

LEKU JOINT FOREST MANAGEMENT COMMITTEE (JFMC)

Jonai Range, Dhemaji Forest Division

NORTHERN ASSAM CIRCLE



MICRO-PLAN
(2016-17 to 2025-26)

Prepared by Leku Joint Forest Management Committee

assisted by
Assam Forest Department
&
COMPELO
(IIE & RGVN)

Approved

/C Divisional Forest Officer
Dhemaji Division
Dhemaji

List of Acronyms

Acronym	Full Form
AfD	Agence Francaise de Development
APFBC	Assam Project on Forest & Biodiversity Conservation
APL	Above Poverty Line
BPL	Below Poverty Line
CML	Centre for Microfinance and Livelihood
COMPELO	Consortium On Micro Planning And Enhancement Of Livelihood Opportunities
DFO	Divisional Forest Officer
EDC	Eco-Development Committee
EPA	Entry Point Activity
FCA	Forest (conservation) Act, 1981
FD	Forest Department
FRA	Forest Rights' Act
FV	Forest Village
FYP	Five Year Plan
GHG	Green House Gases
GoI	Government of India
GP	Gaon Panchayat
Ha.	Hectare
IIE	Indian Institute of Entrepreneurship
JFMC	Joint Forest Management Committee
NTFP	Non Timber Forest Produce
OBC	Other Backward Classes
PHC	Primary Health Centre
PMU	Project Monitoring Unit
PRA	Participatory Rural Appraisal
SC	Scheduled Caste
SDG	Sustainable Development Goals
ST	Scheduled Tribes
WPC	Working Plan Circle
CSS	Centrally Sponsored Scheme

LEKU JOINT FOREST MANAGEMENT COMMITTEE
Jonai Range, Dhemaji Forest Division

Micro-Plan for 10 Years
[Livelihood Development Plan & Forest Development Plan]

Table of Contents

Section No	Heading	Page No
1	Introduction	1
2	Village Socio-Economic Profile	2
3	Livelihood Opportunity Analysis	6
4	Livelihood Development Plan	11
5	Forest Development Plan	12
6	<u>Annexure-1</u> Detailed Estimate of 2 (two) tank Biogas plant <u>Annexure-2</u> Cost Estimate of vermicompost plant <u>Annexure-3</u> Detailed Estimate for renovation of Community hall Annexure7 List of Beneficiaries Identified for Livelihood Generation activities: (i) Tailoring (ii) Weaving (iii) House wiring Cum Electrician	24

1. Introduction

<p>About the Project</p>	<p>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 non-forest resources’. The project’s objective has been stated as: ‘In collaboration with the forest dependent communities, to restore forest eco-systems to enhance the forest dependent community’s livelihoods and ensure conservation and sustainable use of biodiversity’.</p> <p>The above project is being mainly funded by the <i>Agence France de Développement</i> (AFD) - i.e. the French Development Agency, with co-funding 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.</p>
<p>Micro-Planning & Livelihood Development</p>	<p>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.</p> <p>A consortium comprising of Indian Institute of Entrepreneurship (IIE) Guwahati and <i>Rashtriya Gramin Vikas Nidhi</i> (RGVN) has been formed to implement (<i>inter-alia</i>) 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.</p> <p>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.</p>
<p>Micro-Plan for the Leku JFMC</p>	<p>This document gives the Micro-Plan for the Leku JFMC, which is located in the Dhemaji district of Assam. The JFMC falls under the Poba Reserve Forest of the Northern Assam Forest Circle. The villagers belong to the Mishing Tribes. The Poba Reserve comprised of a area with 10,221.75 Ha with a good patch of forest. The profile of the community is given in the next section.</p> <p>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 March 2017. The micro-plan has been compiled by IIE based on the project guidelines. The document has been discussed and finalized for adoption in April 2017.</p>

