Market/Economy, including financial aspects;
- Natural resource management/Environment;
- Social/Cultural;
- Institutional/Legal;
- Technology/Product research/Development.

The followings are major findings of this study;

- The market conditions of Malar-u, Wa-u and Sa-nwin are more profitable than other NTFPs if they sell primary processed (dried) materials.
- Most of NTFP harvesting from natural forest is not sustainable.
- According to market analysis data, it is clearly shown that much more profit goes to village traders (who make primary processing) and city brokers. In spite of hard effort to harvest and collect from forest every year, socioeconomic condition of local people has not improved yet, especially in Phalaung CF.
- Local collectors have been receiving the least benefit among all actors in the value chain of NTFPs due to market monopolization in some villages, less market information and lack of value addition such as Kun and Malar-u.
- Most of the local people have less interest in value addition (primary processing) of NTFPs and underestimate the economic value of NTFPs as well as they have limited capacity in business skill, financial investment, value added technology and market linkage.
- Most of the donors and Non-Governmental Organizations and International Non- Governmental Organizations usually support for planting, awareness raising, education and revolving fund and not for access to market information and development.
- Nearly most of the community forests in Lwe Nyeint village are aimed for water resource conservation, basic needs fulfilment and socioeconomic development, income generation from CF products has not apparently found.

- ❖ CF users in Lwe Nyeint village are willing to participate in CF for CBT but they don't have knowledge about tourism.

This study made the following recommendations;

- ❖ As the market conditions of Marlar-u, Wa-u and Sa-nwin are more profitable, the government should support with a consistent demand that produces raw materials to upgrade to the production of finished goods within the area.
- ❖ NTFP producer organization and coordinating with business men from private sector should be necessarily done to implement Public Private Partnership.
- ❖ The market price of Mar lar U is in upward trend and the domesticating and cultivating in the home gardens and community forest area should be encouraged.
- ❖ Most of the research observed on becoming systematic farms of Elephant foot yam. The government should supervise to provide enough good seeds, and to encourage annual productivity and quality control.
- ❖ Related to Kun production in Phalaung CF, research activities to reduce production loss, guidelines for soil conservation and water management, and market research should be led by the government.
- ❖ Developing the internal rules for sustainable production, harvesting, marketing of commercial NTFPs as well as the researches and trainings for systematic planting, collection and processing/drying to reduce post-harvest lost should be conducted.
- ❖ MKCF should carry out and support green economy businesses such as community-based ecotourism, community based NTFP enterprise to achieve the sustainable natural forest conservation, biodiversity conservation and profitable local livelihood improvement for long run.
- ❖ Market analysis and development trainings have to be conducted to choose the most potential community based NTFP enterprise such as elephant-foot-yam, avocado and ecotourism and initiate pilot projects.
- ❖ Promotion of nature-based tourism and cultivation of commercial NTFPs (elephant-foot-yam (Wa-u), Marlar-u) in CF area should be introduced. The NTFPs products should be advertised from community forest labelling products from sustainably managed community forest as a kind of sale promotion.

- In order to promote entrepreneurship in community based NTFP enterprise, trainings about business skill improvement, saving and loan group scheme, group management, product skill, packaging and product exhibition should be conducted.
- To implement the tourism based CFE in the surveyed CF, the followings are recommended to support as priority through group discussion with CFUGs;
  - Implementation of village cultural walk/ Canopy walk
  - Implementation of roads/ trails for mountain biking
  - Handicraft shops
  - Home stay facilities
  - Distribution of pamphlets
  - Community members to be trained as tourism guides
  - Labelling scientific name of trees in CF area
  - Study tour to successful CBT areas

1. Introduction

Myanmar is endowed with different types of forests and various kinds of natural resources. These valuable resources are crucial for the sustainable development of the country. According to the national census (2014), about the two-third of the national population live in rural areas and mostly depend on forest resources for their basic needs and livelihood. On the other hand, Myanmar forests have been facing not only deforestation but also forest degradation (Ref). Statistically, the percentage of forest cover significantly declined from 58 % in 1995 to 42.19 % in 2020 (FRA 2020). This situation calls the urgent action to conserve forests effectively.

While figuring out the solutions for tackling forest degradation and deforestation, the role of local communities, major component of the forest dependent communities, need to be taken into consideration as a holistic approach is completely necessary for successful forest conservation. With this, Myanmar Forest Policy (1995) recognized the importance of the provision of the basic needs of people and local participation in the conservation and use of forests.

In order to fulfill the basic needs of local communities and to strengthen the participation of local people, Community forestry initiatives have been implemented as one of the major national programs for sustainable forest management in Myanmar, starting from the 1990s. Community forestry instructions has been adopted in 1995 as the first ever scientific baseline informative documents for the establishment of community forests in Myanmar focusing on provision of basic needs of people while conserving the forests through the participation of people in managing the forests and decision-making process. It has been targeted to achieve 10% of the total country area (2.27 million acres [919,000 hectares (ha)] of community forests by fiscal year 2030/31) as the community forest areas in the National Forestry Master Plan (2001-2030).

According to CFI 1995, Community Forest meant that all sustainable forest management and utilization activities, in which the local community itself is involved. This expression includes establishing new plantations and managing existing forests, to create employment and income opportunities from subsistence to commercial purpose, to generate food, to stabilize ecosystem and to improve the environmental conditions.

Although Community Forestry Instructions (1995) had been developed, there are various challenges to achieve sustainable development of Community forestry that can enhance the livelihood of local communities and forest conservation. In this regard, the revised Community Forestry Instructions (2019) was developed strengthening the commercialization of forests products for income generation. It is essential to evolve CF in Myanmar must evolve from a subsistence-oriented model towards an enterprise-oriented model to catch up with policies for investing in locally controlled forestry. This will provide maximum benefit to the rural poor Tint et al., 2014). The revised 2019 Community Forestry Instruction (CFI) has received increased interest in community forestry (CF) and the commercializing of forest products amongst rural communities, government agencies, private sector and supporting agencies. The CFI has opened up more avenues for CF to impact sustainable forest management and livelihood development in Myanmar. Creating viable community-based enterprises is essential to improve livelihoods while providing incentives for sustainable natural resource management of community forest.

But lack of enabling environment such as accessibility to markets and transportation, financial and technical support and economic viability are the commonly occurred ones in current situation (Tint et al., 2014).

To overcome these challenges, development of CFE could significantly encourage local communities for sustainable management and restoration of forests by providing financial incentives. CFI 1995 defined Community Forest based enterprise (CFE) as harvesting of wood and non-wood forest products, foods, and value-added products from the community forest, and trading them in the local and international markets in accordance with the standing laws, or business conducting local community-based tourism.

Tint et al., (2014) highlighted that encouraging the potential of community forest based enterprise in Myanmar is essential not only to increase local incomes and government revenues resulting in reducing poverty but also to encourage local people to manage and restore forests by the financial incentive of such enterprises. Without enlisting the help of rural communities in these efforts it is likely that forest loss will continue and the contribution of forests to the rural economy will continue to decline.

The study conducted in Ayeyarwady, representing the coastal zone; Manadalay representing the dry zone; and Shan and Kachin representing the uplands by Tint et al., (2014) pointed out that there is much potential of CFE in Myanmar upon different agro-ecological conditions, livelihoods needs and markets. Also, this study highlighted the potential forest products and enterprises based on the suggestions of the villagers. This study is very pioneer in Myanmar focusing the potential of CFE and still need to conduct more study in assessing the potential of CFE considering the five areas (FAO, 2011).

2. Objectives

The main objective of the report is to assess the potential of Community Forest-based Enterprise in Myanmar enhancing the sustainable community forest management and improving the livelihood of forest user groups. In this regard, it was set up the following specific objectives;

- To study the current situation of the Community Forest in terms of resources availability, resources utilization
- To identify the potential forest products or services provided by the Community Forest so as to practice as Community -based Forest Enterprise
- To assess the current market situation, demand and supply of the main products or services so as to be ensure in practicing as Community -based Forest Enterprise
- To support recommendation/strategies to develop sustainable Community-based Forest Enterprise

3. Scope and Limitations of the Study

The data collection was carried out within limited time and under the strict travel regulations of COVID 19. In this regards, sample size of this report was limited and market study and analysis could have been conducted in township level. This study could assess the status of community forest by conducting focus group discussion and transect walk within the surveyed CF and using secondary data.

4. Literature review

Community forestry has a huge potential to support livelihoods of rural communities by providing a legal tool for sustainable management and extraction of natural resources. The Community Forestry instructions of 2019 take into account the possibility to upscale the concept of CF to Community Forest Enterprises (CFEs) (UNDP 2020). This innovation aims at creating mechanisms to promote sustainable businesses which, at the same time, contribute to environmental protection. The revised 2019 Community Forestry Instructions (CFI) has received increased interest in community forestry (CF) and the commercialising of forest products amongst rural communities, government agencies, private sector and supporting agencies. The CFI has opened up more avenues for CF to impact sustainable forest management and livelihood development in Myanmar. This momentum is showing some positive examples of community forestry user groups (CFUGs) initiating small forest product enterprises. These examples also indicate that a better understanding of the process is still required if CFEs are to meet their full potential to transform the livelihoods of millions of rural people (RECOFTC, 2018).

There are three major sectors for CF enterprise development: timber (including poles and posts), bamboo (including both unprocessed and processed products) and NTFPs – particularly medicinal and ornamental plants. There are also many miscellaneous products with great potential for CF enterprises, such as charcoal, rattan, agarwood, thanaka, elephant foot yam, white yam and so on (Tint et al. 2014). A field research from four states presented by (Tint et al. 2014) highlighted particularly promising community forestry enterprise opportunities. Bamboos was the highest-priority product for enterprise development in the Ayeyarwady Delta, with timber (and potentially timber poles) and charcoal taking the second and third positions respectively. In the Mandalay Region, bamboo had the highest potential for enterprise development, with timber and value-added bamboos taking the second and the third positions respectively. In Shan State, thatch appeared to have the highest potential, followed by value-added bamboos and bamboo. Finally, in Kachin State, timber was to be the best option, with medicinal plants and firewood coming in at second and third.

