



Assam Forest Department



ASSAM PROJECT ON
FOREST & BIODIVERSITY
CONSERVATION



AGENCE FRANÇAISE
DE DÉVELOPPEMENT

LUNGLARPHENG JOINT FOREST MANAGEMENT COMMITTEE (JFMC)

West Haflong Forest Division, Dima Hasao Forest Circle

MICRO-PLAN

(2016-17 to 2025-26)

Prepared by Lunglarpheng Joint Forest Management Committee

Assisted by
Assam Forest Department

&

COMPELO
(IIE, RGVN and CML)

July 2016

Approved

[Signature]
Divisional Forest Officer
Dima Hasao Forest Division (West)
Haflong

List of Acronyms

Acronym	Full Form
APFBC	Assam Project on Forest and Biodiversity Conservation
AFD	<i>Agence France de Développement</i>
BPL	Below Poverty Line
BTC	Bodoland Territorial Council
COMPELO	Consortium for Micro Planning and Enhancing Livelihood Opportunities
EPA	Entry Point Activities
GIS	Geographical Information System
Ha	Hectare
IIE	Indian Institute of Entrepreneurship
EDC	Eco Development Committee
Kg	Kilogram
Km	Kilometre
Manas NP	Manas National Park
Manas TP	Manas Tiger Project
NGO	Non-Governmental Organization
NTFP	Non Timber Forest Product
PDS	Public Distribution System
PRA	Participatory Rural Appraisal
Rs.	Indian Rupees
SHG	Self Help Group
VCDC	Village Council Development Committee

JOINT FOREST MANAGEMENT COMMITTEE

[Livelihood Development Plan]

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1. Introduction

About the Project

The vision of the Assam Project on Forest and Biodiversity Conservation (APFBC) is 'to enable sustainable forest and biodiversity conservation and management in Assam through multi-scale integrative planning and involvement of forest dependent communities in target areas and giving fillip to their livelihood activities through sustainable use of forest and nonforest resources'. The project's objective has been stated as: 'In collaboration with the forest dependent communities, to restore forest ecosystems to enhance the forest dependent community's livelihoods and ensure conservation and sustainable use of biodiversity'.

The above project is being mainly funded by the *Agence France de Développement* (AFD) - i.e. the French Development Agency, with cofunding from the Government of Assam. The Assam Project on Forest and Biodiversity Conservation Society (APFBC Society) has the mandate for planning, implementation, monitoring, coordination and management of all the activities under the above mentioned project.

Micro-Planning & Livelihood Development

In order to promote livelihood activities through market potential based value addition; the present project intends to take up activities like entrepreneurship promotion, product processing value addition and marketing under this project. This has become necessary on account of the pressures on existing forest resources due to the growth of population. There is a need to explore value addition to the existing forest and biodiversity products and services, based on the market potential. In addition, non-forest based livelihoods need to be explored and the capacities of the community members need to be built-up through skills development initiatives.

A consortium comprising of Indian Institute of Entrepreneurship (IIE) Guwahati, *Rashtriya Gramin Vikas Nidhi* (RGVN) and Centre for Microfinance and Livelihood (CML) has been formed to implement (*interalia*) the micro-planning and livelihood development under the above project. The above consortium has been titled as 'Consortium for Micro Planning and Enhancing Livelihood Opportunities' - COMPELO in short.

As per project guidelines, this micro-plan includes '**various operations of village and forest development, livelihood support of forest dependent members and keeping sustainable forest management as the broad objective**'. It includes both forest development and livelihood development.

Micro-Plan for the Lunglarpheng JFMC

This document gives the Micro-Plan for the Lunglarpheng JFMC, which is located in the Dima Hasao district of Assam. The JFMC falls under the jurisdiction of the West Haflong Forest Division of the Dima Hasao Forest Circle. The profile of the community is given in the next section.

The present micro-plan has been prepared by members of the community, including both male and female members. This document has emerged as an outcome of a Participatory Rural Appraisal (PRA) process undertaken by the community and personnel of Indian Institute of Entrepreneurship (IIE) Guwahati in June 2016. The micro-plan has been compiled by IIE based on the project guidelines. The document has been discussed and finalized for adoption in July 2016.

2. Village Socio-Economic Profile

Location The Lunglarpheng Joint Forest Management Committee (JFMC) has been formed to cover the existing community dwelling in Chotolungarpheng, a village located on the fringe of the Garampani Unclassed State Forest (USF). The area covered by the above JFMC falls within the Haflong forest division of Dima Hasao District of Assam.

Appendix-1 gives the Village Map.

Key Information The key information of the JFMC is furnished below. **Table-A:**

Key Information of the JFMC

Name of the JFMC	Lunglarpheng
Habitation	Chotolarpheng
Name of Revenue Village	nil
Name of the Gram Panchayat / VCDC	nil
Revenue Circle	nil
District	Dima hasao
Forest Division	West Haflong
Forest Range	Garampani
Forest Beat	nil
Year Formed	2015-16
Description of Boundary of JFMC	As below North: Lonkukru Village South: 19 th Kilo West: RF area East: Munglai Village

Source: JFMC Records & Discussions during PRA Exercise in June 2016

Brief Details of the Executive Committee & General Body

Additional details are given at **Table-1** of Record-I. (Given at Annexure)
The brief details of Executive Committee & General Body of the JFMC are contained in the table, which is given below.

Table-B: Brief Details of Executive Committee & general Body

Name of President	Besterwell Millica
Name of Secretary	Brojendra Bathari
Name of Treasurer	Ribon Terangpi
No. of Members in Executive Committee	Male:10 Female: No. of Members in the
General Body	Male:10 Female:

Source: JFMC Records

Households & Population Structure

The village has 58 households, of which all households are BPL (Below Poverty Line) households. There is no female headed households.

The total population is 308, of which 155 are male and the 153 are female members. The population includes cent percent ST (hills) people.

Table-2 of Record-I may be referred for further details in the above regard.

From this, it is inferred that:

- (1) The average number of persons in a household is 5.3.
- (2) The sex ratio is 987 females per 1000 males in the village.

Education & Skills Development

Over 76.95% of the population is reported to be literate. Most of the community members have received school level education. On the other hand, relatively fewer households have college educated members.

Livelihood skills are usually acquired under various settings – formal & informal. In the JFMC area, informal means for skills development is the traditional norm. People have traditional skills in the following areas: (a)

- Tailoring
- (b) Handicraft
- (c) Livestock rearing
- (d) Farming

Government has been active in promoting formal skills development programmes in the country as well as in the state. However, no such programme has been carried out in the habitation or in nearby areas.

Soil

The soil type of the project area includes:

- Sandy Loam in hilly area
- Latrice towards south in hilly area

Both types of soil can support different kinds of crops, as the soil is reported to be fertile on the whole.

Water

The area is drained by River Kopili. Kopili is an interstate river in Northeast India that flows through the states of Meghalaya and Assam and is the largest south bank tributary of the Brahmaputra in Assam. This river is originates from Borail.

The Barak Valley is also marked by the presence of wetland, locally called as ‘beels’, which are rich in fish and other aquatic resources.

Climate: Temperature & Rainfall

The maximum **temperature** during the summer is 30° C. The minimum temperature during the winter is 8 ° C.

The annual **rainfall** is about 2200 to 2700 mm. About two-thirds of the rainfall usually occurs during the rainy season (June-September). The village has high levels of **humidity** (87 %) during the rainy months and low levels in the winter (Below 70%).

Forest & Biodiversity

The local forests have been broadly classified as Unclassified state forest (USF). The main tree species are Haldu, Gamari, Titachopa, Nahar, Bonsum, Bogipoma, Bola, Koroi, Bhelu, Makri, Sal etc. The forests can yield a range of NTFP like spices, leafy vegetables, ferns, medicinal plants, bamboo, cane, thatch, fodder, axbroom stick etc.

Additional details in this regard are given at the ‘Forest Development Plan’.

Land Use Pattern	<p>Appendix-2 gives the land-use pattern of the village. From the same, it is seen that the land-use in the village is as follows:</p> <p>Crop Land (Shifting cultivation) : 35%</p> <p>Tree Cover: 15 %</p> <p>Habitation: 10 %</p> <p>Water Bodies: 15 % (incl. water logged areas)</p> <p>Barren Land: 15 % Other: 10 %.</p>
Land Holdings	<p>The type of households as per land-holding is given at Table-3 of Record-I. From the same, it is seen that:</p> <ul style="list-style-type: none"> • None of the households are landless; • 93.10 % of the households are marginal farmers (less than 2 Ha) (54 HHs); • 6.89 % of the households are small farmers (2-10 Ha) (4 HHs).
Livestock	<p>The total number of livestock in the village is 270. The main types of livestock possessed by the households include:</p> <p>Cows: 50</p> <p>Goats: 20</p> <p>Pigs: 100</p> <p>Poultry: 100</p> <p>Table-4 of Record-I may be referred to for the details in the above connection.</p>
Village Infrastructure & Communication Facilities	<p>In any community; the availability of basic infrastructure enables the development of sustainable livelihood options. The present condition of infrastructure in the village is not satisfactory. This is borne out by Table-5 of Record-I, which gives the present status of the village infrastructure.</p> <p>From the above table, the following have been noted with regard to village infrastructure:</p> <p>Physical Infrastructure: The habitation is deprived of basic physical infrastructure like paved roads, electricity, water supply, mobile network etc.</p> <p>Education & Health Facilities: There are minimal educational and health facilities. Public transport is not available, and the community members have to use bicycles to move around.</p> <p>Govt. Offices: The government offices (such as Police station, Gram Panchayat office, Revenue office, Forest Beat office etc.) are located at a far distance, which gets amplified as the villagers do not have access to regular public transport from either the habitation or from nearby areas.</p> <p>Financial Inclusion: Facilities for financial inclusion like bank and post office are located at a far distance from the habitation. Hence, the community members do not have bank accounts or postal savings accounts.</p>
Agricultural Crops	<p>The details of the agricultural crops grown in the village is available at Table-6 of Record-I.</p> <p>The above shows that the following are the main crops grown in the village.</p>

	<p>Kharif Crops: Paddy, Sesame Seed</p> <p>Rabi Crops: Ginger, Broom stick, Corn</p> <p>Others: Horticulture All the crops are rain fed.</p>
Crop Production Profile	<p>Table-7 of Record-I may be referred to for the production and yield details of the crops grown in the village.</p> <p>The maximum numbers of households are involved in growing crops like rice and sesame seed.</p> <p>The production and yield of these crops is given as follows:</p> <p>(a) Paddy : Production 55.98 Quintals Yield 16 q /ha (b) Vegetables : Production 5 Quintals Yield 2 q/ha</p>
Fodder Availability	<p>The matter of fodder availability in the village is dealt with at Table-8 of Record-I. The above shows that the main sources of fodder in the village are as follows:</p> <p>(a) Crop residue</p> <p>(b) Grazing in forest</p> <p>(c) Household wastage</p> <p>(d) Green fodder</p>
Markets	<p>Table-9 of Record-I shows the location of the different markets from the village. The main markets used by the community are as follows:</p> <p>(a) Grocery / PDS: Inside the village area.</p> <p>(b) Weekly / Bi-weekly Market: : Umrongo at 12 km away</p> <p>(c) Major Market: : Umrongo at 12 km away</p>
Water Resources	<p>The water resources are tabulated at Table-10 of Record-I. The main water resources with the water availability is as follows:</p> <p>(a) Ring well (2 Nos.) (Water Availability: Perennial / Seasonal)</p> <p>(b) Water Reservoir (2 Nos.) (Water Availability: Perennial / Seasonal)</p>
Energy Consumption	<p>Table-11 of Record-I shows the major sources of energy in the village. The same have been listed below.</p> <p>(a) Fuel wood- Households Depending: 58 Nos. Source: Local forest</p>
Socio-economic status	<p>Social set-up: The village is inhabited by tribal community. They do not have a caste system. The society is not marked by deep social divisions. The observed position of women is satisfactory.</p> <p>Economic Condition: The economic position is not satisfactory. The main livelihoods are Farming, Daily wages, Livestock rearing etc. Most households earn Rs. 10,000 to Rs. 15,000 per year.</p> <p>There is no large-scale migration of the youth and others for livelihoods. Additional details are available at the next section.</p>
Maps	<p>Appendix-1 gives the following maps, based on PRA exercise:</p> <ul style="list-style-type: none"> • Village Map • Village Social Map (with the names and particulars of members in PRA) • Village Resource Map

3. Livelihood Opportunity Analysis

PRA Exercise

Team from IIE Guwahati carried out PRA exercise in Chotolarpheng village as follows:

Date: 8th June 2016 **Location:** Village locality

Numbers Present: 25

In Presence of: JFMC office bearers, Village Headman, community members, Forest Department personnel, etc.