2. Village Socio-Economic Profile

Location	<p>The Leku Joint Forest Management Committee (JFMC) has been formed to cover the existing community dwelling in Leku village located on the fringe of the Poba Reserve Forest, Jonai Sub-Division. The area covered by the above JFMC falls within Murkong selek Revenue Circle of Dhemaji District of Assam.</p> <p>Appendix-1 Gives the Village Map.</p>																						
Key Information	<p>The key information of the JFMC is furnished below.</p> <p>Table-A: Key Information of the JFMC</p> <table border="1" data-bbox="467 526 1401 1081"> <tr> <td>Name of the JFMC</td> <td>Leku</td> </tr> <tr> <td>Habitation</td> <td>Leku</td> </tr> <tr> <td>Name of Revenue Village</td> <td>Leku</td> </tr> <tr> <td>Name of the Gram Panchayat / VCDC</td> <td>Kemi Jelem Gram Panchayat</td> </tr> <tr> <td>Revenue Circle</td> <td>Murkong-selek</td> </tr> <tr> <td>District</td> <td>Dhemaji</td> </tr> <tr> <td>Forest Division</td> <td>Dhemaji</td> </tr> <tr> <td>Forest Range</td> <td>Jonai</td> </tr> <tr> <td>Forest Beat</td> <td>Leku</td> </tr> <tr> <td>Year Formed</td> <td>2004-2005</td> </tr> <tr> <td>Description of Boundary of JFMC</td> <td>As below North: NH-52 South: Rigbi Village West: Torajan Village East: Poba RF</td> </tr> </table> <p>Source: JFMC Records & Discussions during PRA Exercise in March 2017 Additional details are given at Table-1 of Record-I (Given at Annexure)</p>	Name of the JFMC	Leku	Habitation	Leku	Name of Revenue Village	Leku	Name of the Gram Panchayat / VCDC	Kemi Jelem Gram Panchayat	Revenue Circle	Murkong-selek	District	Dhemaji	Forest Division	Dhemaji	Forest Range	Jonai	Forest Beat	Leku	Year Formed	2004-2005	Description of Boundary of JFMC	As below North: NH-52 South: Rigbi Village West: Torajan Village East: Poba RF
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Brief Details of the Executive Committee & General Body	<p>The brief details of Executive Committee & General Body of the JFMC are contained in the table, which is given below.</p> <p>Table-B: Brief Details of Executive Committee & general Body</p> <table border="1" data-bbox="467 1294 1401 1507"> <tr> <td>Name of President</td> <td>Mr. Deven Payeng</td> </tr> <tr> <td>Name of Member Secretary</td> <td>Mr. Arun Bora, Fr-I</td> </tr> <tr> <td>No. of Members in Executive Committee</td> <td>Male: 6 Female: 3</td> </tr> <tr> <td>No. of Members in the General Body</td> <td>310 (Represented by one adult member of each household)</td> </tr> </table> <p>Source: JFMC Records</p>	Name of President	Mr. Deven Payeng	Name of Member Secretary	Mr. Arun Bora, Fr-I	No. of Members in Executive Committee	Male: 6 Female: 3	No. of Members in the General Body	310 (Represented by one adult member of each household)														
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Households & Population Structure	<p>The village has 310 households. The number of female headed households is nil. The total population is 1650, of which 712 are males and 938 are female members. All the 310 HHs belong to the ST community.</p> <p>Table-2 of Record-I may be referred for further details in the above regard.</p> <p>From this, it is inferred that:</p> <ol style="list-style-type: none"> (1) The average number of persons in a household is 5 (310 HHs). (2) The sex ratio is 1532 females per 1000 males in the village. 																						