A number of key challenges were found to underpin the slow development of CFE (Tint et al. 2014). These challenges are weak political commitment, insecure commercial land and resource tenure and use rights, shortage of investment, lack of

business skills, insufficient technology, lack of interest of forest officers in CF enterprise, lack of support from the government and related ministries, weak community participation. The involvement of all stakeholders was key to the success of the initiative (FAO, 2005). The report from RECOFTC explored knowledge gaps exist on the various challenges emerging CFEs are facing, and the types of support that they need to successfully establish themselves, develop viable business models and links to markets and engage effectively with the private sector.

The important key to be sustainable CFE is marketing. Several studies described the NTFP market chains that marketing chains are the skeleton or flow of marketing systems (Asker et al. 2010). A market approach to be sustainable, the system maintains improving prices to producers, adding value locally, and organizing people to achieve the aim, while increasing people's interest in conserving forests and resources. This approach can also lead to the long-term securing economic growth and political rights goal (Perez and Byron, 1999).

A key principle of marketing is to produce what can be sold for a profit, rather than simply what can be produced easily. An enterprise must identify and satisfy consumer needs in order to survive. This generally means adding value to a product by processing or packaging it, which usually involves indirect actors in the process. Successful entrepreneurs are market-oriented rather than product-oriented (H Kara 2014). Small and medium scale enterprises have the opportunity to initiate market initiatives focused on forest products sustainably harvested from the forest (Report 2020) Proper marketing makes a major difference to product sales. The investment in advertising is key for increasing product sales (FAO, 2005).

Collection and marketing of NTFPs are traditional sources of household income and sustenance in rural areas. In most tropical countries, Non-Timber Forest Products (NTFPs) are important in the daily lives of the local people, contribute to the fulfilment of basic needs and provide employment opportunities. In particular rural and poor people depend on NTFPs as sources of food, fodder, medicines, gums, resins and construction material for their livelihood. In addition to local consumption, NTFPs are also important in not only local market traded commodities but also regional, national as well as international markets. NTFPs contribute to as a part of socioeconomic condition of local community (Larson and Dahal 2012). FAO, (2011) mentioned in the report that in Myanmar, rural communities depending on NTFPs for their subsistence

and for trade and the NTFPs are probably more important than timber or other forest products. NTFPs provide as raw materials large scale industrial processing and some are also important for export market.

In Myanmar, forest products are divided into two main products, namely, commercial products and minor forest product or Non-Timber Forest Products including animals, vegetables and mineral products (Moe n.d.). Although, the production and processing of (NTFPs) may considerably increase the incomes of local community, there are relatively few successful examples of NTFP enterprise development combining profitability, equity, sustainable production and suitable technology used (FAO, 2005).

In southern Chin State of Myanmar, trade in EFY has increased dramatically over the past decade as Chinese (buyers of 85 percent of all EFY chips from Chin State) and Japanese food manufacturers have increasingly sourced Myanmar EFY for processed food manufacturing (Assessment 2017). The result is an increase in price of EFY and more Chin farmers taking up cultivation of the tuber. Today EFY is a major cash crop in this region of extreme poverty, and uptake has approached 100 percent of households in villages where it is produced. While farmers once foraged the tuber and sold it fresh, today most growers process, dry, and chip EFY themselves to capture more value in the value chain.

While EFY growers are enthusiastic about the production as a source of income, primary opportunities lie in increasing value in the value chain through product improvements, rather than capturing more of the value already existing within the value chain. Chin EFY growers may have a competitive advantage if they invest in slicers and drying materials (fishnets or plastic solar houses) to improve EFY chip quality and will also boost information sharing in the value chain, familiarize growers with buyer expectations, and demonstrate best practices for processing. In the long term, interventions may need to consider constructing local storage warehouses, processing facilities, or seed banks; developing links with the Japanese supply chain; and proving a domestic market for EFY-based processed foods.

However, in case of NTFPs commercialization in a developing country like Myanmar, most of the NTFPs have been sold in dried, just primary processed forms. Producing the finished product is little far from their capacity. Therefore, studying the

value chain of marketable NTFP is the effective way to identify the detailed challenges and difficulties for market development of NTFPs. As the value chain process is production to consumption system, various direct actors and indirect actors are involved and their roles are essentially important. Before the attempt for complete transforming of low value raw form selling to high-price-valued added finished product marketing, the effective intervention to add more value to raw NTFP is one particular suggestion for livelihood improvement.

To develop sustainable CFE, FAO's innovative market analysis and development (MA&D) approach has been used in this report. This is a step-by-step process that enhance the capacity of forest community members for identification and developing CFE. Assessing the following five areas ensure the MA & D as an appropriate methodology for successful rural small-scale enterprises. Screening the five areas of enterprise development (Figure 4.1) ensures the systematic inclusion of these five aspects of enterprise development to identify the products with the highest potential success.

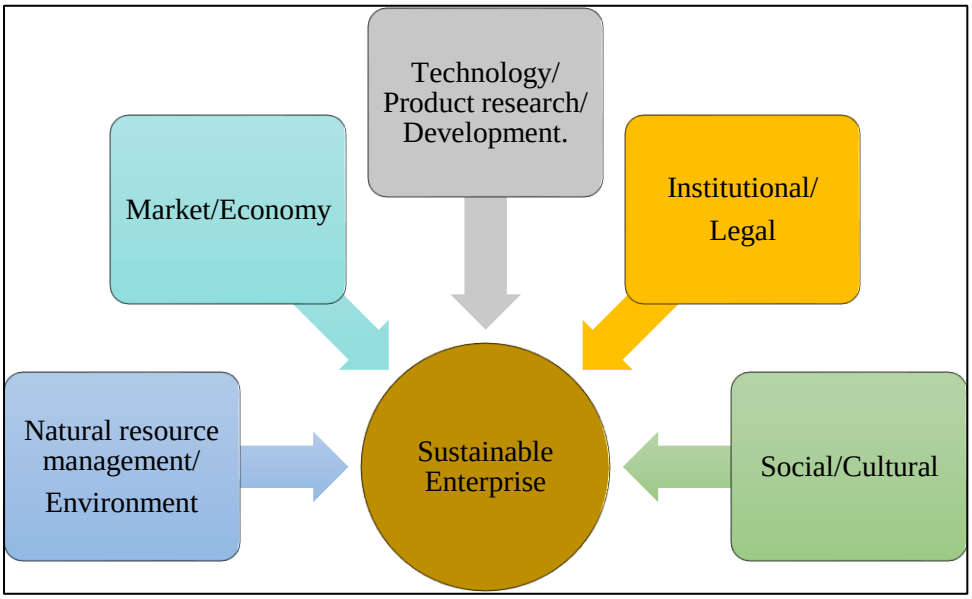


Figure 4. 1. Five areas of sustainable enterprise development.

- Sustainability of the resource

  Any natural resources-based enterprise should apply sustainable harvesting method to prevent the scarcity of resources and ecosystem in the long term.

- Social sustainability

To be sustainable enterprise, it needs to ensures that the activities and benefits of the enterprises are equitable and gender-balanced, that they do not harm the weakest members of the community or create social conflicts.

- Market sustainability

  Any sustainable enterprise depends on having market sustainability by ensuring constant access to market information so that entrepreneurs remain competitive by proposing attractive products for markets. Entrepreneurs are thus able to assess changes in the market environment and adapt their products accordingly.

- Legal and institutional sustainability

  For sustainable enterprise development it needs to ensures that entrepreneurs stay abreast of changing policies influencing harvest, processing, transportation or distribution of their products. Entrepreneurs also need to remain aware of changes in administrative procedures that can impact the registration, financing or management of their enterprises.

- Technological sustainability

  Producing high quality products using the equipment is vital for any enterprise development. With this, it needs to encourage entrepreneurs to select equipment that is suitable to the needs of their enterprise, users and local conditions. Users must learn to use the equipment properly, to maintain it and to upgrade it as needed.

The approach used to gather and analyse data is called ‘screening the five areas of enterprise development. One of the main strengths of the MA&D process is the systematic inclusion of these five aspects of enterprise development as shown in Figure (4.1).

Method was adopted to the concept of Sustainable Enterprise Development which was developed by FAO in 2011 for market analysis and development (MA&D) of community-based tree and forest products enterprise. After having examined many literature sources, in the Market Analysis & Development – MA&D (FAO, 2011) has been identified the most suitable instrument.

By 4 phases or stages (from the assessment to the start-up of the enterprise) as shown in Figure (4.2), the potential entrepreneurs follow a sequence of systematic steps to ensure that all critical elements are included in order to minimize any risks linked to

establishing their enterprises and to select the best product among several possible for their business. The selection process is performed step by step screening the, so called, five areas of the enterprise development. It means that each information collected and each decision made takes into account the environmental, social, institutional and technical factors, as well as commercial and financial aspects of a product.

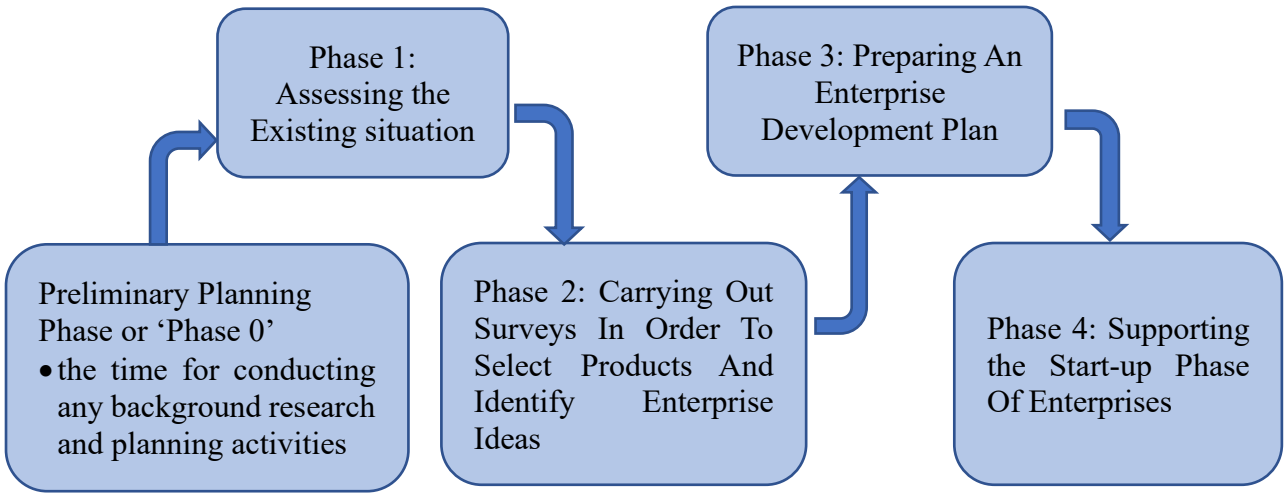


Figure 4. 2. Four phases of Market Analysis and Development (MA&D).