Objective of PRA

The objective was to study the existing household conditions and obtain other primary data about the community for developing the livelihood options and the forest development plan.

Tools Used & Outcomes of the PRA

Different tools were used and outcomes obtained. These include:

Social Mapping
Wealth Ranking
Time Line review
Seasonality of Livelihoods Venn Diagram

Appendix-3 furnishes detailed information of the above.

Ranking

Ranking exercise has been done for the following:

□ **Livelihoods & Skills**

Development □ Entry Point
Activities (EPA)

Appendix-3 elaborates the above. From the same, it is stated that:

Ranking of Livelihoods & Skills Development

1. Agriculture
2. Livestock
3. Weaving/ Tailoring

Ranking of EPA

	Village EPA as ranked	Details (Appendix-3 has additional particulars)	Probable source of funding/dep't.
1.	LPG connection	LPG substitutes for wood fuel. Efficient and effective cooking method as well as environment friendly and low cost.	Pradhan mantri Ujjwala Yojana scheme
2.	Solar Connection	Provision of solar connection in every HH will be beneficial for the whole society. Low cost and distribution is uniform.	NABARD

3.	Health Centre	Sub-Centre within the village	NHM/ H & FW
4.	Sanitation	Providing HHL (House Hold Latrine) - Low cost, septic and sanitary type.	Swach Bharat Mission/ PHE
5.	Village Road	Provide pucca village road	PMGSY/PWD

- An arrangement of working capital worth Rs.2 Lakh should be arranged from the EPA fund of promoting livelihood activities.
- A community work shed cum JFMC office to be setup within the JFMC boundaries.
- A low cost livestock rearing shed have to be arranged from the EPA fund for promoting a common community livelihood activity.

Livelihood opportunities

Livelihood Opportunities were identified as follows:

Agriculture & Horticulture

Livestock

NTFP

Skills Development Credit

Facility

Additional discussion about the above has been given below.

Forest Development Opportunities

In Lunglarpheng JFMC, ranking has been done in order to understand how people are aware regarding opportunities lead to forest development. The following details provide the rank wise forest development opportunities in the project area. (Matrix ranking is given in Annexure)

1. Plantation of firewood,
2. Demarcation of land,
3. Plantation on medicinal NTFP etc.
4. Plantation of tree raising of nursery,
5. Development of degraded forest,
6. Plantation of bamboo
7. Forest protection
8. Natural regeneration
9. Fodder cultivation

Agriculture & Horticulture

Table-12 under Record-2 may be seen in this connection for opportunities in the areas of agriculture and horticulture.

The main constraints are:

- (a) Very negligible use of fertilizers and pesticides, insecticides.
- (b) Lack of irrigation facilities
- (c) Lack of agricultural infrastructure, modern tools and equipment's viz, power tillers, tractors etc.
- (d) Non usages of high yielding seeds etc.

The opportunities are:

- (a) Application of proper and controlled pesticides and insecticides.
- (b) Introduction of new and advance technology
- (c) Well-structured training programme. The villagers are inherited with the skill of cultivation. All they need is improvisation of their skill level.

The suggested programme is:

- Tractor operation training
- Agri-skill development programme.
- Training on insecticides, pesticides, hybrid cultivation etc.

Livestock

Table-13 furnishes additional information about opportunities for livestock rearing.

The main constraints are:

Unable to buy fodder from market due to poor financial condition. (b) Trees fodder n crop residue are available only for 3-6 months. Green fodder is also not available for the whole year.

(c) No veterinary care clinic

(d) Lack of knowledge about the proper rearing of live stock

The opportunities are:

(a) Higher income from livestock rearing.

(b) A huge demanded market for milk is available as Karbi anglong and Nagaon district is too far from the JFMC. Moreover the JFMC area shares boundary with Meghalaya state.

The suggested programme is:

(a)Piggery

(b)Poultry

NTFP

The opportunities for NTFP are tabulated at **Table-14** under Record-2

The main constraints are:

(a) Less availability of NWFP

(b) No technical know-how

(c) No processing units

The opportunities is:

(a) Availability of fertile fallow land

The suggested programme is:

(a)Plantation of Food plants,

(b)Medicinal Plant etc.

Specialized Skills

For skills development, the opportunities are tabulated at **Table-15** under Record-2

The main constraints are:

(a) Lack of product diversification (b)

Lack of research on product quality (c)

Lack of TQM techniques.

The opportunities are:

(a) Providing good communication facility (b)

Training of the skill holder

(c) Financial assistance from govt.

The suggested programme are:

- Training on Modern Tools and Equipment

- Providing modern technology to the villagers
- Skill Up gradation & Training on New Product Development and Product Diversification
- Setting up a raw material bank
- Providing a bulk buy arrangement of the finished product with institutional buyers.

Credit Facility

Table-16 under Record-2 discusses this aspect.

The main constraints with the reasons are:

- (a) Financial exclusion
- (b) Higher rate charged by the private money lender.

The opportunities are:

- (a) setting up modern financial institution
- (b) Adequate awareness.

Strategic Interventions

The suggested programme is:

- (a) Setting up modern financial institution in the nearby areas.

Summarizing the suggested programmes at above as strategic interventions for the Livelihood Development Plan:

- 1 Agriculture & Horticulture:** Agri-skill development programme, Training on insecticides, pesticides, hybrid cultivation.
- 2. Livestock:** Piggery, Poultry
- 3. NWFP :** Plantation of Food plants, Medicinal Plant etc
- 4. Specialized Skills:** Training on Modern Tools and Equipment, Providing modern technology to the villagers, Skill Up gradation & Training on New Product Development and Product Diversification, Setting up a raw material bank, Providing a bulk buy arrangement of the finished product with institutional buyers.
- 5. Credit facility:** Setting up modern financial institution in the nearby areas

Framework of livelihood Opportunity Analysis has been done with the help of the following criteria:

- A) Livelihood assets
- B) Livelihood context
- C) Priority ranking on potential livelihood

The livelihood situation of Lunglarpheng JFMC has been analysed during the PRA exercise using sustainable livelihood framework of DFDI (Department of Funding for International Development). The existing livelihood situation of JFMC is outlined in terms of –

- Natural Capital
- Physical Capital
- Social Capital
- Human Capital □ Financial Capital

NATURAL CAPITAL:

The major natural capital of Lunglarpheng JFMC is Garampani Unclassified State Forest.

Majority of the people are dependent on the forest for firewood, green fodder, timber etc. For farming purpose and for livestock rearing, the villagers use the river water. (Refer table 10, 11, table 3 of FDP for further details)

PHYSICAL CAPITAL:

Majority of the households in the Lunglarpheng JFMC are involved in farming activities and are marginal farmers with farming land of less than 2 ha. Detailed land holding pattern is described in the table 3/annexure 6.

All the houses of the village are kuccha. Among the various sources of energy consumption such as Biomass, kerosene, electricity, LPG and candle, villagers depend only on firewood for household and other uses. No households have LPG connection. (Refer to table 10, 11)

There is only LP school present within the JFMC area. No other education institution is present. (Refer to table 5)

In case of water sources, cent percent of the households are depends on the Ring wells (2 Nos.) and Water reservoir (2 Nos.)

SOCIAL CAPITAL:

The villagers are not fully involved in the JFMC functioning due to lack of awareness on their roles, functions, and specific benefits they are going to receive.

There is no formal SHGs are present in the village. Generally the social meeting are held inside the church locality.

HUMAN CAPITAL:

76.95% per cent of total population of the JFMC are educated and 23.05 per cent of them have crossed upper primary level school education.

FINANCIAL CAPITAL:

There is no government bank or lending institution available in the JFMC area or in the nearby areas. However, villagers lend from informal lending groups, relatives etc. Very less numbers of people have bank account in commercial banks, but they are not aware of the benefits of financial inclusion.

Livelihood Context:

Livelihood activities of the Lunglarpheng JFMC are identifies on the basis of following criteria:

- a) Contribution of particular livelihood activity in the total income of the JFMC
- b) Percentage involvement of income group in a particular livelihood activities
- c) Priority ranking of the potential livelihood activities

4. Livelihood Development Plan

Income Generating Activities The main income generating activities as planned at the village are:

Farm Sector :

- 1.poultry and piggery
2. lac cultivation 3.Horticulture

Non-Farm sector:

- 1.Handloom/ Weaving
2. Electrician
3. Driving
4. Sericulture

SHG Activities SHGs of the village can plan the following activities:

1. To create awareness.
2. To organise and form group
3. To involve the villagers in Livelihood Activities collectively.

Exposure Trips The following exposure trips are planned: Nil

Summary of Action Plan As attached in next page.

Convergence The planned initiatives may be converged with the following schemes of the Government of India:

- (a) National Rural Employment Guarantee Scheme - for rural employment
- (b) Rashtriya Krishi Vikas Yojana (RKVY) - for agricultural and allied development
- (c) Rashtriya Krishi Sinchay Yojana (RKSJ) - for irrigation, including watershed development
- (d) National Rural Livelihoods Mission
- (e) Skills Development schemes
- (f) Other schemes for rural development and livelihoods as found appropriate.

The above convergence will yield synergies for the present plan, as well as help in sustaining the planned works in the post-project period.

West Haflong Division

Sl. No.	Activity	Numbers	Method	Amount (in Rs.)
A. Participatory Micro Planning				
1	Preparation of Micro Plan	1	PRA, Baseline Survey	1,00,000.00
	Total			1,00,000.00
B. Organize Producers and Build Entrepreneurial and Technical Capacities (Capacity Building)				
1	Awareness Build-up Programme	1	Awareness Programme	20,000.00
B1	Training on Skill development			
1	Skill Development Training Programme on Tailoring & weaving (30 Nos.)	1	Conducting Skill Development Training programme	2,00,000.00
2	Skill Development Training Programme on Lac cultivation (15 Nos.) and Electrical (15 Nos.)	1	Conducting Skill Development Training programme (40 days)	2,00,000.00
3	Training on Entrepreneurship Orientation	1	3 days Entrepreneurship Orientation programme	50,000.00
	Total			4,70,000.00
C. Social Mobilization				
1	Awareness generation camp on Formation of collective units (e.g. SHGs, Societies, NGOs, Bodies, Producers Companies)		4 days awareness camp on formation of collective units through cooperative experts	50,000.00
2	Hand Holding guidance support and linkage promotion programme for selfemployment and placement		Hand holding support from IIE experts throughout the year up to march 2017	50,000.00
	Total			1,00,000.00
D. Value Chain Improvement				
D1	Product improvement Through Value Chain Improvement			
1	Training on improving processing on Readymade garments & weaving	1	10 days Training on Design & Diversification	75,000
D3	Supply of modern tools for tailoring	10		15,00,000
	Supply electrical items	7		1,80,000
D4	Training programme on medicinal plantation and process of NTFP etc.	1		1,45,000
	Total			4,00,000.00
E. Support for Access to Market				
E1	Linkage with institutional buyers and/or govt. Organizations. (throughout the year)	2	Creating platform for buyers' and sellers' interactions (2 day)	80,000.00
E2	Setting Up Ban Bazar	Throughout the year	linkage through van bazar	1,00,000.00
E3	Exhibition Participation	1	Participation in one exhibition through forest department	1,20,000.00
E4	Access To Other Geographical Markets	1	Exposure visit	1,20,000.00
E5	Publicity through E-portal, brochure, catalogue etc.	1	2 day training and awareness programme taken by marketing expert	60,000.00
	Total			4,80,000.00
	Grand Total			15,50,000.00

5. Forest Development Plan

This Forest Development Plan has been prepared after a detailed PRA exercise at the village level as a part of the Micro-Plan of Lunglarphang JFMC. The objective of this plan is to provide for the sustenance of the conservation and bio-diversity values, environmental functions and productive potential of the forests assigned to the JFMC; while meeting the consumption and livelihood needs of the community in a sustainable manner.