Education & Skills Development	<p>Over 96% (310 HHs) of the population is reported to be literate. Most of the community members have received school level education. A few of the members have got college level education. On the other hand, relatively fewer households have college educated members.</p> <p>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 skills in the following areas:</p> <p>(a) Handloom. (b) Livestock rearing. (c) Cane & Bamboo. (d) Eri Cultivation. (e) Tailoring. (f) Wage Earning. (g) Farming.</p> <p>Government of India has initiated skill development program all over the nation to give unemployed youth employment opportunities. Although the initiative tries to reach out unreached areas and communities, still some of the villages and localities could not be reached by the programme, including the over mentioned village.</p>
Soil	<p>The soil type of the project area includes:</p> <ul style="list-style-type: none"> • Sandy soil in plain areas. <p>This type of soil can support different kind of crops, as the soil is reported to be fertile on the whole.</p>
Water	<p>The river Leku which flows from the adjoining hills of Arunachal Pradesh into the project area before joining the River Lali to the South. This is a perennial river. Jonai is the easternmost sub-division of Dhemaji District, about 554 km from the state capital, Guwahati. It is located at 27.83°N, 95.22°E. Covering a total Geographical area of 1111.81 km², it is bounded by Arunachal Pradesh in the north, Lali & Brahmaputra River in the south, Sipiya river & Sadiya Subdivision of Tinsukia district in the east and Simen River in the west.</p>
Climate: Temperature & Rainfall	<p>The maximum temperature during the summer is 35° C. The minimum temperature during the winter is 7°-10° C. The annual rainfall is about 3600-4300 mm. About three-fourth of the rainfall usually occurs during the rainy season (June-September). The village has a moderate level of humidity (over 60%) during the rainy months and low levels in the winter (Below 20%).</p>
Forest & Bio-diversity	<p>The local forests have been broadly classified as a rain forest and densely vegetated. The types of the forest here are of Tropical wet Evergreen. These type of Forest have luxurious growth of Epiphytes and trees with Fissured bark support magnificent ornamental orchids of Assam. The undergrowth is dense with both low shrubs and herbs occupying the space. Canes, Palms and bamboos grow along edges of Forests. The main tree species are Neem, Amla, Hilikha, Arjuna, Teak, Fire wood Spp and many other medicinal plants. Additional details in this regard are given at the 'Forest Development Plan'.</p>
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>Paddy Field -46.56% Forest Plantation-12.40% RF Area-7.39% River-3.87% Tree Clad Area-6.41% Road-4.02% Settlement Area-19.34%</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"> • 8% of the households are landless (25 HH) • 90% of the households are marginal Farmers (282 HH) • 2% of the households belong to small Farmer (3HH) 																
Livestock	<p>The total number of livestock in the village is 2470. The main types of livestock possessed by the households include:</p> <p>Cows: 210 Goats: 96 Poultry: 1120 Bulls : 230 Duck: 85 Pigs :490</p> <p>Table-4 of Record-I may be referred to for the details in the above connection.</p>																
Village Infrastructure & Communication Facilities	<p>Development requires availability of basic infrastructure. For sustainability of existing livelihood options infrastructure played a major role. 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 Consist of basic physical infrastructure like paved roads, electricity, water supply, mobile network etc. Most of the Roads are Pucca.</p> <p>Education & Health Facilities: There is limited nos. of educational institutions; most of these are of primary and middle level. The health facilities are not sufficient. Public transport is not available, and the community members have to use bicycles to move around.</p> <p>Govt. Offices: The government offices are distantly placed such as Police station, Gram Panchayat office, Revenue office, Forest Beat office etc. mostly 5kms away from the vicinity. The villagers do not have access to regular public transport from either the habitation or from nearby areas, which make the situation more miserable. .</p> <p>Financial Inclusion: Facilities for financial inclusion like bank and post office are located in Jonai at a considerable distance of 5 km from the habitation. The community members have accounts in faraway places.</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(Aijong, Pankaj, Bao, Joha, Bora)</p> <p>Rabi Crops: Mustard, Pea, Potato.</p> <p>Others: Mango, Jackfruit, Cabbage, Brinjal, Chilli, Cauliflower, Tomato, Pumpkin, Gourd, Lemon etc.</p> <p>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 vegetables.</p> <p>The production and yield of these crops is given as follows:</p> <table style="margin-left: 40px;"> <tr> <td>(a) Paddy : Production</td> <td>7700 Quintals</td> <td>Yield</td> <td>24.83 q /ha</td> </tr> <tr> <td>(b) Mustard : Production</td> <td>100 Quintals</td> <td>Yield</td> <td>0.8 q/ha</td> </tr> <tr> <td>(c) Vegetable: Production</td> <td>155 Quintals</td> <td>Yield</td> <td>0.5 q/ha</td> </tr> <tr> <td>(d) Fruit Orchard: Production</td> <td>62 Quintals</td> <td>Yield</td> <td>0.2 q/ha</td> </tr> </table>	(a) Paddy : Production	7700 Quintals	Yield	24.83 q /ha	(b) Mustard : Production	100 Quintals	Yield	0.8 q/ha	(c) Vegetable: Production	155 Quintals	Yield	0.5 q/ha	(d) Fruit Orchard: Production	62 Quintals	Yield	0.2 q/ha
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Fodder Availability	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: (a) Crop residue (b) Grazing in forest (c) Trees fodder (d) Green fodder (e) Grasses
Markets	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: (a) Grocery / PDS: Within the Village. (b) Weekly / Bi-weekly Market: Jonai at 5 km away. (c) Major Market: Jonai at 5 km away.
Water Resources	The water resources are tabulated at Table-10 of Record-I. The main water resources with the water availability is as follows: (a) River (Water Availability: Perennial / Seasonal) (b) Tube well (Water Availability: Perennial / Seasonal)
Energy Consumption	Table-11 of Record-I shows the major sources of energy in the village. The same have been listed below. (a) Fuel wood - Households Depending 310 Nos. Source: Forest (b) Kerosene - Households Depending: 28 Nos. Source: Open Market and PDS (c) LPG- Households Depending 15Nos. Source: Govt
Socio-economic status	Social set-up: The village is inhabited by Mishing community and all the inhabitants are classified as Schedule Tribe Category. The society is not marked by deep social divisions. The position of women in society and household level decision making is active and effective. Economic Condition: The economic position is not satisfactory. The main livelihoods are Farming, Daily wages, Livestock rearing, Selling Vegetables etc. Most households earn Rs. 60,000 to Rs. 80,000 per year. There is no migration in this JFMC area.
Maps	Appendix-1 gives the following maps, based on PRA exercise: <ul style="list-style-type: none"> • Village Map(with the names and particulars of members in PRA) • Village Social Map (with the names and particulars of members in PRA) • Village Resource Map(with the names and particulars of members in PRA)