5. Materials and Methods

5.1. Study area

The main livelihoods of community living in Nyaung Shwe township are agriculture (floating farm, farm, and paddy cultivation), wage labour, boat and tourist service, local snack business, hotel, and company staff (Myint MZ., 2022). The main crops include rice, corn, pigeon bean, tomato, sugarcane, turmeric (Curcuma longa) and avocado. Also, being Inlay Lake in the township attracts domestic and foreign visitors to come to the township. The following figure highlights the status of foreigners visiting to Nyanung Shwe Towbship.

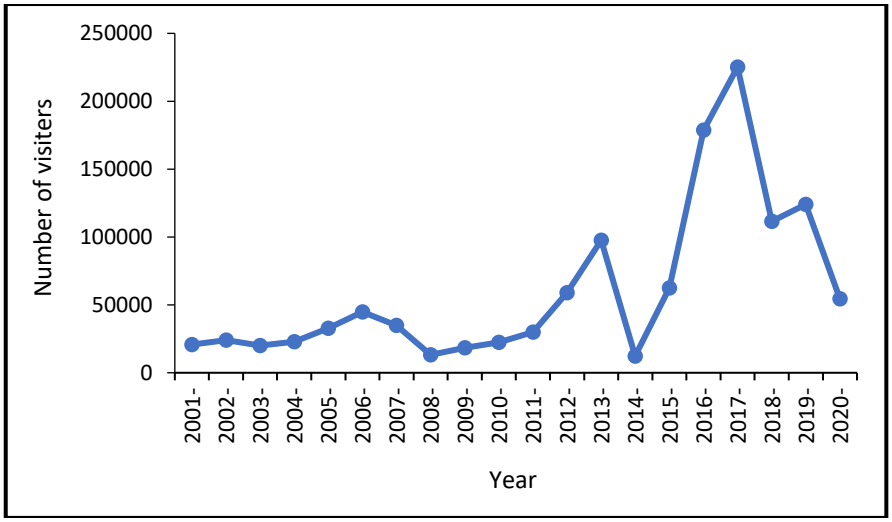


Figure 5. 1. Trend of foreigner visiting to Nyaung Shwe Township, Myanmar.

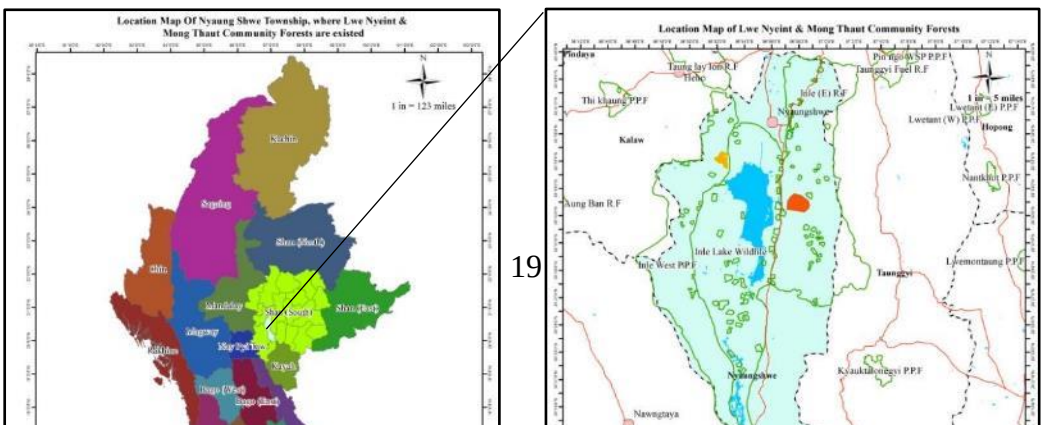
This study was conducted in Lwe Nyeint Village which is located in Nyaung Shwe Township, southern part of Shan State, containing 194 households with a population of 700. Majority of the residents is composed of Inn ethnicity. The village is accessible by means of boats, bikes or cars as it is about 6 miles far from Nyaung Shwe Township. As this village is located alongside the lakeshore of Inle Lake, one of the ASEAN heritage sites in Myanmar, boat rental service is the main source of income for their livelihood after the development of tourism in Inle lake in 2013.

Prior to this, the local residents mainly depend on forests for their income by producing fuel wood and charcoals. This led to deforestation in the adjacent forested areas of village. Another income source is making Kywaymothe, local traditional food made of rice powder. This type of income generating method was also likely to cause deforestation due to high fuelwood consumption in these processing procedures. In the surrounding areas, there are famous tourist destinations such as Kaungdaing Natural Hot Spring and Kaungdaing Village. The socio-economic report by Myint MZ., 2022 pointed out the Nwe Nyeint Community Forest as potential tourism oriented CFE.

The community forest has been establishing in 2000 under the technical and financial assistance of UNDP project. Community forest user group, consisting of 194 members, was also formed under this project. The area of the community forest is about 600 acres, covered by Indaing forest tree species (for example. *Shorea siamensis, Shorea Robusta, Dipterocarpus tuberculatus*, etc). The certificate for this Lwe Nyeint

Community Forest has been granted in 2001 to conduct forest conservation activities in deforested areas. Soil erosion and reduction of water yield both quantitatively and qualitatively were used to be the significant environmental problems in this area in the 1990s.

The group contributed effectively in forest conservation activities during the project period, the group has struggled to sustain their efforts in the post project period despite periodic support from the FD. Currently, members of CFUG have conducted fire protection and planting activities occasionally or annually with the assistance of local forest department.



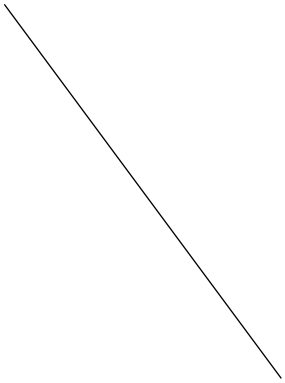


Figure 5. 2. Study sites in Nyaung Shwe Township, Myanmar.

Mine Thout Village, located in the eastern side of Inle Lake, is composed of 160 households and a population of 450. The village is about 9 miles far away from Nyaung Shwe Township. Unlikely to the two other project sites, forest user group is composed of villagers from the four villages, namely, Myaunggyi, Paypingone, Minethout and Layeaingone villages. Among these villages, only the Layeaingone village generate their income solely from producing non-timber forest products such as Marlar U and Sanwin, apart from the other three villages (Myint MZ., 2022). These three villages conserve the forest only for the sustainable water supply.

Prior to the CF establishment, the main sources of income are generating fuelwoods, which led to deforestation and reduction of water supply in these mountainous areas. In order to prevent deforestation and provide sufficient water supply, the community forest has established in 2001. The area of Mine Thout CF is about 1250 acres. Three types of forests can be found in this area. The forest types are Indaing Forest, Evergreen Forest, and Pine Forest. After the CF establishment, the quantity of water yield is significantly improved, reducing the soil erosion to a certain extent. The status of forest has shown a remarkable improvement. Fire prevention, natural regeneration and enrichment planting activities have been implemented occasionally or regularly with the technical assistance of the Nyaung Shwe Forest Department.

The socio-economic report conducted by Myint MZ.,2022 highlighted that Maing Thauk CFUG members, particularly those residing in Layeaingone village in the forest land (CF), are depending on NTFP collection from natural forest to some extent. Thus, the CF reflects the objective of the project and can be revealed as a demonstration

site for NTFP based CFE development. However, the income received from NTFP collection in Layeaingone village makes only a small fraction of monthly total household income. There may be limitations for sustained production and livelihood in the long term unless the community reveal alternative livelihood activities. If enabling conditions for value-addition of the current cash crops, that is Tumeric and Mar Lar, can be created for the CF users of Layeaingone, higher price of the products can be expected. In addition to turmeric and Mar Lar, introducing other cash crops (e.g., yam, coffee etc.) will help increase household income.