5.1 Status of the JFMC Forests

The micro-plan takes into consideration the following categories of the JFM Forests of the Lunglarphang JFMC:

- (a) Forest areas assigned to the JFMC by the Forest Department; and
- (b) Areas planted / to be planted on community lands and other lands outside the notified forest area.

The status of both the above categories of JFMC forests is briefly discussed below.

5.2 Forests & Their Conditions

The details of the status of forest areas assigned to the JFMC have been furnished at Table-3.1 under Proforma-3 ('Forest Development Plan'), which has been attached as Annexure to this micro-plan. After considering other areas planted (or to be planted), the conditions of the forests of the Lunglarphang JFMC have been summarized below.

Table-5.1: Conditions of the Forests of Lunglarphang JFMC

Identification	Area of JFMC Forest (Ha)	Distance from Village (Km)	Condition of Forest [Good - Forest with crown density of 40% of more Else 'Degraded']	Frequency of Use by Community [2-3 m / 3-6 m / 6-9 m / Over 9 m]
(A) Assigned Forest				
RF / PF Name: Diyungbra Range, Dima Hasao West Division Beat: 29 th Kilo Compartment:	100 Ha	0 Km	Good Area: - 70 Ha Degraded Area: 30 Ha	2-3m
(B) Other Planted Area				
Location: Type of Forest: Deciduous Moist VF / Other _____	NIL	NIL	Good Area: - Nil Degraded Area: Nil	NIL
TOTAL	100 Ha	NIL	Good Area: - 70 Ha Degraded Area: 30 Ha	NIL

Source: Proforma-3, Table 3.1 / Discussions with Forest Department personnel & Community members

It is seen that the Lunglarphang JFMC has 100 Ha under its forests, of which 70 Ha is ‘Good’ and 30 Ha is ‘Degraded’.

5.3 Forest Soil Type

The forests of Lunglarphang JFMC are located in loamy type(s) of soil. Some salient points of the forest soil type have been given in the following table.

Table-5.2: Forest Soil Type in JFMC

Parameter	Status in Assigned Forests	Status in Other Planted Areas
Fertility Level	2.8 to 2.88% organic. The available N, P205 and K20 content of the Soil is comparatively less.	-
Soil Erosion Status	-	-
Presence of:		
(a) Silt	20%	-
(b) Mud-flat	40%	-
(c) Newly accreted land	Low	-
(d) Sand dune	40%	-

Source: Proforma-3, ‘B. Forest Soil Type’ / Discussions with Forest Department personnel & Community members.

For the Lunglarphang JFMC; the salient points of the forest soil type are summarized below:

1. Entisol (25.3%)
2. Inceptisol (51.3%)
3. Alfisols (16.3%)
4. Ultisols (7.1%)

5.4 Existing Composition of Flora

In the forests of the Lunglarphang JFMC, the existing composition of the flora has been given as follows. It may be noted that the local forests are classified as deciduous moist Forests.

Table-5.3: Existing Composition of Flora in the Lunglarphang JFMC

Parameter	Local Name(s)	Biological Name(s)
Major Forest Species	Teak	<i>Tectona grandis Linn</i>
Associates	Gamari	<i>Gmelina Arborea</i>
Shrubs	Dhekia	<i>Ferns</i>
	Bhot jalakia	<i>Capsicum chinense</i>
Medicinal Plants	Arjun,	<i>Terminalia arjuna</i>
	Hilikha	<i>Terminalia Chebula</i>
	Neem	<i>Azadirachta indica</i>

	Amlakhi	<i>Phyllanthus emblica</i>
Produces		
	Jori bet	<i>Calamus erectus</i>
Others, if any	Jati bet	<i>Calamus tenuis</i>
	Raidang bet	<i>Calamus rotang</i>
	Chuli bet	<i>Calamus flagellum</i>
	Lejai bet	<i>Calamus floribundus</i>
	Kako Bah	<i>D. hamiltonii</i>
	Pahari Jati Bah	<i>Oxytennera parvifolia</i>
	Dulu Bah	<i>Schizostachyum dulloa</i>
	Amlakhi	<i>Emblica officinalis</i>
	Halakh	<i>Terminalia myriocarpa</i>
	Hollong	<i>Dipterocarpus macrocarpus</i>
	Arjun	<i>Terminalia arjuna</i>
	Agar	<i>Aquillaria agallocha</i>

Source: Proforma-3, 'C. Composition of Existing Fauna & Flora' / Discussions with Forest Department personnel & Community members.

5.5 Other Inputs for the Forest Development Plan

The following sub-sections discuss the other inputs for the Forest Development Plan of the Lunglarphang JFMC.

5.6 Past Protection Measures of the JFMC

The measures taken by the Lunglarphang JFMC for forest protection in the past have been discussed as follows.

- (a) Number of households involved: 58
- (b) Number of people involved: 58 (1 Person Per House hold)
- (c) Summary of the measures: Not available
- (d) Any formal mechanism: Not available

[Source: Proforma-3, 'JFMC Status - viii + ix' / Discussions with Forest Department personnel & JFMC members]

5.7 Domestic Requirements of Forest Produce

The dependency of the local community on forest produce for household requirements is available in the table given at below.

Table-5.4 (A): Domestic Requirement of Forest Produce per Household of the Lunglarphang JFMC

Name of Forest Produce	Average Household Requirement		How met at Present	Source
	Frequency of Requirement	Approx. Qty		
Firewood	Frequent	70-85 kg		Forest
Timber for House	Once in a year	4 nos.		Forest
Small timber for Implements	-	-		-
Pole / Bamboo	Once in a month	3-6 bamboo / per month		Forest
Fodder from Forest	Frequent	4-10 kg per day		Forest
NTFP	Frequent	3-9 kg per day		Forest
Other _____	-	-		-

Source: Proforma-3, Table-3.2 / Discussions with Forest Department personnel & Community members

There are 310 households in the Lunglarphang JFMC. From the above table and this number of households, it is inferred that the total annual requirements of the Lunglarphang village for forest products for own use is as follows:

Table-5.4 (B): Total Domestic Requirement of Forest Produce - All Households of the Lunglarphang JFMC

Name of Forest Produce	Community Requirement (Kg per annum) (*)	Remarks
Firewood	100200	Throughout the year
Timber for House	150 nos.	Dec - Jan
Small Timber for Implements	-	-
Pole / Bamboo	330 bamboo	Dec - Jan
Fodder from Forest	110420	Throughout the year
NTFP	231000	Throughout the year
Other _____	-	-

Source: Table - 4(A) at above & Total Household Number from Community records

(*) = Approx. Qty. of Average Household Requirement (from Table-4 (A) x 65 Households

5.8 Collection & Marketing of Forest Produce by Villagers

Apart from use in the households, the community dependency on forest produces also includes the collection of such items for sale in local markets. The collection and marketing of forest produce by villagers of Lunglarphang JFMC is given in the following table.

Table-5.5 (A): Collection & Marketing of Forest Produce by Villagers of the Lunglarphang JFMC

Name of Forest Produce	Collection for Marketing			Location of Collection
	Season / Months	No of Households Collecting	Average Qty. Collected (Kg)	
Firewood	Throughout the year	58	642	Forest
Timber for House	Dec - Jan	58	2 nos.	Forest
Small timber for Implements	-	-	-	-
Bamboo	Dec - Jan	58	10 nos.	Forest
Pole	-			
Fodder from Forest	Throughout the year	58	7 kg per day	Forest
NTFP	Throughout the year	58	9-12 kg per day	Forest
Other	-	-	-	-

Source: Proforma-3, Table-3.3 / Discussions with Forest Department personnel & Community members

In the above connection, the following table gives additional pertinent information.

Table-5.5 (B): Collection & Marketing of Forest Produce - Additional Information [Lunglarphang JFMC]

Name of Forest Produce	Surplus Marketed (Kg)	How marketed	Average Income per HH from sale of Forest Produce
Firewood	126000 kg/year	Umrongso market	1250-2370/month
Timber for House	-	-	-
Small timber for Implements	-	-	-

Bamboo	30-60 pc/ month	Umrongso market	683-1173/month
Pole	-	-	-
Fodder from Forest	1300 kg /year	Umrongso market	1170-1450/month
NTFP	-	-	-
Other	-	-	-

Source: Proforma-3, Table-3.4 / Discussions with Forest Department personnel & Community members

5.9 Total Requirements of Forest Produce - Domestic Use & Marketing

The total requirements of forest produce by the community members of the Lunglarphang JFMC have been summarized below - based on the information in the previous sub-sections.

Refer to: Tables 5.4 (B) & 5.5 (B) of this Section, given at the previous pages

5.10 Forest Protection Issues

5.11 Protection Problems

The protection issues of the forests of Lunglarphang JFMC have been summarized below.

Table-5.6: Protection Problems of the Lunglarphang JFMC

Type of Problem	Relevant (Yes / No)	Significant (Yes / No)
Grazing - Local Animals	Yes	Yes
Grazing - Animals from Other Area	Yes	Yes
Illicit Felling of Timber	No	No
Smuggling of Timber	Yes	Yes
Accidental Fires	Yes	Yes
Encroachment of Forest Lands	Yes	Yes
Incident of Snake bites/life threats/risks while protecting forest	Yes	Yes
Theft of Medicinal Plants	Yes	Yes

Source: Proforma-3, Table-3.5 / Discussions with Forest Department personnel & Community members

Thus, it is seen that the significant forest protection issues facing the above JFMC are:

- (a) Grazing - Local Animals
- (b) Grazing - Animals from Other Area

5.12 Reasons for Degradation of the Forest

In the Lunglarphang JFMC, the reasons for degradation of forest are as follows:

- (a) No Scientific Plan
- (b) Traditional Cultivation of Tribal People

(c) Extremist problem in hill sides

[Source: Proforma-3, Table-3.6 / Discussions with Forest Department personnel & Community members]

5.13 Components of the Forest Development Plan

The following sub-sections discuss the main components of the Forest Development Plan of Lunglarphang JFMC; viz. the plans for Protection, Forest Improvement (Treatment), Nursery Development, Maintenance and Miscellaneous Operations.

5.14 Protection Plan

The Protection Plan given at below, discusses the measures for the protection of the forests of Lunglarphang JFMC from the issues discussed earlier at Sub-section 3.1

Table-5.7: Protection Plan of the Lunglarphang JFMC

Protection Work [to be filled from Table 3.7 of Proforma-3 as applicable]	Location in Forest Area	Quantification of the Measures [Length, Area, Size etc.]	Timing	Priority / [High / Medium / Low]
1. Engagement of Watcher	R.F.	2 km	6pm-6am	High
2. Informers award	R.F.	2 km	Anytime	High
3. Fire Protection	R.F.	2 km	Anytime	High

Source: Proforma-3, Table-3.7 / Discussions with Forest Department personnel & Community members

Thus, it is seen that the significant protection measures planned to be undertaken in the Lunglarphang JFMC (with high / medium priority) are as follows:

- (a) Fencing
- (b) Fire protection

5.15 Types of Operations Proposed

The types of operations proposed for the treatment of degraded areas of the JFMC Forest of Lunglarphang JFMC are given here under.