3. Livelihood Opportunity Analysis

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 Leku JFMC has been analyzed 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 –

- a) Natural Capital
- b) Physical Capital
- c) Social Capital
- d) Human Capital
- e) Financial Capital

4. Natural Capital

In Leku JFMC under Jonai Range , Poba Reserve Forest, major natural capital are Bamboo,Teak,Sal and various species of Bamboo and there is only one river namely Leku .

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)

5. Physical Capital

Majority of the households in the Leku 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.

The village has 43 numbers of semi-pucca houses, 7 numbers of Pucca houses and the remaining houses are thatch. Among the various sources of energy consumption such as Biomass, kerosene, electricity, LPG and solar Power, villagers depend on the firewood and kerosene for household and other uses. Although, some of the household have LPG connection, supply of the same is not regular that makes the people's dependency more on other traditional means.

(Refer to table 10, 11)

There are two LP schools and one ME School present within the JFMC area. No other education institution is present. (Refer to table 5)

In case of water sources, none of the HH has access to tube well.

6. Social Capital

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

There are SHGS in the village. Moreover, the village has one Community Hall, one church, Two Anganwadi Centres and four temples where social meetings of the villages are held.

7. Human Capital

96 per cent of total population of the JFMC are educated and 4 per cent are illiterate. (Refer to table 3.3)

8. Financial Capital

There is no government bank or lending institution available inside the JFMC area .However, villagers lend from informal lending groups, relative etc.1294 numbers of people have bank account

in commercial banks, but due to their poor economic position they face problems in maintaining their accounts on a regular basis are not aware of the benefits of financial inclusion.