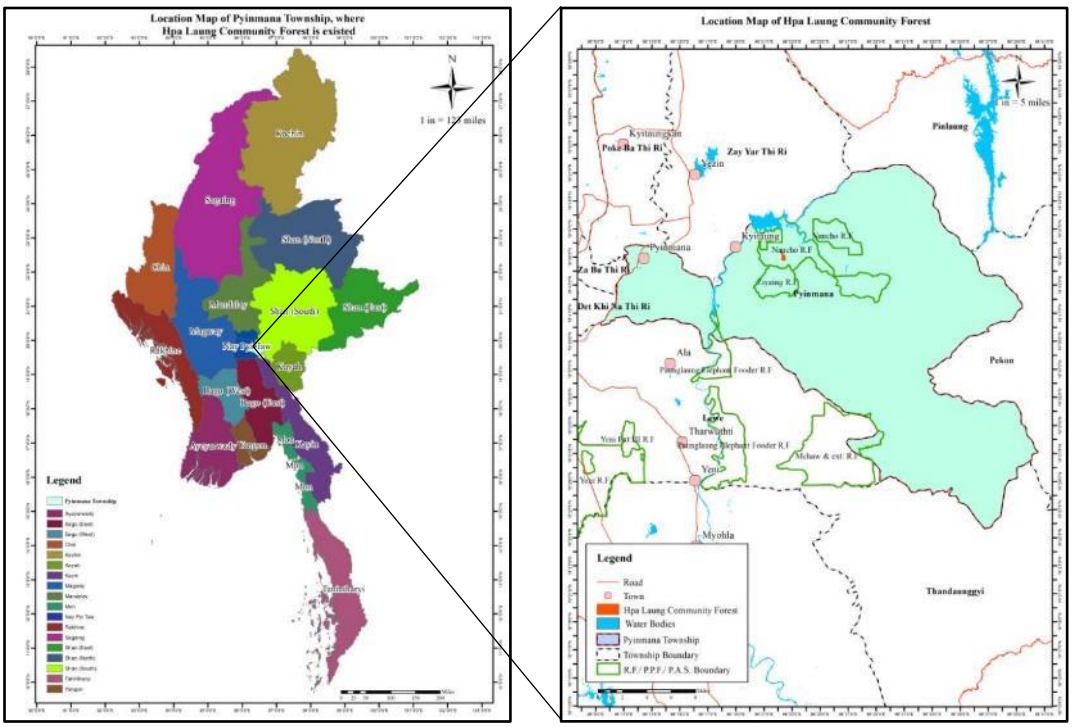


Figure 5. 3. Study sites in Pyinmana Township, Myanmar.

Phaluang village was also selected as one of the survey sites which contains – 140 households, with a population of 350. It is located in the upper mountainous part of Pyinmana township, Naypyitaw Union territory. Although its location is close to the urban areas, especially 1 hour drive away from Pyinmana, the electricity is not accessible in this village, imposing constraints for their social and economic development. As the major source of income, around 90% of the households cultivate betel conventionally, mixed with Kathit (*Erythria Indica)* as host trees. Products harvested are sold at the markets of the surrounding townships (Pyinmana, Lweway and Yeni). Limited accessibility to the market and use of the products, lack of good

dealership, pests and climate change impose serious constraints on the massive trade of these products. At the moment, it has been initiated to establish the community forest. The 25 members will be included in the forest user group.

5.2. Data collection

The survey CF were selected according to the presence of NTFP production and marketing, community-based tourism and following the recommendations of the report prepared by Myint MZ., 2022. Data collection was conducted for households participating in the surveyed Community Forest as the members using a questionnaire survey in February and March 2022. Information was collected through a meeting with focal person of household who participating in CF activities using a structured interview. The survey team for the household interview consisted of both male and female interviewers with accompanying representatives from each selected CF. Before starting an interview, the respondents were informed that the interview was only for academic report for the project and did not concern any authority. The survey questionnaire was written in the national language to allow a clear understanding.

Firstly, a focus group discussion with 30-40 CFUG members was conducted to highlight the current situation of CF, current utilization of timber or non-timber forest products from CF, and the market trend for the products and livelihoods of CFUG members by using resource mapping and seasonal calendar tools, and transect walk in CF. Depending on the heterogeneity or homogeneity of the livelihoods of the respective CF, households were selected by using stratified random sampling for the in-depth household survey. Table (5.1) shows the respondents of each surveyed CF.

During the survey, focus group discussions are carried out mainly with three groups to get information on the potential of NTFPs from villagers, collectors in the study area. Group 1 which includes about 6 participants represents to draw resource mapping that they agree on symbols for natural resources and landmarks such as boundaries, roads, settlement areas, non-timber resources. Group 2 explores to list out the use of non-timber forest products (NTFPs) from CF, natural distribution and the collection seasonal calendar of these resources. It is useful for examining forest health and the conditions needed for this health to be maintained. Group 3 contributes to see the flow of various marketing channel and identify the different actors.

Upon the information through group discussion, market survey for respective traders of village or township level was conducted again for the detailed market condition of potential products for CFE. Table (5.1) highlights the number of local traders who have been interviewed for the market analysis.

Secondary data was also compiled from the relevant organizations. Consultation meeting with the relevant stakeholders was conducted using SWOT analysis to have recommendations and suggestions on the outputs of group discussion.

The finding of the survey was presented at the CF Unit meeting and validation meeting held in Shan State and received the recommendations and suggestions on the findings.

Table 5. 1. The number of respondents in study sites.

Local Collectors			
CF Name	Male	Female	Total
Lwe Nyeint	7	12	19
Mine Thout	14	3	17
Phalaung	18	2	20
	39	17	56
	70%	30%	100%
Village Trader			
Nyaung Shwe	5		5
Pyinmana	3	1	4
	8	1	9
	89%	11%	100%

Regarding CBT study, a mixed method of quantitative and qualitative approaches was employed. Survey questionnaires, key informant interviews and in-depth interviews were applied for data collection. 19 in-depth interviews were conducted for Lwe Nyeint's CBT initiatives.

5.3. Data analysis

Potential NTFP products for CFE and Services for CFE were selected based on five areas scoring method (FAO, 2011).

6. Results

6.1. Current Situation of CF in the Project sites

Lwe Nyeint CF

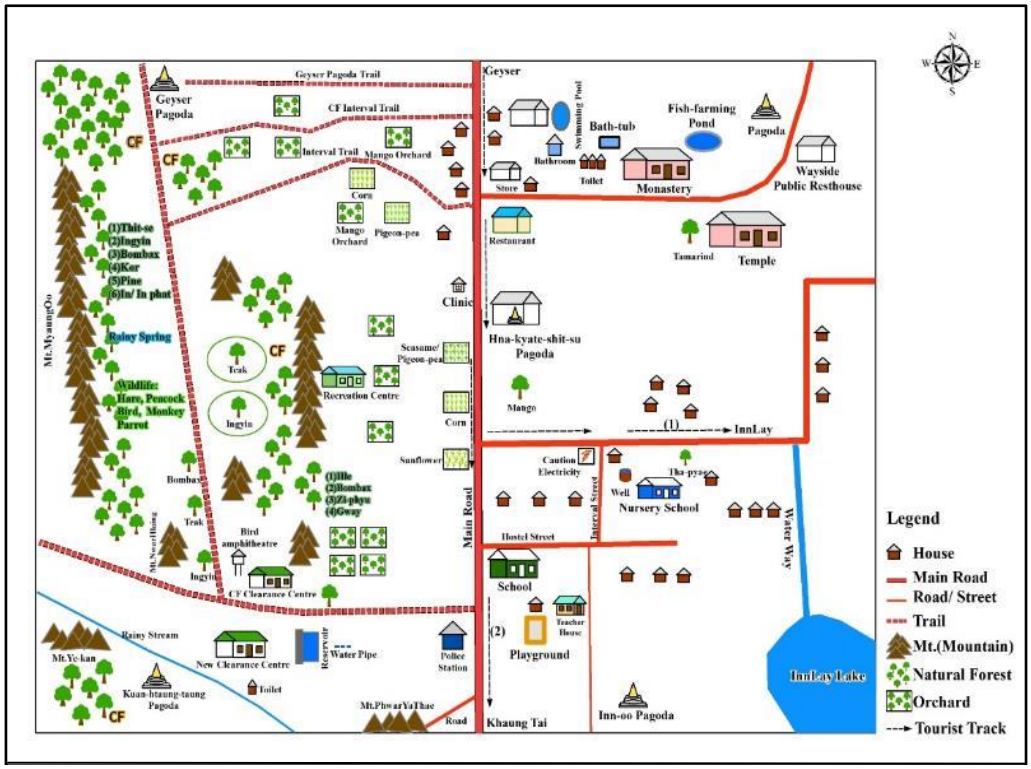


Figure 6. 1. Resource map of Lwe Nyeint Community Forest.

Figure 6.1 explains the current situation of landscape in CF. By this figure, CF site located besides of the road and good access to visit CF while visiting to Inle lake, Kaung Tai village to see traditional food business and hot spring. Within CF, Ingyin, Pine forest, wild animal can be seen. Local and foreign visiters entered into the CF for sight seeing and for the visit to forest using the temporary trail.

Mine Thout CF

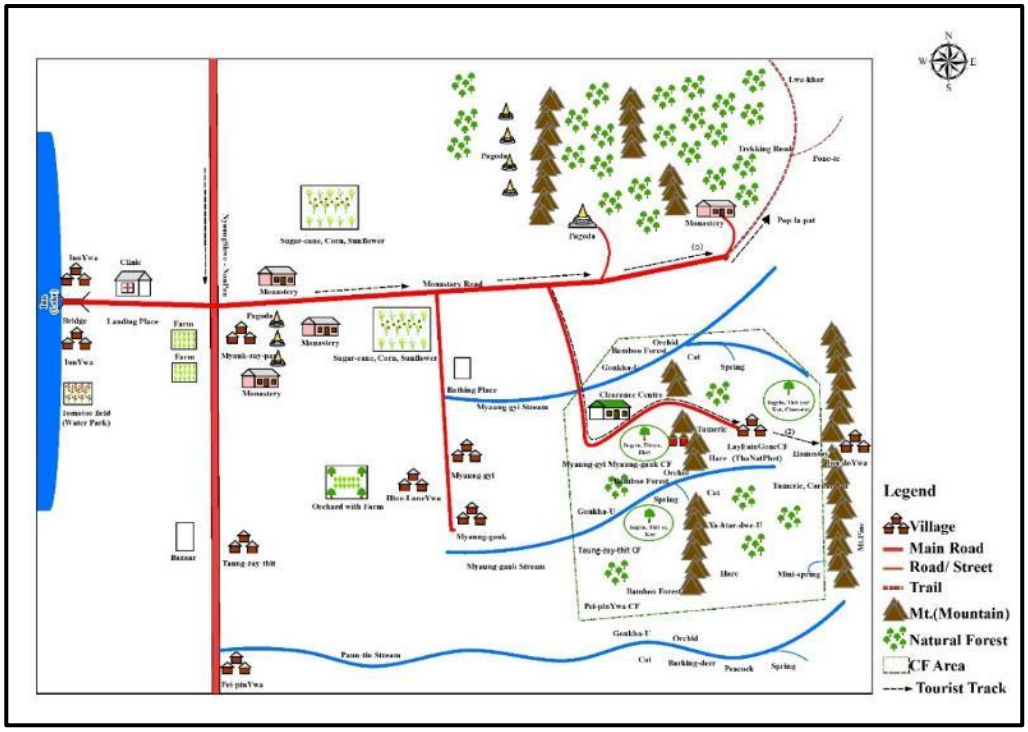


Figure 6. 2. Resource map of Mine Thout Community Forest.