Table-5.8: Types of Operations Proposed in the Lunglarphang JFMC

Treatment	Required (Yes/ No)	Responsibility of JFMC (Yes / No)	Month / Year when can be done	Extent of Area proposed for Treatment (Ha)

Restoration of Degraded Forests	Yes	Yes	June - July	100 Ha
Protection to Cut Stumps of Trees	Yes	Yes	All the Year	100 Ha
Watershed Treatment	Yes	Yes	All the Year	3 Ha
Water Reservoirs	Yes	Yes	All the Year	2 Ha
Grass and Silvi Pastoral activities	Yes	Yes	All the Year	-
Bamboo culture and earth piling	Yes	Yes	All the Year	R.F
Seed Sowing	Yes	Yes	All the Year	-
Treatment	Required (Yes/ No)	Responsibility of JFMC (Yes / No)	Month / Year when can be done	Extent of Area proposed for Treatment (Ha)
Root & Shoot Cutting & Plantation	Yes	Yes	All the Year	-
Cut Back & Coppice Treatment	Yes	Yes	All the Year	-
Stone wall fencing/live Hedge fencing	Yes	Yes	All the Year	80 Ha
Social Fencing	Yes	Yes	All the Year	80 Ha
Other Activities(Protection of Elephants)	Yes	Yes	All the Year	R.F

Source: Proforma-3, Table-3.9 / Discussions with Forest Department personnel & Community members

Thus, it is seen that the following are the treatment operations which have been proposed in the forest area of the Lunglarphang JFMC:

- (a) Seed Sowing
- (b) Root & Shoot Cutting & Plantation etc.

5.16 Forest Improvement Plan - Advance Works & Creation

The pertinent details in the above connection have been tabulated as follows.

Table-5.9: Forest Improvement Planned in the Lunglarphang JFMC

Treatment	Area in Ha under Plantation Module	Priority for Block Plantation	Species	Spacing (metre x metre)
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Assisted Natural Regeneration (with plantation in gap)	20 Ha ANR by APFBC	-	Non Sal NTFP	2/2
Block Planting	-	-	-	-
Sowing of Neem, Amla, Mahua, Bahera (Medicinal Plants)	10	-	Medicinal Plants	-
Enrichment Plantation/ Sowing	-	-	-	-
Direct Plantation	-	-	-	-
Other	-	-	-	-
Total Area (in Ha.)	30 Ha	-	-	-

Source: Proforma-3, Table-3.8 / Discussions with Forest Department personnel & Community members

5.17 Forest Improvement - Annual Targets

Table-5.10 (A) and (B): Annual Targets of Forest Improvement in Lunglarphang JFMC (Year-1 to Year-5) and (Year-6 to Year-10)

The annual targets in the above connection are given below for a ten year period.

Name of Plantation : Block Plantation of Saal Mixed with Associates
Plantation Period : 2016-17 to 2025-26 (10 Years)
Plantation Area : 100 ha
Spacing : 3m X 3 m-1100 plants per ha
No. of Plants to be Raised : 110000 (11000 approx. annually)
Number Blocks : 10 Numbers(10 ha each)
Species : Saal ; Associates-Gamari, Sissoo, Titasopa, etc.
Rates : As Approved by APFBCS(to be increased by 20% every two years)

Action Plan for Creation of Plantation		
Financial Year	Activities	Amount
2016-17	Identification of suitable site for regeneration-examine possibilities of natural seed fall-determine intensity and nature of biotic interference-Area Not Less than 100 ha, Demarcation of land during the month of December/January, Partition of land in 4 blocks, Land development, Soil Working @ Rs 1000/ha	100000
2017-18*	Block Plantation 3m x 3m, 1111 plants/ha-during the season of April-June ; GPS marking of the area	497000
2018-19*	Block Plantation 3m x 3m, 1111 plants/ha-during the season of April-June ; GPS marking of the area	497000
	1st Weeding; Replacement of dead/struggling saplings raised in the previous year	61600
2019-20*	Block Plantation 3m x 3m, 1111 plants/ha-during the season of April-June ; GPS marking of the area	596400

	2nd Weeding; Replacement of dead/struggling saplings raised in the previous year	73920
2020-21*	Block Plantation 3m x 3m, 1111 plants/ha-during the season of April-June ; GPS marking of the area	596400
	3rd Weeding	147840
2021-22*	4th Weeding; Replacement of dead/struggling saplings raised in the previous year	266112
2022-13*	5th Weeding; Replacement of dead/struggling saplings raised in the previous year	354816
2023-24*	6th Weeding; Replacement of dead/struggling saplings raised in the previous year	266112
2024-25*	7th Weeding	266112
2025-26*	8th Weeding	266112
Total Budgetary Requirement		3989424

* Silvicultural thinning to be undertaken on intervals of five years post plantation

Source: Proforma-3, Table-3.10 / Discussions with Forest Department personnel & Community members

Name of Plantation : Block Plantation of Teak Mixed with Associates, Firewood and Bamboo
Plantation Period : 2016-17 to 2025-26 (10 Years)
Plantation Area : 100 ha
Spacing : 2m X 2 m-2500 plants per ha
No. of Plants to be Raised : 110000 (11000 approx. annually)
Number Blocks : 10 Numbers(10 ha each)
Species : Teak; Associates-Ajar, Khoroi, Khayer, Sissoo, Jia, Arjun, Ghora Neem, Bamboo(Jaati, Kako, Bholoka, Bijili), etc

Action Plan for Creation of Plantation		
Financial Year	Activities	Amount
2016-17	Identification of suitable site for regeneration-examine possibilities of natural seed fall-determine intensity and nature of biotic interference-Area Not Less than 100 ha, Demarcation of land during the month of December/January, Partition of land in 4 blocks, Land development, Soil Working @ Rs 1000/ha	100000
2017-18*	Block Plantation 2m x 2m, 2500 plants/ha-during the season of April-June ; GPS marking of the area	262500
2018-19*	Block Plantation 2m x 2m, 2500 plants/ha-during the season of April-June; GPS marking of the area	262500
	1st Weeding; Replacement of dead/struggling saplings raised in the previous year	26950
2019-20*	Block Plantation 2m x 2m, 2500 plants/ha-during the season of April-June; GPS marking of the area	315000

	2nd Weeding; Replacement of dead/struggling saplings raised in the previous year	32340
2020-21*	Block Plantation 2m x 2m, 2500 plants/ha-during the season of April-June; GPS marking of the area	315000
	3rd Weeding	64680
2021-22*	4th Weeding; Replacement of dead/struggling saplings raised in the previous year	266112
2022-13*	5th Weeding; Replacement of dead/struggling saplings raised in the previous year	155232
2023-24*	6th Weeding; Replacement of dead/struggling saplings raised in the previous year	116424
2024-25*	7th Weeding	116424
2025-26*	8th Weeding	116424
Total Budgetray Requirement		2149586

* Silvicultural thinning to be undertaken on intervals of five years post plantation

5.18 Nursery Development Plan

The Nursery Development Plan for the Lunglarphang JFMC depends on the following types of Nurseries:

(a) JFMC Nurseries (incl. Departmental Nursery) (b)

Other Nurseries - SHG & Private.

The details are given below.

JFMC Nurseries

The following table gives the details of the nurseries of the Lunglarphang JFMC. This includes the Departmental Nursery involved in JFMC works.

Table-5.11 (A): JFMC Nurseries of the Lunglarphang JFMC

Location of Nursery	Species	Year of Development	Number of Seedlings	Remarks
Lunglarphang JFMC	Varieties	2016	8,28,000	Proposed

Source: Proforma-3, Table-3.11 / Discussions with Forest Department personnel & Community members

Other Nurseries

The following table gives the details of other nurseries near the Lunglarphang JFMC.

Table-5.11 (B): Other Nurseries near the Lunglarphang JFMC

Name of Nursery	Species	Year of Development	Number of Seedlings	Remarks
Lunglarphang JFMC	Varieties	2016	8,28,000	Proposed

Source: Proforma-3, Table-3.12 / Discussions with Forest Department personnel & Community members

5.19 Maintenance Plan - 10 Years

The maintenance plan for plantations raised in the Lunglarphang JFMC is given below. This covers a period of ten years.

Timber Species Sal , Gamera, Tik

Table-5.12 (A): Maintenance Plan of Teak Plantation in the Lunglarphang JFMC

Year(s)	Treatment
1 st Year	Periodic weeding and removal of creepers Ring formation
2 nd Year	Removing of all dominating weeds affecting supply of sunlight Gap filling Training the plants for straight pole formation
3 rd Year	Removal of side branches
4 th Year	Pruning the nearby trees
5 th Year	Pruning the nearby trees
6 th Year	Gap plantation
7 th Year	Gap plantation
8 th Year	Gap plantation
9 th Year	Gap plantation
10 th Year	Removal of alternative row of teak

Source: Discussions with Forest Department personnel & Community members

(A) Bamboo

Table-5.12 (B): Maintenance Plan of Bamboo Plantation in the Lunglarphang JFMC

Year(s)	Treatment
1 st Year	Weeding and removal of dominating other weeds Ring formation around the buses
2 nd Year	Weeding and removal of dominating other weeds Ring formation around the buses
3 rd Year	Removal of culms
4 th Year	Removal of culms
5 th Year	Removal of culms and trimming of criss-cross culms
6 th Year	Removal of culms and trimming of criss-cross culms Light pruning to improve adequate sunlight and aeration
7 th Year	Removal of culms and trimming of criss-cross culms Light pruning to improve adequate sunlight and aeration
8 th Year	Removal of culms and trimming of criss-cross culms Light pruning to improve adequate sunlight and aeration
9 th Year	Removal of culms and trimming of criss-cross culms Light pruning to improve adequate sunlight and aeration
10 th Year	Removal of culms and trimming of criss-cross culms Light pruning to improve adequate sunlight and aeration

Source: Discussions with Forest Department personnel & Community members

(B) Fuel wood Plantation**Table-5.12 (C): Maintenance Plan of Fuel Wood Plantation in the Lunglarphang JFMC**

Year(s)	Treatment
1 st Year	Weeding around the fuel wood seedlings Ring formation around the seedlings
2 nd Year	Weeding around the fuel wood seedlings Ring formation around the seedlings
3 rd Year	Cutting of side branches, Removal of criss-crossing
4 th Year	Cutting of side branches, Removal of criss-crossing
5 th Year	Rows of plantation
6 th Year	Remove Stumps
7 th Year	Prune trees (This would create a 15 years pruning cycle)
8 th Year	Cutting of side branches and weeding
9 th Year	Cutting of side branches and weeding
10 th Year	Cutting of side branches and weeding

Source: Discussions with Forest Department personnel & Community members

(C) NTFP / Medicinal Plantation**Table-5.12 (D): Maintenance Plan of NTFP / Medicinal Plantation in the Lunglarphang JFMC**

Year(s)	Treatment
1 st Year	Weeding around the seedlings Ring formation Nipping of terminal Disbudding to delay the fruit set to next season
2 nd Year	Weeding around the seedlings Ring formation Nipping of terminal Disbudding to delay the fruit set to next season
3 rd Year	Collection of fruits, Seeds and minimal pruning to remove dead
4 th Year	Collection of fruits Minimal pruning for removal of criss-crossing, overcrowding branches
5 th Year	Collection of fruits Minimal pruning for removal of criss-crossing, overcrowding branches
6 th Year	Collection of fruits Minimal pruning for removal of criss-crossing, overcrowding branches
7 th Year	Collection of fruits Minimal pruning for removal of criss-crossing, overcrowding branches
8 th Year	Collection of fruits Minimal pruning for removal of criss-crossing, overcrowding branches
9 th Year	Collection of fruits Minimal pruning for removal of criss-crossing, overcrowding branches
10 th Year	Collection of fruits Minimal pruning for removal of criss-crossing, overcrowding branches

Source: Discussions with Forest Department personnel & Community members

5.20 Miscellaneous Operations Plan

The miscellaneous operations planned in the Lunglarphang JFMC are given below:

Table-5.13: Miscellaneous Operations in the Lunglarphang JFMC

Operation	Required (Yes / No)	Responsibility	Month / Year	Area (Ha)
(i)Medical/Health care Camp	Yes	VSS	Feb-Mar	JFMC
(ii)Centre For Non-Formal education	Yes	VSS	Feb-Mar	JFMC
(iii)Promotion of Fuel Saving Devices	Yes	VSS	Feb-Mar	JFMC
(iv)Cattle improvement/health improvements	Yes	VSS	Feb-Mar	JFMC

Source: Proforma-3, Table-3.13 / Discussions with Forest Department personnel & Community members

Marketing Operations

For produce from the Lunglarphang JFMC, the planned marketing operations are:

- (a) Linkage will be established with traders inside and outside the district
- (b) Selling to the Ban Bazar
- (c) Participation in Exhibition

Expected Benefits

This sub-section furnishes the benefits expected from the forests protected by members of the Lunglarphang JFMC, as well as the sharing mechanism for the usufruct benefits.