Livelihood activities of the Leku JFMC are identified 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

9. Priority Ranking Through PRA Exercise

PRA Exercise	Team from IIE Guwahati carried out PRA exercise in Leku village as follows: Date: 4 th March, 2017 Location: Village Community Hall, Leku Numbers Present: 55 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 Chapatti Diagram Appendix-3 furnishes detailed information of the above.		
Ranking	Ranking exercise has been done for the following: ❖ Entry Point Activities (EPA) ❖ Livelihoods & Skills Development Appendix-3 elaborates the above. From the same, it is stated that: Ranking of EPA (Refer page no. 37)		
	Rank	Village EPA as ranked	Probable source of funding/dept.
	1.	Bio- Gas	All the 310 HH of the JFMC should be provided with Bio-Gas facility with a common setup within the JFMC.
	2.	Drinking water	At least 10 ring wells should be built up in the JFMC area.
	3.	Sanitation	Providing HHL (House Hold Latrine) - Low cost, septic and sanitary type.
	4.	Health Centre	A Medical Sub-Centre should be built within the JFMC
	5.	Veterinary Clinic	A veterinary centre should be built within the JFMC
	6.	Irrigation System	The JFMC should be facilitated with Centrally sponsored scheme on Micro Irrigation (CSS) with the objective to enhance water use efficiency in the agriculture sector.

	7.	Community Hall Renovation	The community Hall Should be renovated for Conducting Village and Social Meetings.	APFBC
<p>❖ An arrangement of working capital worth Rs.2 Lakh should be arranged from the EPA fund for promoting livelihood activities.</p> <p>❖ A low cost Community work shed cum JFMC office to be setup within the JFMC boundaries for setting up and commissioning of Tool kits/Equipment/Machineries.</p> <p>Ranking of Livelihoods & Skills Development</p> <ol style="list-style-type: none"> 1. Handloom. 2. Livestock. 3. Cane & Bamboo. 4. Eri Cultivation. 5. Tailoring. 				
Livelihood opportunities	<p>Livelihood Opportunities were identified as follows:</p> <p>Agriculture Livestock Weaving Skills Development Credit Facility</p> <p>Additional discussion about the above has been given below.</p>			
Agriculture & Horticulture	<p>Table-12 under Record-2 may be seen in this connection for opportunities in the areas of agriculture and horticulture.</p> <p>The main constraints are:</p> <ol style="list-style-type: none"> (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. <p>The opportunities are:</p> <ol style="list-style-type: none"> (a) Application of proper and controlled pesticides and insecticides. (b) Introduction of new and advance technology (c) Well-structured training programme. <p>The villagers are inherited with the skill of cultivation. All they need is improvisation of their skill level.</p> <p>The suggested programmes are:</p> <ul style="list-style-type: none"> • Tractor operation training • Agri.-skill development programme. • Training on insecticides, pesticides, hybrid cultivation etc. 			
Livestock	<p>Table-13 Furnishes additional information about opportunities for livestock rearing.</p> <p>The main constraints are:</p> <ol style="list-style-type: none"> (a) Unable to buy fodder from market due to poor financial condition. (b) Trees fodder and 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 <p>The opportunities are:</p> <ol style="list-style-type: none"> (a) Higher income from livestock rearing. (b) Majority of the workforce is engaged in this activity. <p>The suggested Skill Development Programme is:</p>			

	<p>(a) Weaving. (b) Tailoring. (c) Electrician.</p>
NTFP	<p>The opportunities for NTFP are tabulated at Table-14 under Record-2 The main constraints are: (a) Lack of proper utilisation of NTFP due to inadequate knowledge. (b) Lack of research on development of high yielding varieties, domestication etc. (c) No technical know-how (d) No processing units (e) Lack of trained personnel and equipment (f) Lack of facilities to fabricate equipment locally The opportunities is: (a) Availability of fertile fallow land (b) A ready market for the finished products. The suggested programme are: (a) Plantation of Food plants. (b) Medicinal Plant etc.</p>
Specialized Skills	<p>For skills development, the opportunities are tabulated at Table-15 under Record2 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: <ul style="list-style-type: none"> • 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. </p>
Credit Facility	<p>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. (c) To provide credit facilities for modern equipment (tractors etc.) The suggested programme is: (a) Setting up modern financial institution in the nearby areas.</p>
Strategic Interventions	<p>Summarizing the suggested programmes at above as strategic interventions for the Livelihood Development Plan: 1 Agriculture & Horticulture: Tractor operation training, Agri-skill development programme ,Training on insecticides, pesticides, hybrid cultivation 2. Livestock: Cattle rearing, Goatery, Poultry, Piggery. 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</p>