This resource map (Figure 6.2) explains the current situation of CF in terms of resources and accessibility to the CF. By this figure, CF situates near the main road and there are temporary tracks within the CF. This CF includes CFUG members from four villages. One of the villages, called Layeaingone village situated within the CF and the CFUG members earned their income by practising Agro-forestry practice.

Phalaung CF

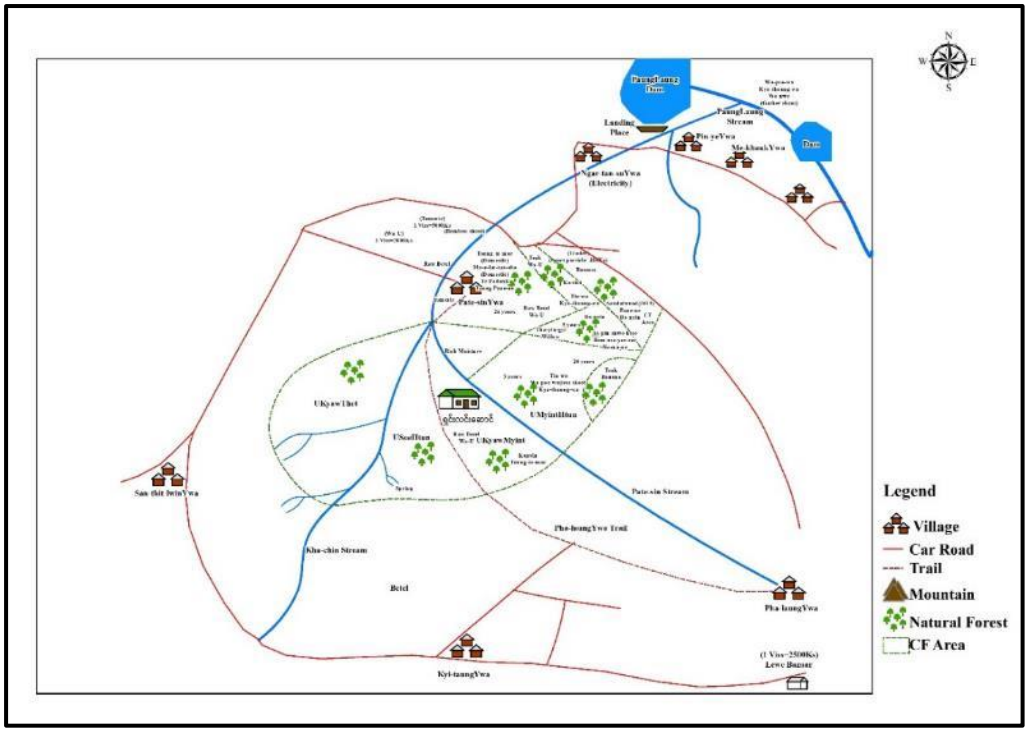


Figure 6. 3. Resource map of Phalaung Community Forest.

This resource map (Figure 6.3) highlights the landscape of the CF. It was found that the CF situates beside of the main road and there are temporary tracks within the CF. The CFUG members earned their income by practising Agro-forestry practice.

6.2. The potential forest products or services provided by the Community Forest

The list of NTFPs in Table (6.1) was developed by the group discussion with the villagers. It clearly demonstrates the wealth of NTFP resources, including medicinal plants in the respective CF sites.

Table 6. 1. List of NTFPs used by the respective Community Forests Users.

No	Lwe Nyeint CF	Minethout CF	Phalaung CF
1	Gonekha root	Mar Lar U	Kun
2	Se Ta lone -u	Sa-nwin	Sa-nwin
3	Se Kyauk Kae	Ta Lon U	Elephant foot yam
4	Taw Pan Nyo	Butterfly- u	Da Nyin
5	Khaung Khwe Yauk	Sae Poe Te U	Banana
6	Thet Yin Gyi	Sae Myit Pha U	Gonekha root
7	Sae Ta Pin San Ta Thee	Bamboo	Broom grass
8	Broom grass	Gonekha root	Bamboo
9	Yin Daik	Ya Htar Twe U	Lime
10	Kyauk Ma Oak	Zun Thoat U	Bamboo shoot
11	Sue Kyaup Pin	Thatchs	Pepper
12	Ka Saut Thee	Orchids	
13	Myaup Chin	Ta-bin-taing-mya-nan	
14	Kyay Lin Pan		
15	Hmo Lauk Sar		

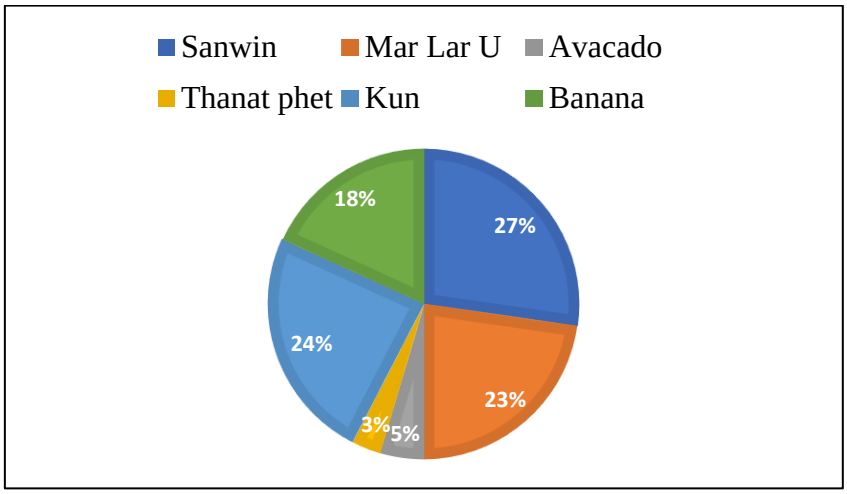


Figure 6. 4. Share of NTFPs commercialized by the respondents.

Figure (6.4) shows the percentage contribution of respondents in different marketing level. The villagers gather the products from the forests and they sell the

products to mostly local collectors in each village. Some local collectors also gather the products under the control of local processors, lender and broker house. The collectors are major player for this marketing process. The respondents contributed in information about that Sanwin was the highest percentage and Mar lar U was the second highest among different products. Most of the NTFPs are seasonal products and provide as seasonal income for local community. It can be assumed that during survey period was more favorable for capturing information about seasonal products.

6.2.1. Income from NTFPs

Table 6. 2. Income of respondents by commercialization NTFPs.

NTFP	Unit	Production per year per acre	Unit Price (MMK)	NTFP income per year (MMK)
Mar Lar U	Viss	3550	2900	10,295,000
Sa Nwin	Viss	260	800	208,000
Kun	Viss	350	3500	1,225,000

Table 6. 3. Seasonal calendar of commercialized NTFPs collection.

NTFPs	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Sanwin												
Mar Lar U												
Elephant foot yam												
Avacado												
Thanat phet												
Kun												

The table (6.3) shows that seasonal production of NTFPs in the study area. In Mine Thout village, most dominant species in study period, Mar Lar U and Sanwin are available between January and April. A few local people harvest avocado during

summer season between Jan and March. In Phalaung, Kun can be harvesting for a year-round. However, the price of Kun is different in season. Normally, the price is higher in summer season than rainy season.

6.2.2. Marketable NTFPs for Enterprise

After screening the 5 areas of enterprise development, kun has the largest potential to develop as a community-based enterprise and followed by mar lar U. Although the indirect benefit for the community and the skill and number of human resources are much higher than other NTFPs, weak in availability in time to find and harvest resources make the score low. The third one is Sanwin and market demand and processing technology and value-added product are challenging for enterprise development. In case of Elephant foot yarm, the price of seeds and the experience with the product are the major hindrances for local community. The investment fees of the avocado plantation are a little bit high and the time taken to make profit is also long, however, the price and market demand of avocado is very high.

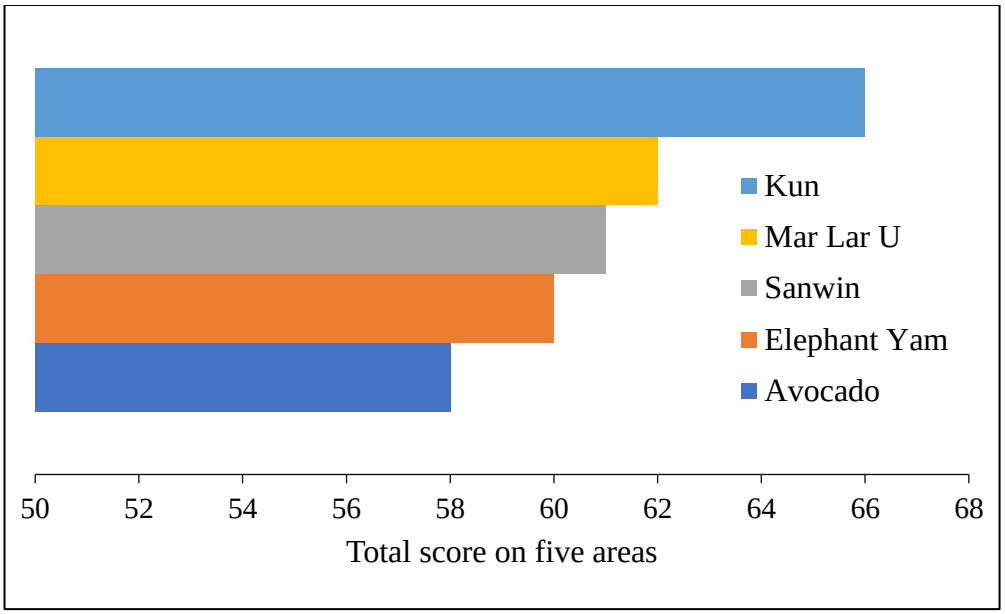


Figure 6. 5. List of marketable NTFPs for community-based enterprise Development by the score of five areas of enterprise development.