5.21 Expected Benefits Related to Wood & Grass

The above has been tabulated below for the Lunglarphang JFMC. The benefits are expected from the forests protected by its members under this Forest Development Plan.

Table-5.14: Expected Benefits from Forests Protected by Members of Lunglarphang JFMC

Item	Month	Year (Indicative)	Quantity
Firewood	12 month		60-75 Kg/month
Timber for House	-	-	-
Small timber for Implements	-	-	-
Bamboo	12 month	32-50 pc/ month	801 -1240 Kg/month
Pole	-	-	-
Fodder from Forest Trees & Grass	12 month	-	1508-2040 Kg/month
NTFP	3-4 month	-	20-30 Kg/Year
Wages	12 month	200 -300 Rupees/Day	Forest
Other	-	-	

Source: Proforma-3, Table-3.14 / Discussions with Forest Department personnel & Community members

5.22 Sharing Mechanisms

The sharing mechanism for the benefits is indicated below for members of the Lunglarphang JFMC.

Table-5.15: Sharing Mechanism for Lunglarphang JFMC

Method	Items
To be shared equally	Collected Individually
To be freely collected by the members	Medicinal Plants, Fodder, Broom Stick
Other Methods	Na

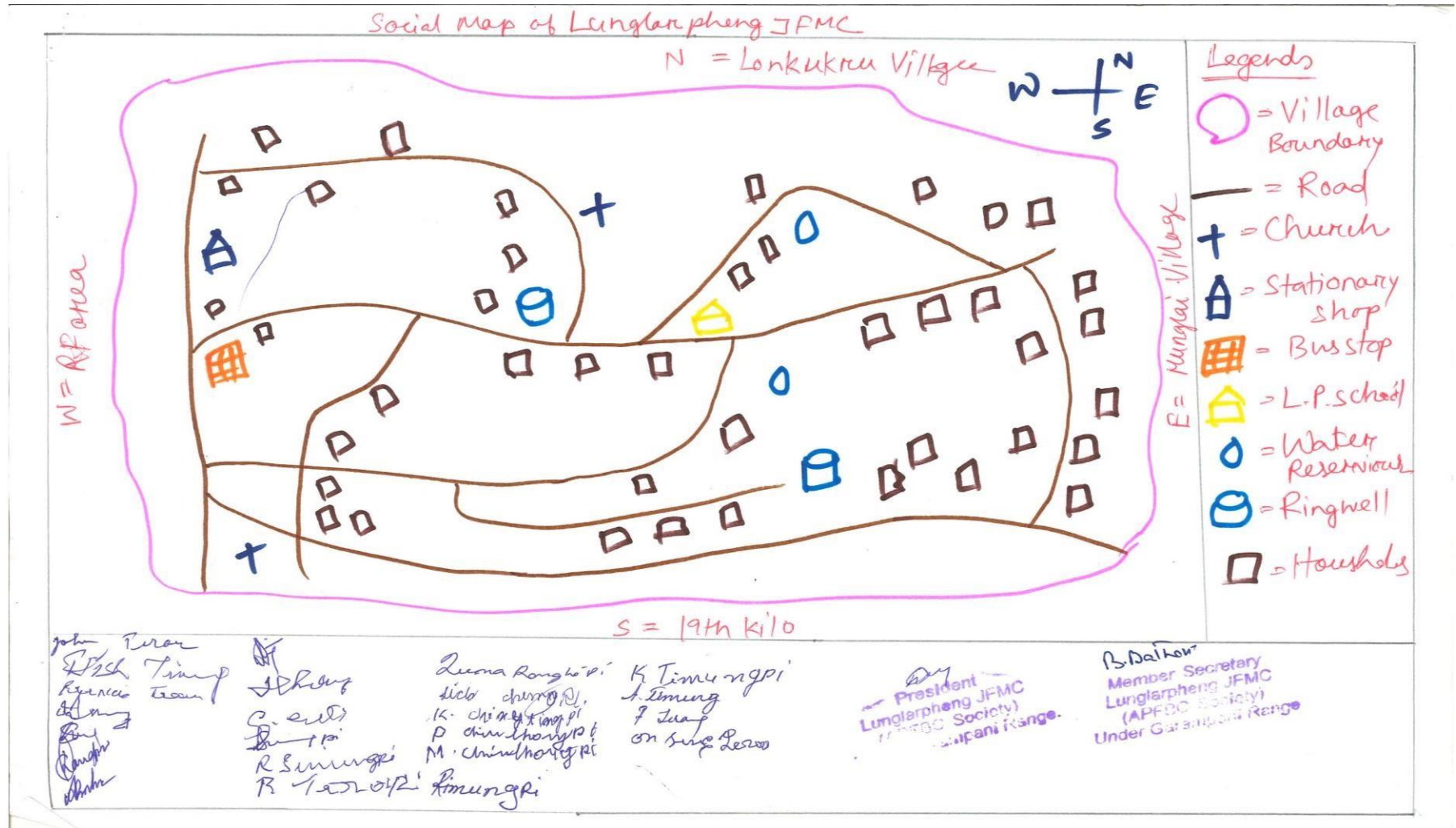
Source: Proforma-3, Table-3.15 / Discussions with Forest Department personnel & Community members.

List of Appendices

Appendix No	Heading
1	Maps Village/Social Map Village Resources Map
2	Land Use Map of Village (GIS)
3	PRA Exercise Social Mapping Wealth Ranking Time Line review Seasonality of Livelihoods Venn Diagram Priority ranking and EPA
4	List of JFMC Members
5	Photographs
6	Filled Up Tables (Proforma-1 to Proforma-4) Table Nos. 1-37

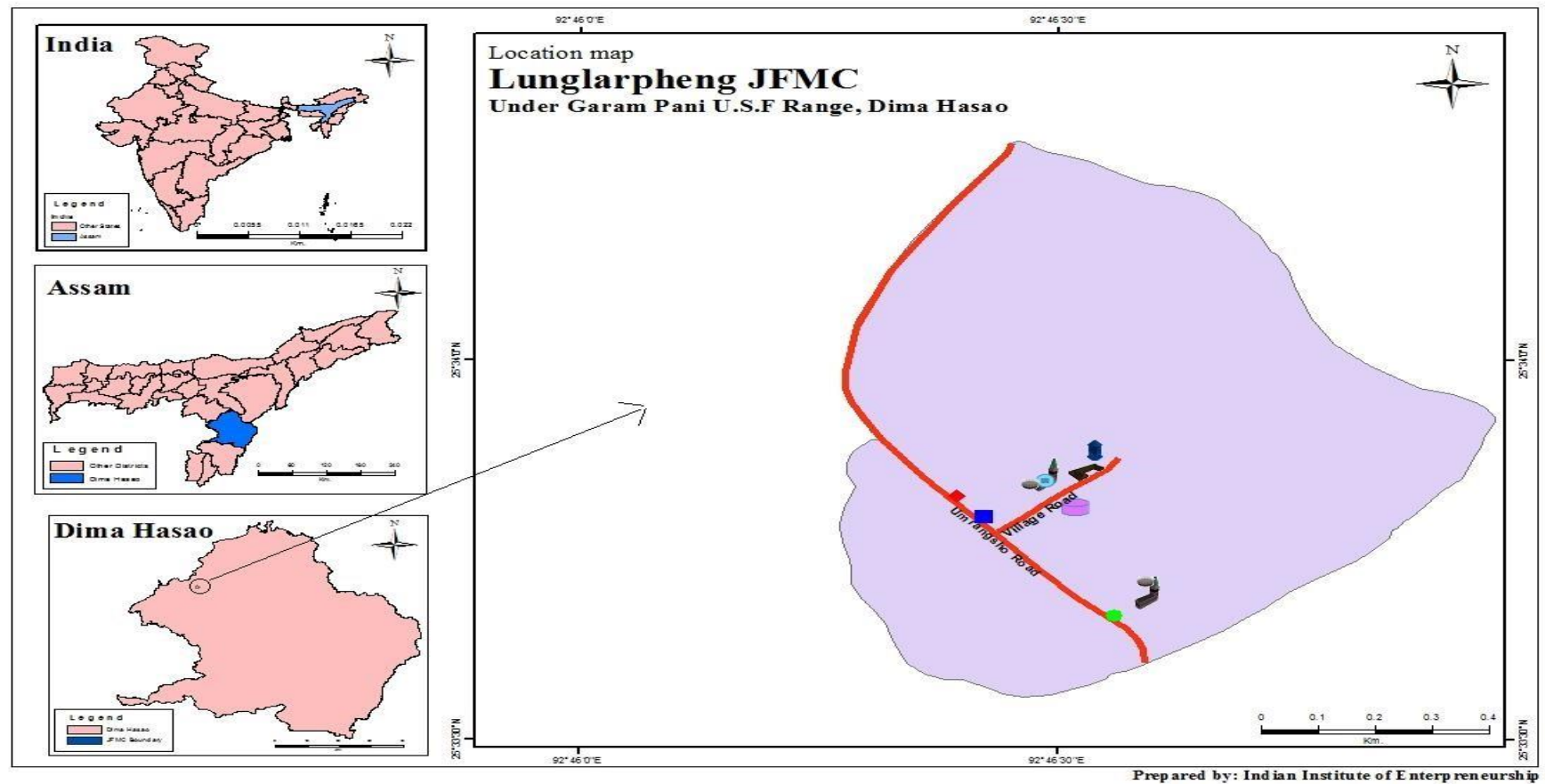
Appendix 1 1.