	<p>Product Development and Product Diversification, Setting up a raw material bank, Providing a bulk buy arrangement of the finished product with institutional buyers.</p> <p>5. Credit facility: Setting up modern financial institution in the nearby areas</p>
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10. Livelihood Development Plan

Income Generating Activities	<p>The main income generating activities as planned at the village are:</p> <p>Farm Sector :</p> <ol style="list-style-type: none"> 1. Livestock 2. Farming 3. Horticulture <p>Non-Farm sector:</p> <ol style="list-style-type: none"> 1. Weaving 2. Electrician 3. Carpentry 4. Tailoring
SHG Activities	<p>SHGs of the village can plan the following activities:</p> <ol style="list-style-type: none"> 1. To create awareness. 2. To organise and form group 3. To involve the villagers in Livelihood Activities collectively.
Exposure Trips	<p>The following exposure trips are planned:</p> <ol style="list-style-type: none"> 1. NIL 2. NIL <p>Source: Table-34 of Record-4</p>
Summary of Action Plan	As attached in next page.
Convergence	<p>The planned initiatives may be converged with the following schemes of the Government of India:</p> <ol style="list-style-type: none"> (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. <p>The above convergence will yield synergies for the present plan, as well as help in sustaining the planned works in the post-project period.</p>

11. Forest Development Plan of Leku JFMC

This Forest Development Plan has been prepared after a detailed PRA exercise at the village level as a part of the Micro-Plan of Leku 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.

1. Status of the JFMC Forests

The micro-plan takes into consideration the following categories of the JFM Forests of the Leku 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.

1.1. 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 Leku JFMC have been summarized below.

Table-1: Conditions of the Forests of Leku 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: Poba RF Beat: 3 Mile Beat Compartment:	181.82 Ha	2 Km	Good Area: - 20.26 Ha Degraded Area: 161.56 Ha	6-9 Months
(B) Other Planted Area	-	-	-	-
Location: Type of Forest: Rain Forest VF / Other _____	-	-	Good Area: - Nil Degraded Area: Nil	-
TOTAL	181.82 Ha		Good Area: 20.26 Ha Degraded Area: 161.56 Ha	

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

It is seen that the Leku JFMC has 181.82 Ha under its forests, of which 20.26 Ha is 'Good' and 161.56 ha. is 'Degraded' area.

1.2. Forest Soil Type

The forests of Leku 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-2: Forest Soil Type in JFMC

Parameter	Status in Assigned Forests	Status in Other Planted Areas
Fertility Level	4.3 to 6.94% organic. The available N, P205 and K20 content of the Soil is comparatively more.	-

Parameter	Status in Assigned Forests	Status in Other Planted Areas
Soil Erosion Status	High	-
Presence of:		
(a) Silt	10%	-
(b) Mud-flat	40%	-
(c) Newly accreted land	Low	-
(d) Sand dune	50%	-

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

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

1. Entisol (30%)
2. Inceptisol (40%)
3. Alfisols (20%)
4. Ultisols (10%)

1.3. Existing Composition of Flora

In the forests of the Leku 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-3: Existing Composition of Flora in the Leku JFMC

Parameter	Local Name(s)	Biological Name(s)
Major Forest Species	Ajar, Gamari & Owtenga	<i>Lagerstrae mia parviflora</i> , <i>Gmelina Arborea</i> & <i>Dillenia Indica</i> .. Linn
Associates	Hollock & Simul	<i>Terminalia myriocarpa</i> & <i>Bombax ceiba</i>
Shrubs	Dhekia,	<i>Diplazium esculentum</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>
	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>Oxytennthera parvifolia</i>
	Dulu Bah	<i>Schizostachyum dulloa</i>
	Amlakhi	<i>Embllica 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.