In study area, the natural capital for availability of products and social and cultural favorability are quite high for most of marketable products, especially for kun, elephant foot yarm, sanwin and avocado, however the technology, market access and financial support for high-valued finished product production is notably poor. Although

kun is significantly superior in marketability, their resource sustainability and technological support are still weak because of climate change, short storage time and pests and diseases. Whereas institutional and legal support for sanwin and avocado are strong, those for value added products seem to be not so effective. This is because natural resource availability. In case of community-based tourism in Mine Thout and Lwenyeint Village, the socio-cultural score is very strong, however the creation of natural resource to attract the visitors and the institutional and legal support are a little bit small. This is because although the area is one of the famous visiting places in Myanmar, there is a little visitor to come to visit that place due to COVID 19 travel restrictions. From technological point of view, handicraft trainings for bamboo and NTFPs and tourism trainings related to natural places should be necessarily and urgently conducted with support of Forest Department.

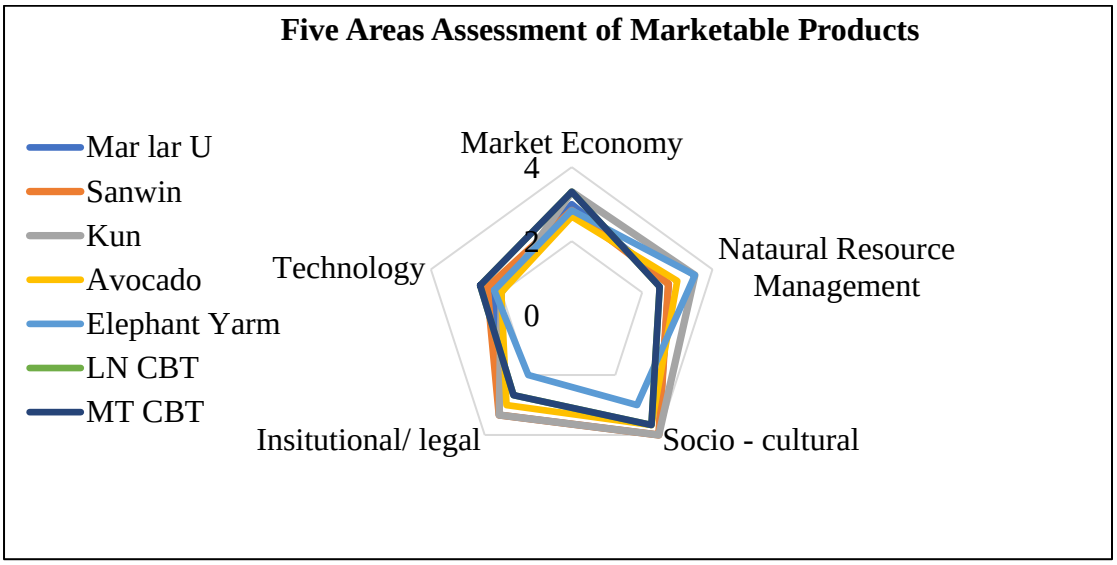


Figure 6. 6. Five areas status of potential of NTFPs for enterprise development.

6.3. Market Situation, Demand and supply of NTFPs in the Project sites

Mar lar U Marketing Channel

Mar lar U is one of the most abundant NTFPs in Mine thout which can somehow support livelihood of local people. The flow of Mar lar U market channel shows in

simply way. Villagers are basic market channel. They are major player for contribution of Mar lar U market. Villagers go to the forest areas and find the place to collect Mar - lar-U. They sell the products in raw forms to local collectors or brokers. The local collectors and brokers dry the seeds and extend to market cities (Nyaung Shwe and Shwe Nyaung). According to the market survey, the targeted market of dried Mar lar U is China. The price of Mar lar U sometimes depends on the demand of end market. The market demand of dried Mar Lar U is higher and higher in end market, China.

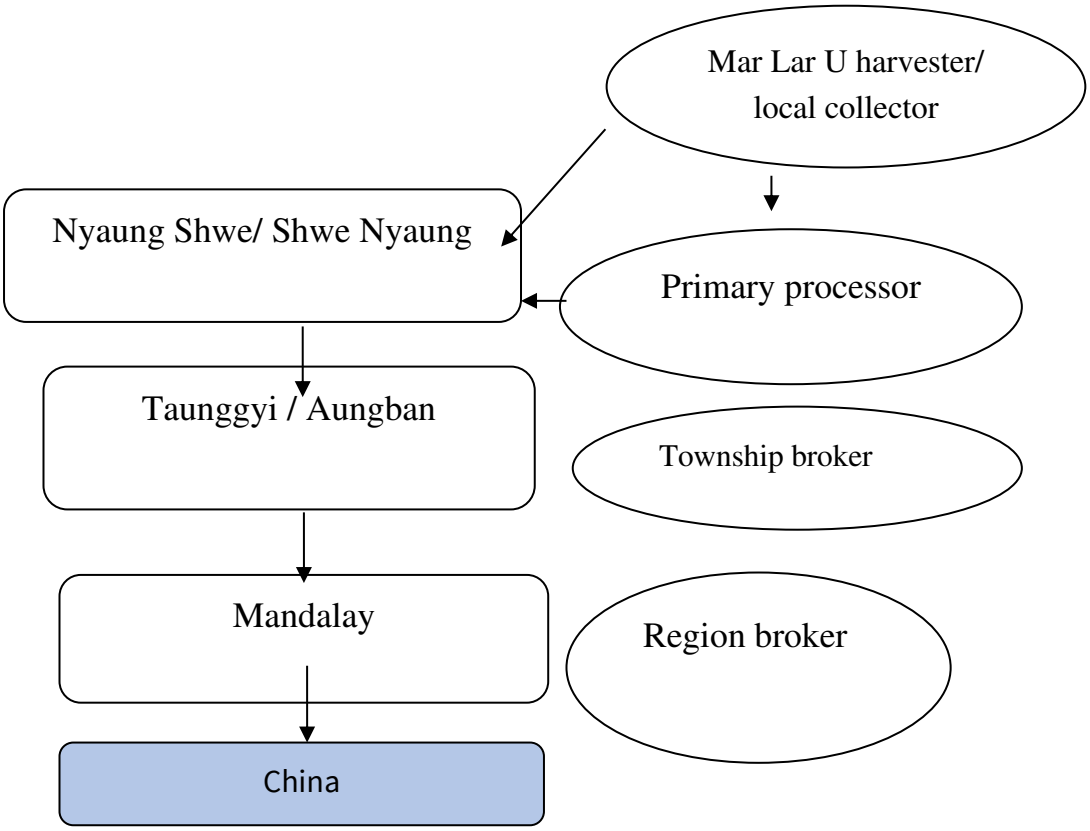


Figure 6. 7. Market trend of commercialized NTFPs for enterprise development.

Table 6. 4. Condition of income by commercialization Mar Lar U.

Mar lar U	Volume per acre per season (Viss)	Unit Price (MMK)	Total income (MMK)
R1	5,250	3,000	15,750,000
R2	4,000	3,000	12,000,000

R3	3,500	2,000	7,000,000
R4	4,000	3,500	14,000,000
R5	1,000	3,000	3,000,000
Average income			103,500,000

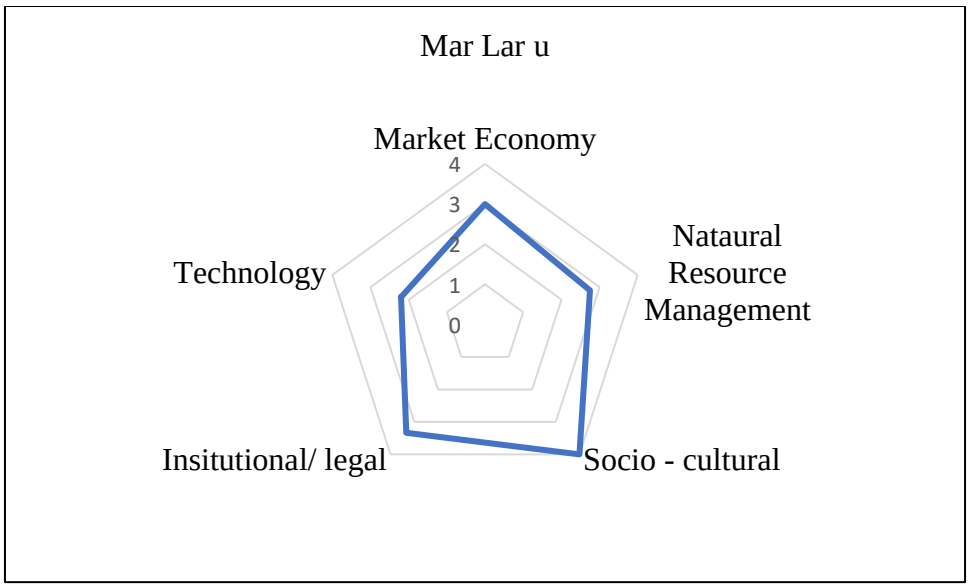


Figure 6. 8. Condition of five areas of Mar Lar U for enterprise development.

Elephant-foot-yam (Wa-u)

Table 6. 5. Condition of income by commercialization Wa U.

Wa U	Volume per acre per season (Viss)	Unit Price (MMK)	Total income (MMK)
R1	800	2300	1840000
R2	500	2500	1250000
R3	500	1800	900000
R4	4,00	2200	880000
R5	2,00	2300	460000
Average income	480	2220	1066000

Sa nwin Marketing Channel

Sa Nwin is the same way in market mapping of Mar Lar U. the targeted market is also China. They sell the products in raw forms to local collectors or brokers. One of the respondents proved that the more benefit can be obtained by doing value added

products such as powder of Sa Nwin. It didn't find that any value-added activities in this market chain.