Village Map/ Social Map:

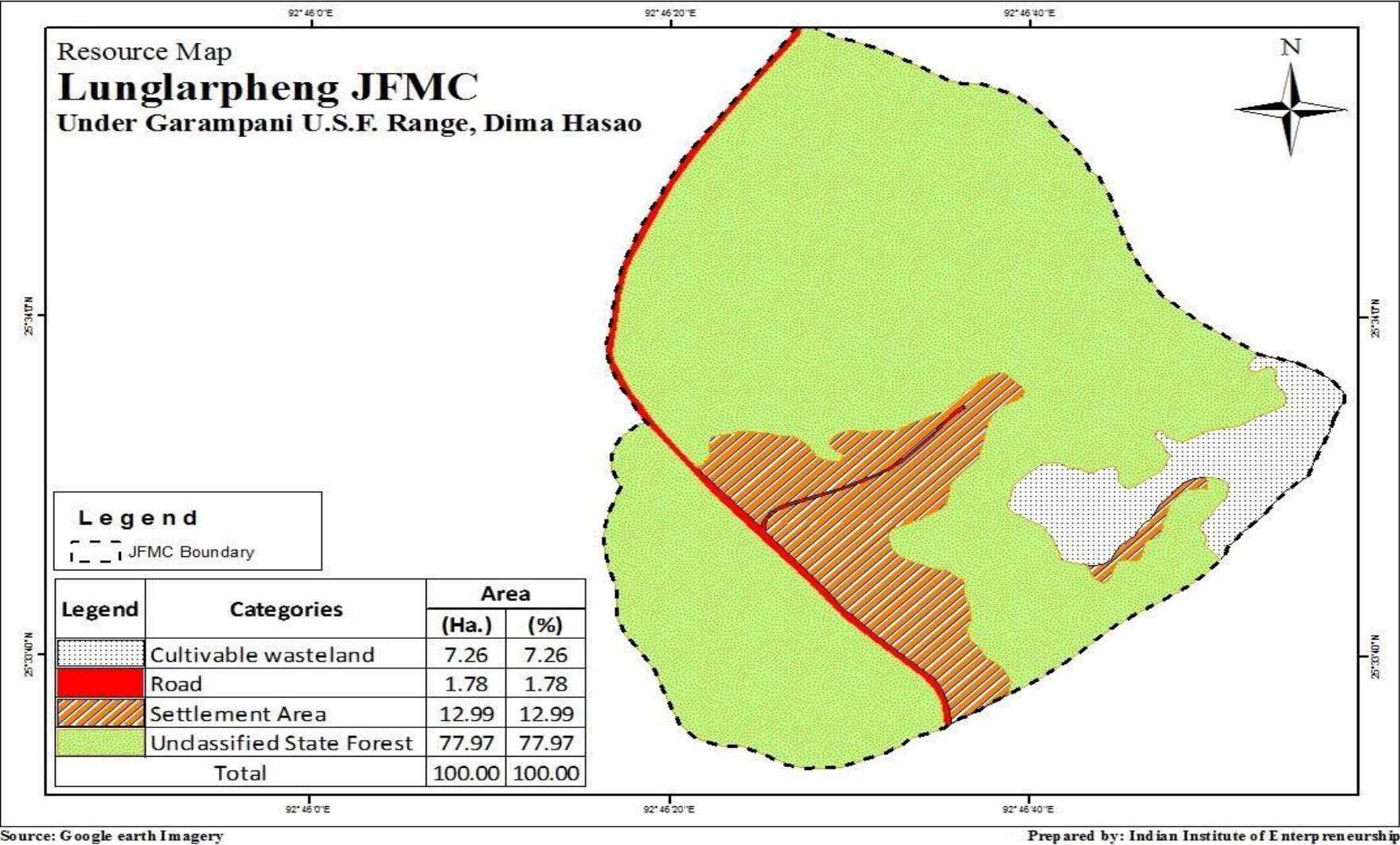


Appendix 2

Location map of GIS



Land Use map of GIS



Appendix 3

PRA ACTIVITY

Location and Timing of Participatory Rural Appraisal:

Numbers of participants : 25

Time : 11 am, 8th June 2016

Venue : Village locality

Table – 3.1 Brief about the villages under Lunglarpheng JFMC

Sl. No.	Name of village	Households (No.)	Population (No.)			Sex ratio	HH size
			Total	Male	Female		
1	Chotolunglarphang	58	308	155	153	987	5.3
	Total	58	308	155	153	987	5.3
							Avg.

Source: Field Survey

Different PRA tools used under the exercise of PRA technique are:

- Social Mapping
- Wealth Ranking
- Time Line Review
- Seasonality Analysis
- Chapatti diagram

3.1 Social Mapping:

Social mapping is used to visualise the socio-economic aspects of the Chotolunglarphang village where the housing patterns of the households, the numbers of schools, social infrastructure, and religious beliefs among households. Awareness camp about the project was carried out beforehand. So it was easy to gather people for the PRA process in the community hall. And due to time constraint we have to skip the transect walk. The villagers are enthusiasms about the mapping process and they actively participated in the process.

At first, the people of villagers were asked to draw the main roads of the village and then asked them to locate their houses and locate the important social places and government offices with help of the PRA team members. Two of them voluntarily came out to draw and they were assisted by other villagers and the team members.

Figure 3.1: Social Mapping



JFMC- Lunglarpheng (Chotolarpheng Village), Dima Hasao district

Table 3.2: Information about the villages

Social information	Village	Chotolarpheng
	Total Population	308
	Male	155
	Female	153
	Total households	58
	Numbers of Kuccha Houses	58
	Numbers of IAY Houses	12
Landmarks	Bus stand/ Resting shed	1
	Stationary shop	1
	Church	2
	Field	2
	Primary School	1
	Ring Well/ Water reservoir	4
	Rubber plantation area	1

- The participants of social mapping have identified all the 58 households of the village and all are kuccha house. Out of the all houses, 12 houses are funded by Indira Awaas Yojana (IAY) which shows the very limited coverage of government policy in the village. Almost all households have very less basic facilities and min 3 to 4 rooms.
- Other than the class based division of the households, important places like primary school, playground, two church, ring well/ water reservoirs, bus stand, stationary shops are also mapped.
- Main sources of water for the villagers are the ring well and water reservoirs which is used by villagers for their day to day use.
- Provision of Education facility up to primary school level is satisfactory in the village as there is one primary school in the village. However, the nearby middle schools and high schools are situated in the neighboring villages.
- All people are belonging to the Christian community and are of schedule tribe caste

(hills).

3.2 Wealth Ranking:

Wealth ranking, or well-being ranking, involves community members identifying and analysing the different wealth groups in a community. It enables evaluators to learn about the socioeconomic stratification of project beneficiaries and local people's definitions and indicators of wealth/well-being.

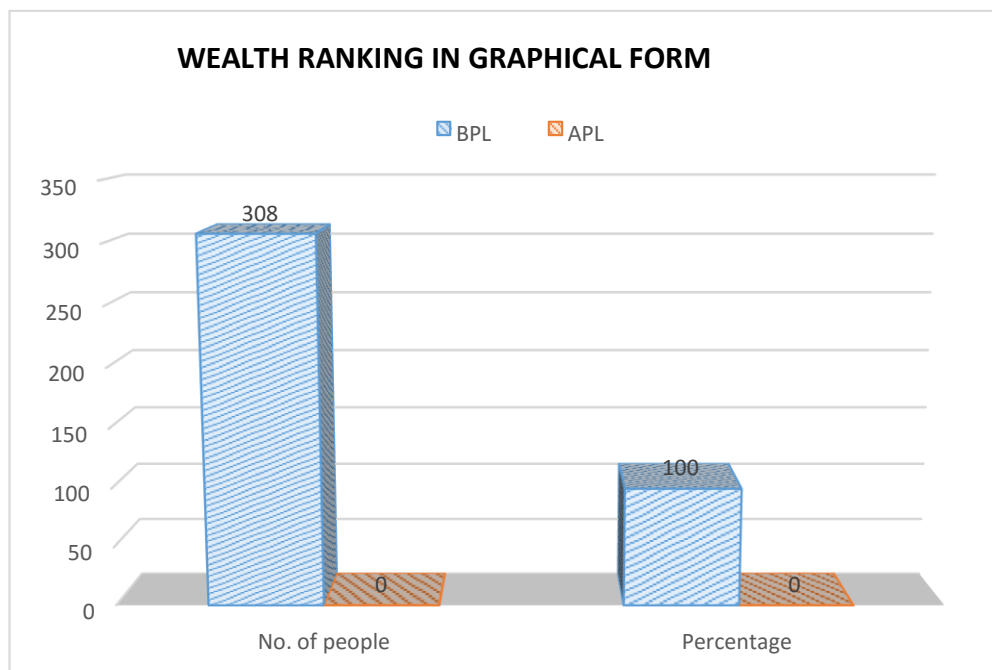
The most common version of this technique involves a series of individuals, a focus group of community members, ranking their entire community (or a particular section of the community if there are too many households to rank it all-say more than 100-or if the participants are familiar with only their own neighbourhood). The PRA facilitators introduce the technique using local terms for wealth and poverty and encourage participants to first discuss how they define these terms and how they would describe a poor household or a rich household (that is, their criteria for assessing a household's relative wealth).

Wealth ranking was done with the help of the following criteria

- a) Occupation
- b) Land holding
- c) Types of living house

In respect to this JFMC, cent per cent of the people are poor and BPL categories. BPL category people have very less annual income (less than ~ Rs. 15,000) and less amount of agricultural land (less than ~ 6 bigha). In this village, all people mainly depend on shifting cultivation method (JhumLocal name) in all the time of a season.

Figure 3.2: Wealth Ranking



Pie chart (Wealth Ranking) - Lunglapheng JFMC

Wealth Range	Percentage	Count
Rs. 10,000 - 18,000	60%	2160
Less than Rs. 10,000	40%	1440

Atish Triing
Wm. Sear
Gang Yee
Chin Wai
J. Sear
A. Limung

Chin Wai
S. Sear
S. Sear
L. Chin Thongpi
P. Chin Thongpi

Ay
President
Lunglapheng JFMC
(APFBC Society)
Under Garampani Range

A. S. Sear
Member Secretary
Lunglapheng JFMC
(APFBC Society)
Under Garampani Range

3.3 Time Line Review:

Table 3.3: Timeline review

Year		Event	Type
Pre independence	1930	First Village road was constructed	Construction
	1945	Catholic church was constructed	Religious
Post Independence	1950	Earthquake	Environmental
	1965	Protestant church was constructed	Religious
	1997	Thunderstorm destructed the forest area	Environmental
20 th century	2002	LP School was started	Educational
	2015	JFMC established	Social + environmental

In order to know the past important cum historical events over time, the team has conducted the timeline analysis. The team members discussed about the local events to the village head, elderly persons and also to some young people to have an idea about how they dealt with those situations and what was the impact of those events on their lives as well as on the development of the village. Our time line illustrates that the first kuccha road was constructed in 1930 which connected the Chotolarpheng Village with main road which may indicates the beginning of trade with nearby villages and markets. In 1945, the Catholic Church was constructed with the help of British Government. After independence, the earthquake of 1950 caused many damages to the village. In the year 1965, Protestant church was constructed by some villagers who believes the protestant ideology. The thunderstorm of 1997 compelled the government to issue a tender to cut down the large trees of the village so that no further damages could be happened.

The first Joint Forest Management Committee (JFMC) was formed in 2015. Since the JFMC is in the initial stage of the formation so lots of future plantation would have to be done.

Learning:

- The villagers are aware of the fact that post cutting down of the trees, the number of animals becomes less in the forest which indicates the forest preserving awareness of the people.
- The processes of conserving the forest area start mainly after the formation of JFMC.

3.4 Seasonal Mapping of livelihood activities:

Seasonal calendars drawn by the local people are very useful means of generating information about seasonal trends within the community and identifying periods of particular stress and vulnerability. Best undertaken in the context of a group discussion (to help verify the information obtained), seasonal calendars are often drawn on the ground with the relative trends depicted using stones or seeds, as in a preference-ranking matrix. In other instances, simple line graphs can be drawn to show seasonal increases or decreases. A whole series of seasonal variables can be included in one calendar to give an overview of the situation throughout the year. These variables can include: rainfall, crop sequences, labor demand, availability of paid employment, out-migration, incidence of human diseases, expenditure levels, and so on. Important periods, such as festivals, can also be shown.

Seasonal mapping mainly covers the seasonal variation of crops. In seasonal mapping, we considered agricultural crop and the timing of three activities viz. showing, cropping and harvesting criteria and

collected the details throughout the year. From the seasonal mapping, it has been noticed that the main crops grown in the village are Til, Jharu, Ginger, Paddy and corn.