2. Other Inputs for the Forest Development Plan

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

2.1. Past Protection Measures of the JFMC

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

- (a) Number of households involved: Nil
- (b) Number of people involved: Nil
- (c) Summary of the measures: Nil
- (d) Any formal mechanism: Nil

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

2.2. 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-4 (A): Domestic Requirement of Forest Produce per Household of the Leku JFMC

Name of Forest Produce	Average Household Requirement		How met at Present	Source
	Frequency of Requirement	Approx. Qty(per Year)		
Firewood	Frequent	500-600 kg/yr		Forest
Timber for House	Once in a year	5-10 nos/yr		Forest
Small timber for	-	-		-

Implements				
Pole/Bamboo	Once in a month	40-50 Nos bamboo /Year		Forest
Fodder from Forest	Frequent	150-200kg. /yr		Forest
NTFP	Frequent	20-25kg per yr		Forest

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

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

Table-4 (B): Total Domestic Requirement of Forest Produce - All Households of the Leku JFMC

Name of Forest Produce	Community Requirement (Kg per annum) (*)	Remarks
Firewood	5500-6500 kg	Throughout the year
Timber for House	500-1500 kg.	Throughout the year
Small Timber for Implements	-	-
Pole / Bamboo	4000-5000 kg.	Throughout the year
Fodder from Forest	24800-37200 kg	Throughout the year
NTFP	300-400 kg	Throughout the year

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

(*) = Approx. Qty. of Average Household Requirement (from Table-4 (A) x 310 Households

2.3. 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 Leku JFMC is given in the following table.

Table-5 (A): Collection & Marketing of Forest Produce by Villagers of the Leku JFMC

Name of Forest Produce	Collection for Marketing			Location of Collection
	Season / Months	No of Households Collecting	Average Qty. Collected (Kg)	
Firewood	Season	310 Nos	400 Kg.	RF Area
Timber for House	-	-	-	-
Small timber for Implements	-	-	-	-
Bamboo	Season	150-200 Nos.	1225 Kg.	Forest/Village
Pole	-	-	-	-

Fodder from Forest	Season	220 Nos	15000 kg.	Forest
NTFP	-	50 to 100 Nos.	100 kg	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 (B): Collection & Marketing of Forest Produce - Additional Information [Leku JFMC]

Name of Forest Produce	Surplus Marketed (Kg)	How marketed	Average Income per HH from sale of Forest Produce
Firewood	200 Kg.	By head load and bicycle to Leku and Jonai Market	Rs.85/-
Timber for House	-	-	-
Small timber for Implements	-	-	-
Bamboo	225 Kg.	By Thela to Leku and Jonai Market	Rs.42/-
Pole	-	-	-
Fodder from Forest	5000 kg.	By head load and bicycle to Leku and Jonai Market	Rs.105/-
NTFP	50 kg	By Bicycle to Leku and Jonai Market	Rs.20/-
Other	-	-	-

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

2.4. Total Requirements of Forest Produce - Domestic Use & Marketing

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

Table-6: Total Requirements of Forest Produce by Villagers of the Leku JFMC

Name of Forest Produce	Community Requirement (Kg per annum) From Table-4(B)	Surplus Marketed (Kg) From Table-5(B)	Total Requirements (Kg)
Firewood	5000kg	200 kg.	5200 kg
Timber for House	500-1500 Kg.	-	500-1500 Kg.
Small timber for Implements	-	-	-
Bamboo	1225 Kg.	225 Kg.	1450 Kg.

Name of Forest Produce	Community Requirement (Kg per annum) From Table-4(B)	Surplus Marketed (Kg) From Table-5(B)	Total Requirements (Kg)
Pole	-	-	-
Fodder from Forest	15000 kg	5000kg.	20000kg
NTFP	100 Kg.	50 Kg.	150 kg

Source: Tables 4 (B) & 5 (B) of this Section, given at the previous pages

3. Forest Protection Issues

3.1. Protection Problems

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

- **Table-7: Protection Problems of the Leku 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	No	No

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:

- Grazing - Local Animals
- Grazing - Animals from Other Area

3.2. Reasons for Degradation of the Forest

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

- No Scientific Plan
- Traditional Cultivation of Tribal People
- Extremist problem in hill sides.
- Encroachment of forest.