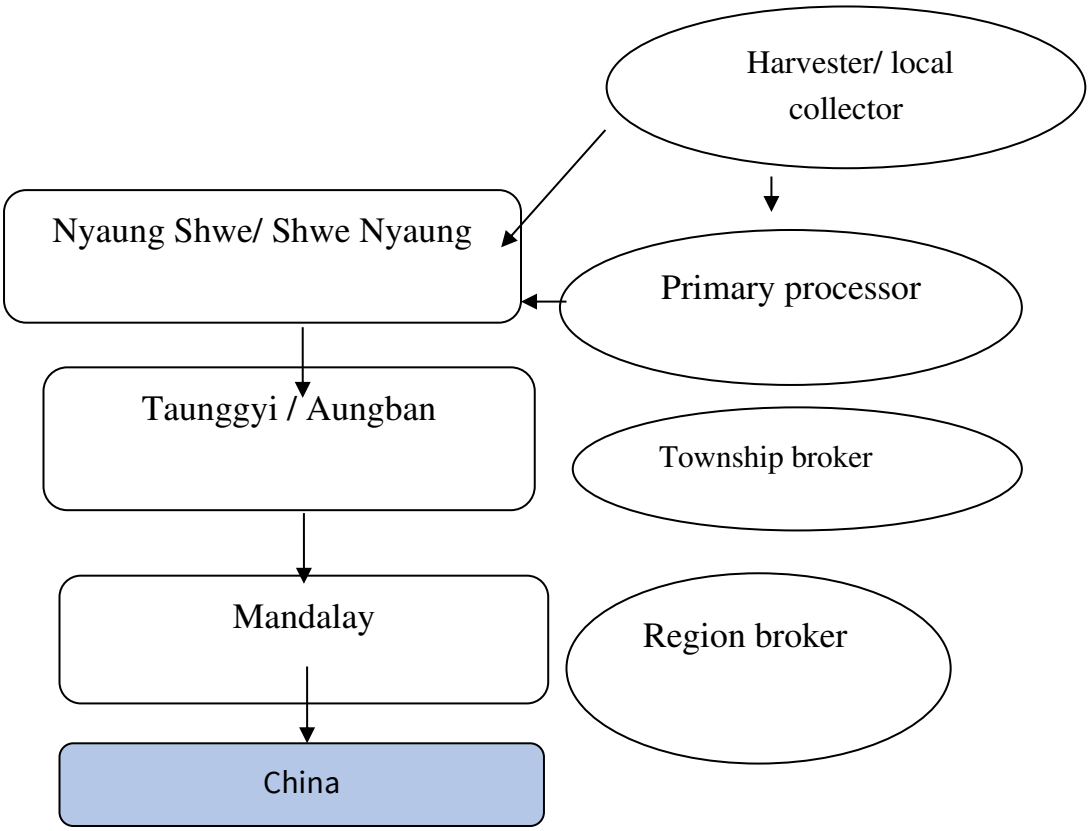


Figure 6. 9. Condition of five areas of Sa Nwin for enterprise development.

Table 6. 6. Condition of income by commercialization Sa Nwin.

Sa Nwin	Volume per acre per season (Viss)	Unit Price (MMK)	Total income (MMK)
R1	300	800	240,000
R2	250	900	225,000
R3	300	700	210,000
R4	150	800	120,000
R5	300	800	240,000
Average income			1,035,000

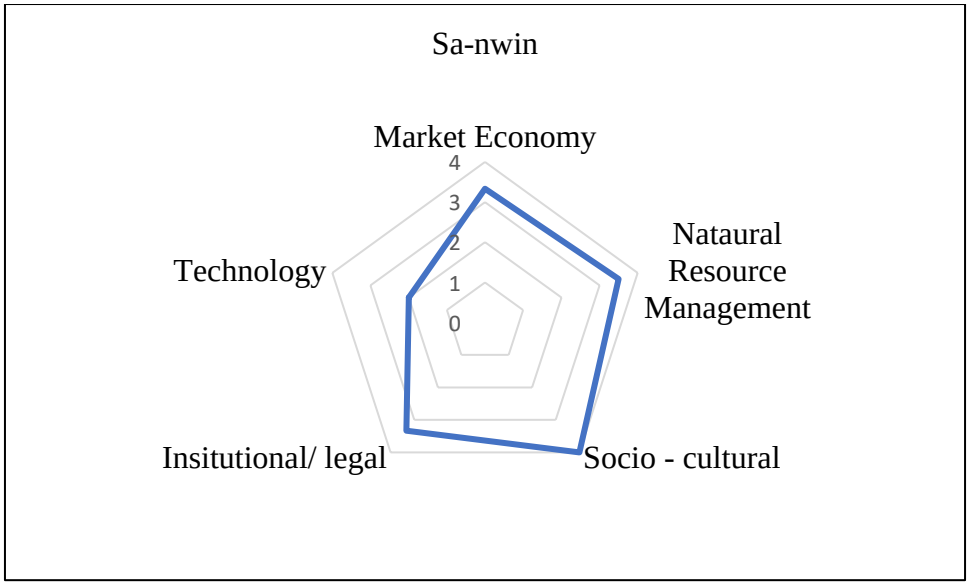


Figure 6. 10. Condition of five areas of Sa Nwin for enterprise development.

Kun Marketing Channel

The main livelihood of most villagers in Phalaung is selling Kun. The figure shows the flow of Kun market chain. There is a domestic consumer market for Kun. First or basic actor is villagers in this chain also. The price of Kun remains stable. The township broker came to Zay Gone to collect Kun and transferred to other townships (Bago, Daik U etc). Then these cities distribute to the local consumers.

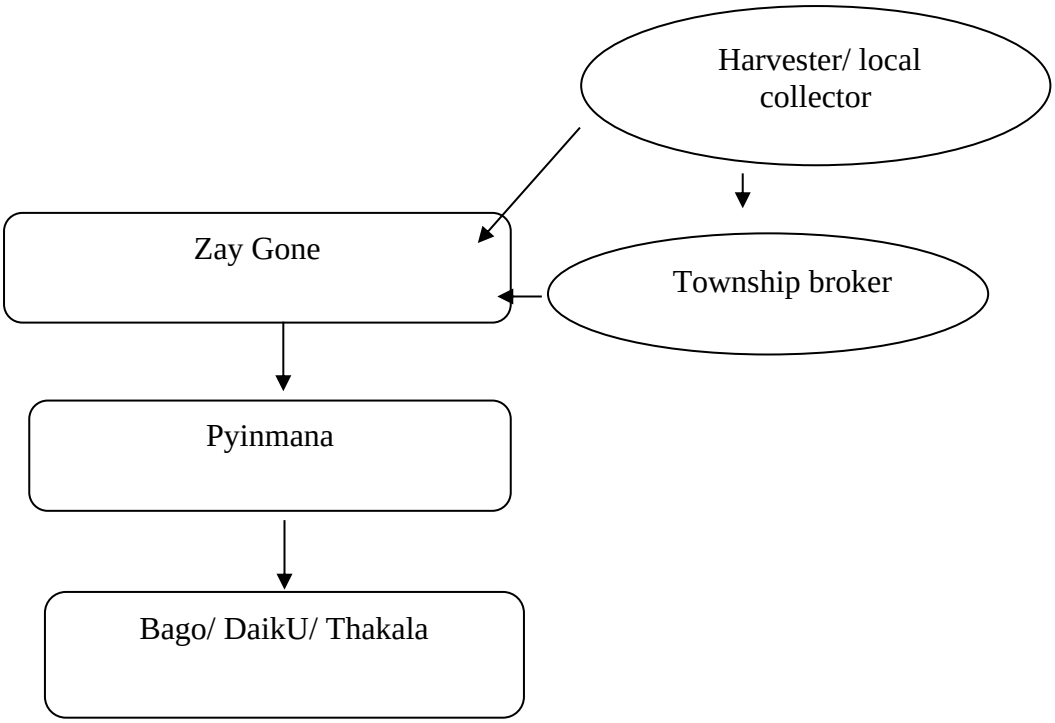


Figure 6. 11. Condition of five areas of Kun for enterprise development.

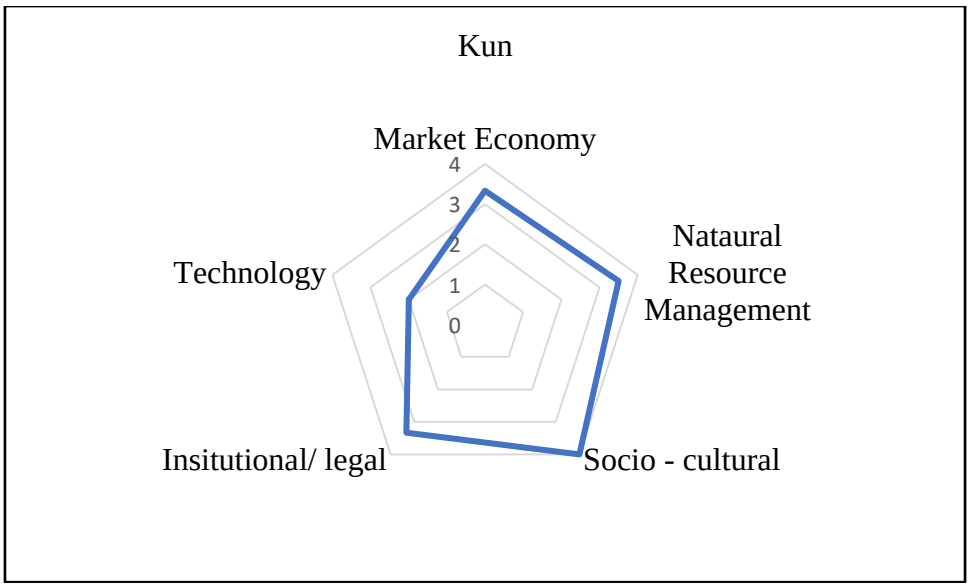


Figure 6. 12. Condition of five areas of Mar Lar U for enterprise development.

Table 6. 7. Condition of income by commercialization Kun.