Figure 3.3: Seasonal Agricultural Pattern

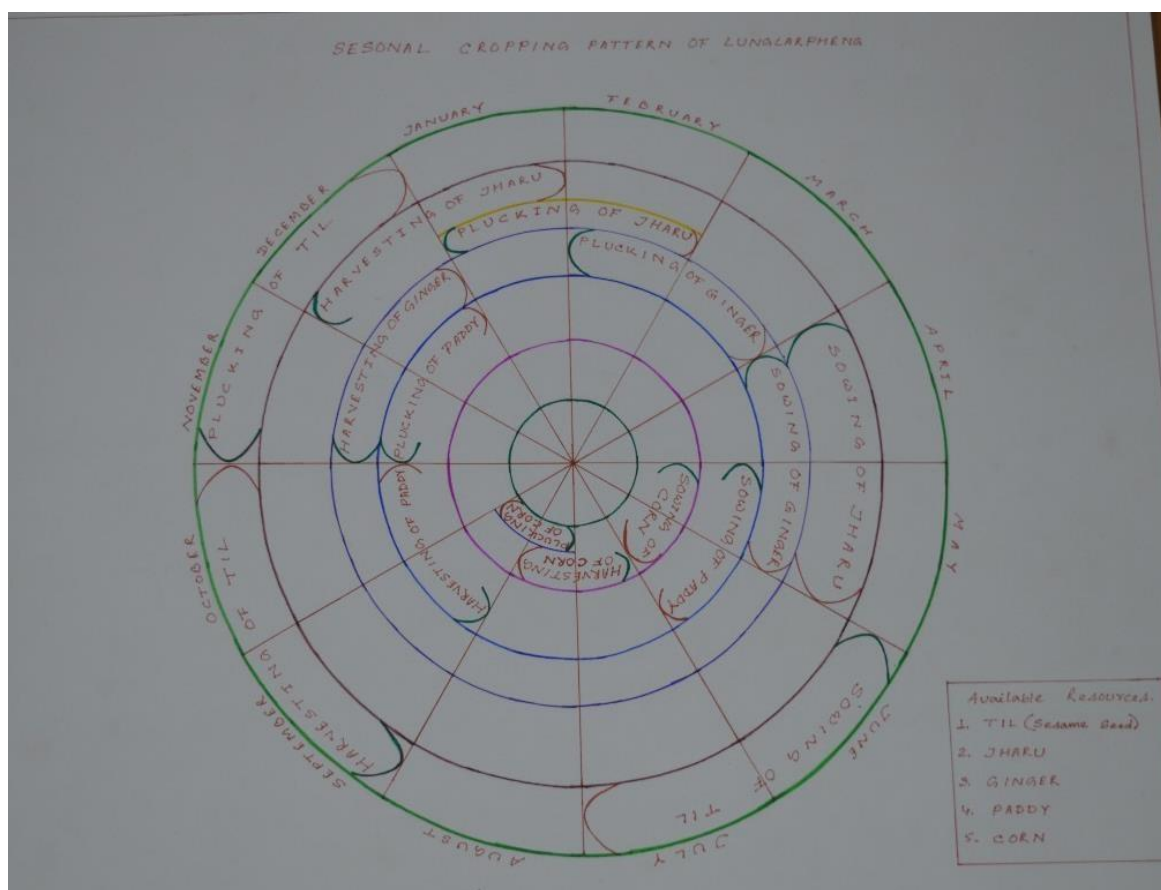


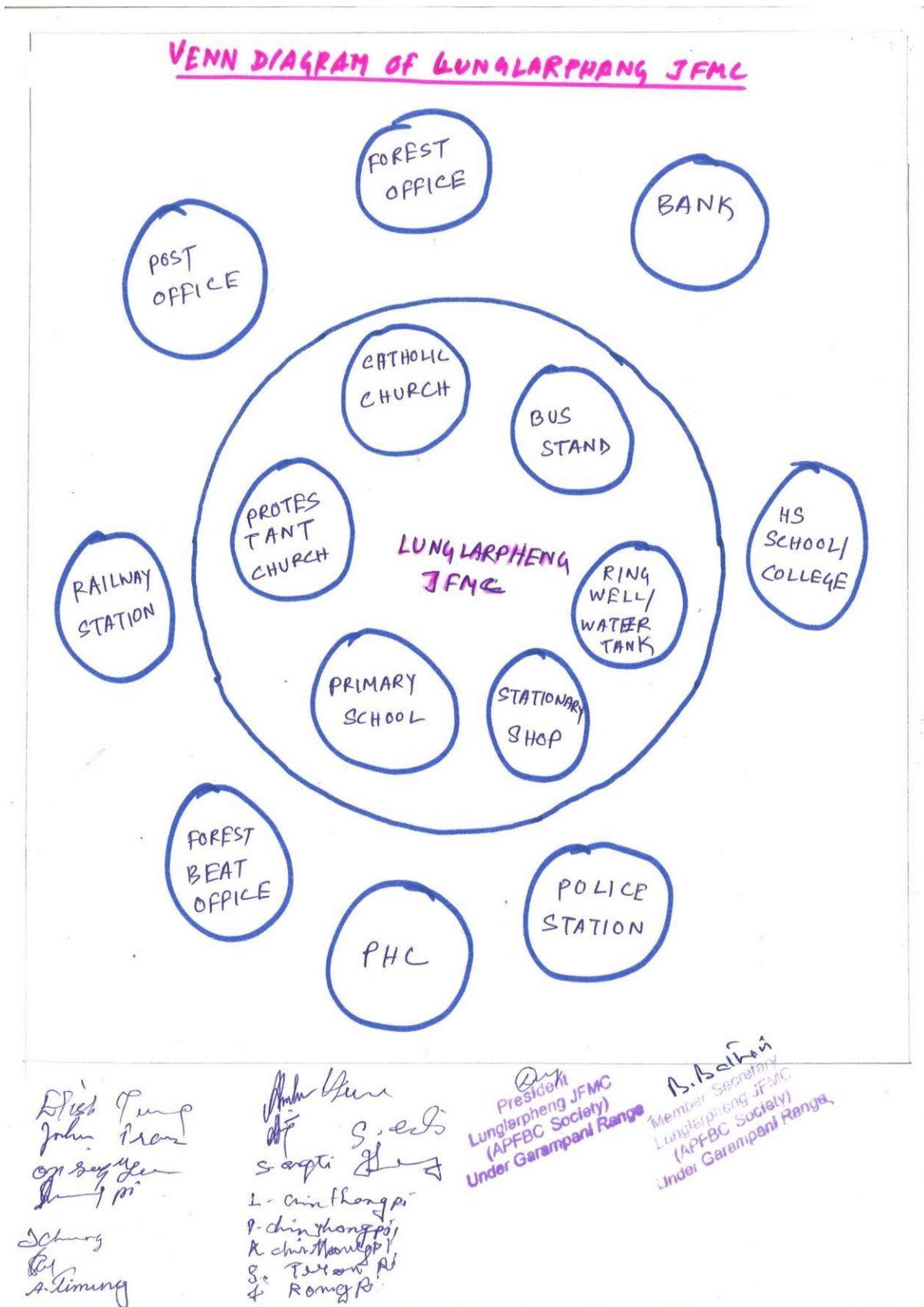
Table 3.4 Seasonal cropping pattern

Agricultural crop	Sowing	Plucking	Harvesting
Til (Sesame seed)	June-July	September-October	November- December
Jharu (Broom stick)	December-January	January - February	April-May
Ginger	November- December	February-March	April-May
Paddy	May-June	September-October	November-December
Corn	May-June	July-August	August-September
Horticulture	Throughout the year		
Rice	Throughout the year		

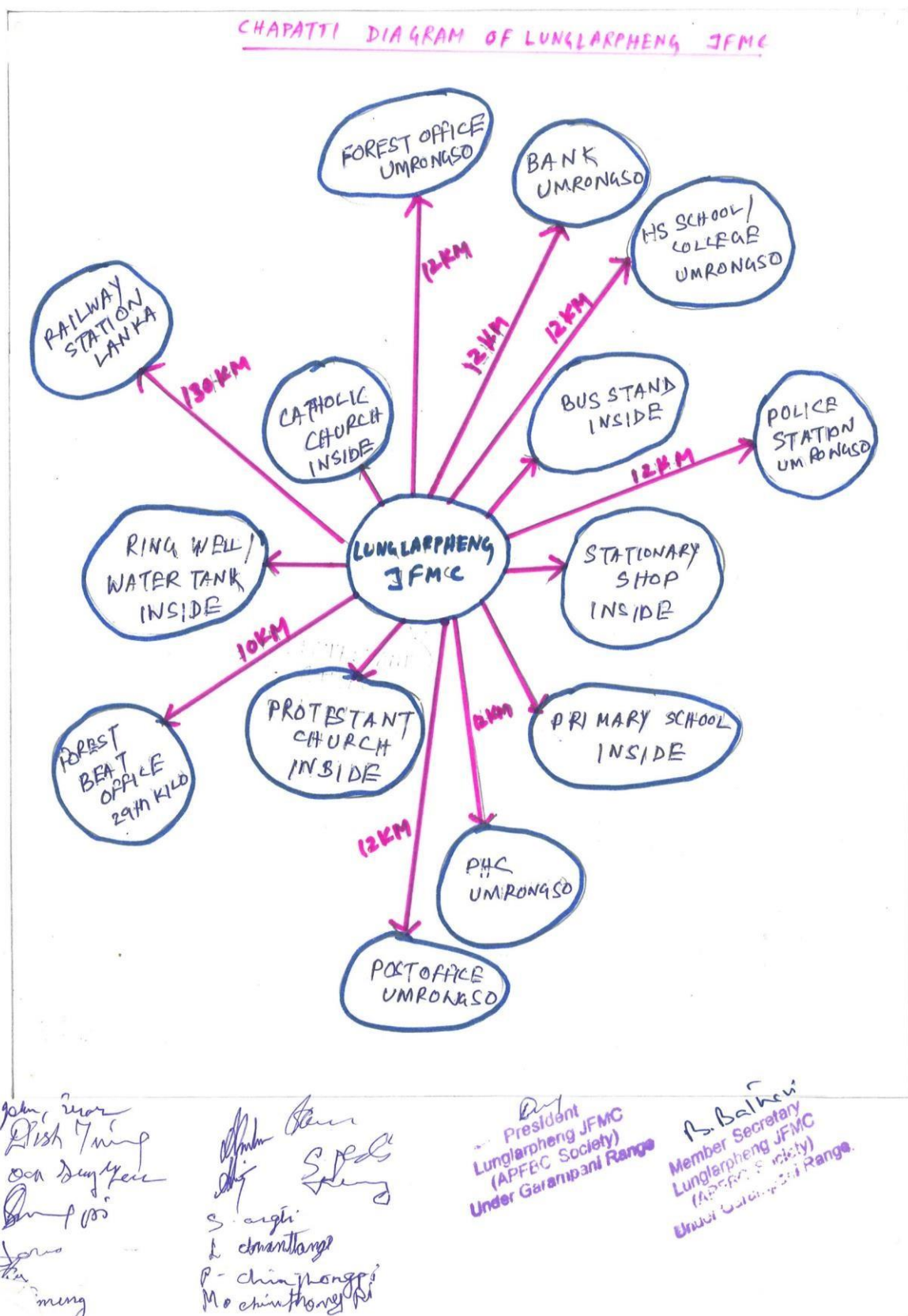
Learnings:

- Water availability is less during the period September to March, so agricultural productivity become less in this period. Moreover, shifting cultivation also obstructs the proper agricultural growth.