Kun	Volume per acre per season (Viss)	Unit Price (MMK)	Total income per acre (MMK)
R1	500	2300	1,150,000
R2	230	2800	644,000
R3	400	2300	920,000
R4	350	2500	875,000
R5	300	2300	690,000
Average income	356	2440	855800

6.3.1. Price trend of marketable NTFPs over three years

Figure (6.13) illustrates the price trends of potential NTFPs for NTFP based CFE over three years. By this result, Mar Lar U and Elephant Foot Yarm (Wa U) have higher prices in comparing with the unit price of others because of the higher demand of China. But the high fluctuating price trend is resulted not only because of the irregular demand from China but also shortage of products by destruction of wild fire and unsystematic production. The market of Sanwin, Kun, and Advocado is the domestic market and it has low fluctuating price trend.

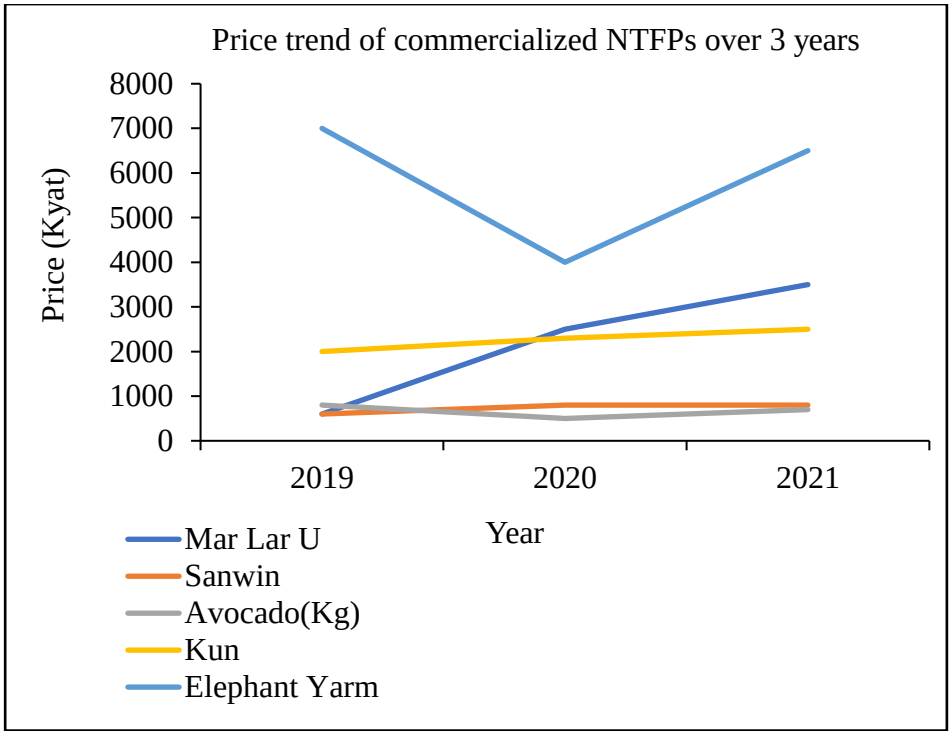


Figure 6. 13. Price trend of commercialized NTFPs over 3 years.

6.3.2. Key constraints in the existing market system

Table 6. 8. Constraints of commercialized NTFPs for enterprise development.

Constraints	MalaU	Wa-U	Sanwin	Kun	Banana	Thanat Phat	Avogado	Total	%
Measurement Lost	8	1	4	6		2	3	24	19.51
Price Fluctuation	6	2	2	7	2	1	2	22	17.9
Storage Constraints	2		3	7	3	5	3	23	18.7
Packing Constraints	1		2	8	2	4	2	19	15.45
Risk of thief	2		1	6	1			10	8.13
Lack of Information	1	4						5	4.06
Lack of Product knowledge		6						6	4.87
Low/Irregular Yield	3	2	1	7	1			14	11.38
Other									0.00
Total	23	15	13	41	9	12	10	123	100

With regard to marketing constraints, participants in focused group discussion also described about the constraints on their experiences. To indicate the marketing constraints that were compiled and presented in table (6.8). In term of the percentage of respondent corresponding to particular marketing constraints, the level of the problem could be generally figured out on each product.

Highest measurement loss was more greatly appeared on Mala-U and price fluctuation and low/irregular yield are the most serious constraints on Malar-U. For Wa-U, lack of product knowledge and lack of information was the most serious constraints. The constraints of Sa-nwin are measurement lost, limited storage, price fluctuation, packaging and low/ irregular yield.

Table 6. 9. SWOT analysis of stakeholders on potential of NTFP based CFE.

Strength - Export market for NTFPs product - Favourable nature condition - Not only NTFPs but also horticulture crops are potential (e.g Avocado)	**Weakness** - Knowledge of the use of the products is uncertain - Lack of marketing knowledge - Lack of value-added skill in local level - Infrastructure poor (in particular roads)
Opportunity - Able to cultivate some potential NTFPs - Skill trainings for intercropping system - Small business management program - Favourable for initial set up value added production	**Threat** - Forest fire - Market demand very seasonal - Declining NTFPs production in easily accessible areas - Increasing Pests and Diseases - Technology

In the study area, the nature condition is favorable for their livelihood fulfillment. However local people mainly rely on NTFPs from forests for their living. They have weakness in NTFPs marketing system. They have less knowledge for value added process.

Table 6. 10. SWOT analysis of stakeholders on potential of Tourism based CFE.

Strength - Good community participation - Diversified by – products for tourists (Arts and crafts, Kyway Moh , Trekking etc.) - Many tourist attractions (Hot springs, etc.,) -	**Weakness** - Lack of marketing, advertising - Lack of vocational training for local people - Poor infrastructure
Opportunity - Policy support - Improved living standards of local people - More job opportunities	**Threat** - Technology - Funding (Budget allocation) - In short terms, facing challenges from pandemics or global economic stagnation

The table (6.9) and (6.10) come out by doing SWOT Analysis using consultation meeting with relevant stakeholders to determine the status of community-based NTFPs marketing and community-based tourism, and to clarify the locally required resources and skills and current gaps.

7. Major Findings

The major findings of NTFP Development for local people are investment and technology.

- ❖ The market conditions of Marlar-u, Wa-u and Sa-nwin are more profitable than other NTFPs if they sell primary processed (dried) materials.
- ❖ Most of NTFP harvesting from natural forest is not sustainable.
- ❖ According to market analysis data, it is clearly shown that much more profit goes to village traders (who make primary processing) and city brokers. In spite of hard effort to harvest and collect from forest every year, socioeconomic condition of local people has not improved yet in Phalaung CF.
- ❖ Local collectors have been receiving the least benefit among all actors in the value chain of NTFPs due to market monopolization in some villages, less market information and lack of value addition.

- Most of the local people have less interest in value addition (primary processing) of NTFPs and underestimate the economic value of NTFPs as well as they have limited capacity in business skill, financial investment, value added technology and market linkage.
- Most of the donors and Non-Governmental Organizations and International Non- Governmental Organizations usually support for planting, awareness raising, education and revolving fund and not for access to market information and development.
- Nearly most of the community forests in Lwe Nyeint village are aimed for water resource conservation, basic needs fulfilment and socioeconomic development, income generation from CF products has not apparently found.
- According to foreign travel records, the outbreak of Covid-19 has led to a drop-in tourism revenue.
- CF users in Lwe Nyeint village are willing to participate in CF for CBT but they don't have knowledge about tourism and need the investments.

8. Conclusions and Recommendations

- As the market conditions of Marlar-u, Wa-u and Sa-nwin are more profitable, the government should support with a consistent demand that produces raw materials to upgrade to the production of finished goods within the area.
- NTFP producer organization and coordinating with business men from private sector should be necessarily done to implement Public Private Partnership.
- The market price of Mar lar U is in upward trend and the domesticating and cultivating in the home gardens and community forest area should be encouraged.
- Most of the research observed on becoming systematic farms of Elephant foot yam. The government should supervise to provide enough good seeds, and to encourage annual productivity and quality control.
- Related to Kun production in Phalaung village, research activities to reduce production loss, guidelines for soil conservation and water management, and market research should be led by the government.

- Developing the internal rules for sustainable production, harvesting, marketing of commercial NTFPs as well as the researches and trainings for systematic planting, collection and processing/drying to reduce post-harvest lost should be conducted.
- MKCF should carry out and support green economy businesses such as community-based ecotourism, community based NTFP enterprise to achieve the sustainable natural forest conservation, biodiversity conservation and profitable local livelihood improvement for long run.
- Market analysis and development trainings have to be conducted to choose the most potential community based NTFP enterprise (CBNE) such as elephant-foot-yam, avocado and ecotourism and initiate pilot projects.
- Promotion of nature-based tourism and cultivation of commercial NTFPs (elephant-foot-yam (Wa-U), Mar lar U) in CF area should be introduced. The NTFPs products should be advertised from community forest labelling products from sustainably managed community forest as a kind of sale promotion.
- In order to promote entrepreneurship in community based NTFP enterprise, trainings about business skill improvement, saving and loan group scheme, group management, product skill, packaging and product exhibition should be conducted.
- To implement the tourism based CFE in the surveyed CF, the followings are recommended to support as priority through group discussion with CFUGs;
  - Implementation of village cultural walk/ Canopy walk
  - Implementation of roads/ trails for mountain biking
  - Handicraft shops
  - Home stay facilities
  - Distribution of pamphlets
  - Community members to be trained as tourism guides
  - Labelling scientific name of trees in CF area
  - Study tour to successful CBT areas

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Records

Photo 1. Group discussion with Community Forest User Group members of Lwe Nyeint CF.

Photo 2. Group discussion with Community Forest User Group members of Mine Thout CF.

Photo 3. Group discussion with Community Forest User Group members of Phalaung CF.

Photo 4. Discussion with Township traders of NFTPs in Pyinmana and Nyaung Shwe Township.

Photo 4. SWOT analysis with relevant stakeholders in Nyaung Shwe Township.

Photo 5. Household survey with CFUG members.

Photo 8. Transact walk in surveyed CF.