3.5 Venn Diagram



3.6 Chapatti Diagram



3.7. Priority Ranking- EPA and Livelihood

EPA

EPA activities		LPG Connection A	Solar Connection B	Health Centre C	Sanitation D	Village Road E	Community Hall F	Marketing Shed G	Oil seed Processing Unit H	Mark s	Rank
LPG Connection	A	x	A	A	A	A	A	A	A	7	1
Solar Connection	B	x	x	B	B	B	B	B	B	6	2
Health Centre	C	x	x	x	D	C	C	C	C	4	4
Sanitation	D	x	x	x	x	D	D	G	D	3	5
Village Road	E	x	x	x	x	x	I	E	E	5	3
Community Hall	F	x	x	x	x	x	x	F	F	2	6
Marketing Shed	G	x	x	x	x	x	x	x	G	1	7
Oil seed Processing Unit	H	x	x	x	x	x	x	x	x	1	7

Livelihood

Potential Livelihood Activities		Livestock A	Tailoring B	Agriculture C	Horticulture D	Driving E	Horticulture F	Lac Cultivation G	Carpentry H	Cane & Bamboo I	Marks	Rank
Livestock	A	x	B	C	A	A	A	A	A	A	6	1
Tailoring	B	x	x	B	B	E	B	G	H	B	5	3
Agriculture	C	x	x	x	D	C	C	C	C	C	6	1
Horticulture	D	x	x	x	x	E	D	G	D	D	4	5
Lac Cultivation	E	x	x	x	x	x	I	E	E	E	5	3
Carpentry	F	x	x	x	x	x	x	G	H	F	1	9
Driving	G	x	x	x	x	x	x	x	G	I	4	5
Cane & Bamboo	H	x	x	x	x	x	x	x	x	H	3	7
Masonry	I	x	x	x	x	x	x	x	x	x	2	8

Annexure 4

LIST OF JFMC MEMBERS

Name of JFMC- Lunglarpheng
Beat- 29th kilo

Division- West haflong

Range- Garampani

Sr. No.	Name	Father's / Husband's name	Age	Male / Female	Education	SC/ST / BC/OBC
1	Besterwell Millica	-	47	Male	ME	ST
2	Brojendra Bathari	-	50	Male	ME	ST

Annexure 5: Photographs



Photograph 1: Inauguration of PRA exercise at Lunglarphang JFMC, Date- 08/06/2016



Photograph 2: PRA Exercise, Date- 08/06/2016, Lunglarphang JFMC

Annexure 6 (Recode I)

Table 1: Basic data of the JFMC

Sl.No	Name of JFMC/Village	Date of Establishment	No. of Members In Executive Comtt.	Name of President	Name of Secretary	Money in village Dev.	Contribution per family or per person	Social fencing used	Yes/No Remarks on special attainments	Grading % of Success
1	Lunglarphang/ Chotolarphang	2015-16	10	Besterwell Millica	Brojendra Bathari	Nil	Nil	Nil	Nil	Nil

Source: PRA

Table -2: Village wise population data

No.	SC	ST	OBC	General
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Name of Village	of House hold	Male	Female	Male	female	Male	Female	Male	Female	Total- all category
Chotolarpheng	58	NA	NA	155	153	NA	NA	NA	NA	308

Source: PRA

Table-3: Village wise farmers category on the basis of land holding

S.No	Name of Village	Type of Farmers according to land holding				Total
		Large Farmer > 10ha.	Small Farmer 2 – 10 ha.	Marginal Farmer <2 ha.	Land Less	
1	Chotolarpheng	Nil	4	54	Nil	58

Source: PRA

Table 4: Cattle Population of the JFMC

S.No	Name of Village	Village – wise No. of cattles or Type of animals								Total
		Cows Milching	Buffaloes Milching	Goats	Sheep	Bulls/ Oxeing	Camels	Hen/ Cock	Others	
1	Chotolarpheng	50	00	20	00	00	00	100	(Pig) 100	270

Source: PRA

Table 5. JFMC infrastructure

S.No	Infrastructure	Location	Distance from village, if in another location (in Kilometers)	Condition and status of present use
1	Main Road	Yes	Under Village area	Poor
2	Electricity	Nil	-	-
3	Gas connection	Nil	-	-
4	Transport	Nil	-	-
5	Primary Health Centre	Umrongso	12KM	Poor
6	School (LP)	Yes	Under Village area	Good
7	Post Office	Umrongso	12KM	Poor
8	Bank	Umrongso	12KM	Poor
9	Phone	Nil	-	-
10	Anganwadi Centre	Nil	-	-
11	Gram Panchayat Office	Nil	-	-

Source: PRA

Table 6. Agriculture Crops

	Rain fed		Irrigation	
	Name of Crop	Area in ha.	Name of Crop	Area in ha.
Kharif	Paddy, Til (Sesame seed),	40Ha, 10 Ha	-	-
Rabi	Ginger, Jharu (Broom stick), Corn	3 Ha, 30 Ha, 4 Ha	-	-
Others	Horticulture	-	-	-

Source: PRA

Table 7. Crop production profile of Lunglarpheng JFMC

crop	Total production (approx)	Number of households growing	Average production(quintal per/ha)
Paddy	55.98 Qt.	58	-
Wheat	-	-	-
Oil seeds	-	-	-
Vegetables	5 Qt.	58	-
Pulses	-	-	-
Small millet	-	-	-
Fruit orchards	-	-	-
Others, Jharu, Til, Ginger, Corn	-	58	-

Source: PRA

Table 8. Fodder availability of the JFMC

types	1-3 month	3-6 month	>6 month
Crop residue		✓	
Trees fodder		✓	
Grasses			✓
Green Fodder			✓
Grazing in Forest			✓

Source: PRA

Table 9. Fodder availability

For purchase	Location	Distance from village if in other village kilometer
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Grocery Shop/PDS center	-	-
Weekly Market	Umrongso	12 KM
Major Market	Umrongso	12 KM
Forest corporation sale depo.	-	-
Tendu Patta PHAD	-	-
Fish Market	-	-
Medicinal Plant Collection Center	-	-
Forest Corporation Medicinal	-	-
Plant Collection Center	-	-
Other Specify	-	-

Source: PRA

Table 10: Water resource facility available in the village

Water Source	Number	Water Availability (Adequacy, seasonality)	Uses (drinking, irrigation, livestock bathing)
Water Harvesting Structure	-	-	-
Check dam	-	-	-
Tube well	-	-	-
River/Nala	-	-	-
Spring	-	-	-
Canal	-	-	-
Water Reservoir	2 (Dalmia Bharat sponsored, CSRCD scheme)	Adequacy	drinking
Other, pl specify, Ring well	2	Adequacy	drinking

Source: PRA

Table 11: Energy consumption:

Type of fuel	Number of household depending	Number of months dependent	Source (local village, forest, other source)	Major/Secondary
Fuel wood	100% (58 HHs)	12 month	Forest	Major
Kerosene stove	-	-	-	-
Gobar/Bio Gas	-	-	-	-

Cow dung cake	-	-	-	-
LPG	-	-	-	-
Electric Heater	-	-	-	-
Other, pl specify, Solar	40%	12 month	Individual	Secondary

Source: PRA

RECORD: II

LIVELIHOOD OPPORTUNITY ANALYSIS

Table 12: Agriculture and Horticulture:

Showing the agricultural and horticultural status

Constraints	Reason	Opportunities	Programme
Low Production	<input type="checkbox"/> Traditional way of cultivation. Only one crop undertaken annually (Sali) <input type="checkbox"/> Very negligible use of fertilizers and pesticides, insecticides. Lack of irrigation facilities. <input type="checkbox"/> Lack of agricultural infrastructure, modern tools and equipment's	<input type="checkbox"/> Application of proper and controlled pesticides and insecticides. <input type="checkbox"/> Introduction of new and advance technology. Well-structured training programme. The villagers are inherited with the skill of cultivation. But an improvisation of skills is the need of the hour. <input type="checkbox"/> Usage of high yielding seed programme.	<ul style="list-style-type: none"> • Tractor operation training • Agri-skill development programme. • Training on insecticides, pesticides, hybrid cultivation
	viz, power tillers, tractors etc. <input type="checkbox"/> Non usages of high yielding seeds.		
Storage and Production	<input type="checkbox"/> Lack of common storing place <input type="checkbox"/> Lack of cold storage facility due to nonavailability of electricity	<input type="checkbox"/> Helpful in preserving unsold products for a longer period of time. <input type="checkbox"/> They can store their product and sell it when there is a higher demand.	<input type="checkbox"/> Packaging <input type="checkbox"/> Transportation and distribution.

Marketing	<input type="checkbox"/> Lack of transporting facilities for carrying products <input type="checkbox"/> Less contact with the direct market; much dependency upon middle man No <input type="checkbox"/> knowledge on marketing know-how, dependence on traditional system of selling.	<input type="checkbox"/> Smooth transportation facility will help the farmers to carry their products to the nearby markets. <input type="checkbox"/> Generate highest market price by removing middle men. <input type="checkbox"/> More knowledge about the current market situation as well as the current value of their products.	<input type="checkbox"/> Buyers sellers meet
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Table 13: Livestock

Livestock			
Constraints	Reasons	Opportunities	Programme
Less grazing land	<input type="checkbox"/> Not Applicable		
Availability of fodder	<ul style="list-style-type: none"> • Unable to buy fodder from market due to poor financial condition • Trees fodder n crop residue are available only for 3-6 months. Green fodder is also not available for the whole year. 	<ul style="list-style-type: none"> • Higher income from livestock rearing. • The villagers can make it as an alternative livelihood opportunity if they have the easy access of livestock fodder. 	Linkage with veterinary department for better opportunities in livestock sector.
Veterinary care facility	<ul style="list-style-type: none"> • No veterinary care clinic • Lack of knowledge about the proper rearing of live stock 	<ul style="list-style-type: none"> • Disease control • Increases the life span of cattle. • It will also help to aware the villagers and will encourage them for livestock rearing. 	
Production of milk	<ul style="list-style-type: none"> • Less availability of fodder • No scientific knowledge on cattle rearing to increase the milk production. 	<ul style="list-style-type: none"> • Training on the milk production can enhance the skill of milk production. • Availability of supplements like cattle “Milk Booster, 	
		Milk Plus” etc. can increase the production of milk in the area.	

Table 13: NWFP

NWFP

Constraints	Reasons	Opportunities	Programme
Less collection	<input type="checkbox"/> Less availability of NWFP	<input type="checkbox"/> Availability of fertile fallow land	<ul style="list-style-type: none"> • Plantation of Food plans, Medicinal Plant etc. • Improve in processing of NTFP
Unsustainable extraction	<input type="checkbox"/> NA	<input type="checkbox"/> Availability of fertile fallow land	
Low rates	<input type="checkbox"/> NA	NA	
Value addition	<ul style="list-style-type: none"> • No processing units • Non availability of required resources • No technical knowhow 	NA	

Table 15: Specialised skills: Handloom

Constraints	Reasons	Opportunities	Programme
Raw material availability	<input type="checkbox"/> Non-Availability of Raw Materials within reachable location (market 7km away) <input type="checkbox"/> No Storage	<input type="checkbox"/> Common place for setting a raw material storage	<input type="checkbox"/> Setting up a raw material bank
Product quality	<input type="checkbox"/> Shortage of High Quality Materials <input type="checkbox"/> Use of Traditional machineries	<input type="checkbox"/> Developing Quality Products for new market exploration.	<input type="checkbox"/> Training on Modern Tools and Equipment. <input type="checkbox"/> Providing modern technology to the villagers
Marketing potential	<input type="checkbox"/> No standardised market <input type="checkbox"/> No pricing policy No linkage with the institutional buyers <input type="checkbox"/> No Product Diversification or New Product Development.	<input type="checkbox"/> Exploring new markets with diversified products	<input type="checkbox"/> Providing a bulk buy arrangement of the finished product with institutional buyers.
Credit facilities	<input type="checkbox"/> No linkage with the banks or post office saving banks.	<input type="checkbox"/> Financial assistance by the Govt.	<input type="checkbox"/> Microfinance, Term Loans,
	<input type="checkbox"/> Unaware of the development schemes of banks and government	<input type="checkbox"/> Providing easy access to credit.	Working Capital Arrangement

Product Diversification	<input type="checkbox"/> No Product Diversification or New Product Development. <input type="checkbox"/> Lack of concept for product diversification.	<input type="checkbox"/> Developing Demand Based Products, as per the needs of the modern day market.	<input type="checkbox"/> Skill Upgradation & Training on New Product Development and Product Diversification
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Table 16 Credit facility

Constraints	Reason	Opportunities	Programme
Indebtness	Nil	<input type="checkbox"/> Setting up modern financial institution in the nearby areas.	Linkage with financial institution for better credit facility with financial inclusion.
Rate of interest	<input type="checkbox"/> Higher lending rates charged by the private money lender	<input type="checkbox"/> Subsidised credit arrangement	
Availability of loan	<input type="checkbox"/> Fear of risk taking No <input type="checkbox"/> knowledge of documentation	<input type="checkbox"/> Start-ups entrepreneurial venture	
Mortgage difficulty	<input type="checkbox"/> Unavailability of proper documentation of mortgaged property.	<input type="checkbox"/> Proper awareness about documentation in the area	