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

4. Components of the Forest Development Plan

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

4.1. Protection Plan

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

Table-8: Protection Plan of the Leku 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	5 km, 30 Ha	6 am - 6 pm	Medium
2. Fire Protection	R.F	5 km, 30 Ha	Dry season	Medium
3. Rotational Grazing	R.F	-	Rainy Season	Medium
4. Social Fencing	-	-	Throughout the year	Medium

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 Leku JFMC (with high / medium priority) are as follows:

- (a) Social Fencing.
- (b) Fire protection.
- (c) Engagement Of watcher.
- (d) Rotational Grazing.

4.2. Forest Improvement – Action Plan

Action Plan for Misc. Harwood Plantation with Associates of Firewood.

Name of Plantation : Misc. Harwood Plantation with Associates of Firewood

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 : 2,50,000 (62,500) approx. annually)

Number Blocks : 4 Numbers(25 ha each) (1st, 2nd, 3rd & 4th Plots)

Species : Ajar, Koroi, Khayer, Sissoo, Jia, Arjun, Ghora Neem, Bamboo(Jaati, Kako, Bholuka & Bijuli), etc

Wage Rate =Rs.280/DL

Action Plan for Creation of Plantation		
Financial Year	Activities	Amount (Rs.)
2016-17	A. Advance Works:	

	DLs/Ha @Rs.280/DL	105000/-
	2. Raising of Site Nursery, 9 Dls/Ha @ Rs.280/Ha	63000/-
	B. Creation & Maintenance :	
2017-18*	Creation of 25 Ha Plantation (1 st Plot) during the period of April-June followed by 1st year maintenance viz 4 weedings and carrying out advance works in 2 nd plot of 25 Ha area for next year creation, 2100 DLs @Rs.280/DL	588000/-
2018-19*	Creation of 25 ha Plantation (2 nd Plot) during the period of April-June followed by 1st year maintenance viz 4 weedings and carrying out advance works in 3 rd plot of 25 ha area for next year creation, 2100 DLs @Rs.280/DL	588000/-
	2 nd year maintenance of 1 st plot of 25 ha viz 4 Weedings including replacement of dead/struggling saplings raised in the previous year, (2017-18)	210000/-
2019-20*	Creation of 25 Ha Plantation (3 rd Plot) during the period of April-June followed by 1st year maintenance viz 4 weedings and carrying out advance works in 4 th plot of 25 Ha area for next year creation, 2100 DLs @Rs.280/DL	588000/-
	3 rd year maintenance of 1 st plot of 25 ha viz 4 Weedings including replacement of dead/struggling saplings raised in the year, 2017-18 & fire watching	210000/-
	2 nd year maintenance of 2 nd plot of 25 ha viz 4 Weedings including replacement of dead/struggling saplings raised in the year, 2018-19	210000/-
2020-21*	Creation of 25 Ha Plantation (4 th Plot) during the period of April-June followed by 1st year maintenance viz 4 weedings, 1500 DLs @Rs.280/DL	420000/-
	4 th year maintenance of 1 st plot of 25 ha viz 4 Weedings including replacement of dead/struggling saplings raised in the year, 2017-18 & fire watching	210000/-
	3 rd year maintenance of 2 nd plot of 25 ha viz 4 Weedings including replacement of dead/struggling saplings raised in the year, 2018-19 & fire watching	210000/-
	2 nd year maintenance of 3 rd plot of 25 ha viz 4 Weedings including replacement of dead/struggling saplings raised in the year, 2019-20	210000/-
2021-22*	4 th year maintenance of 2 nd plot of 25 ha viz 4 Weedings including replacement of dead/struggling saplings raised in the year, 2018-19 & fire watching	210000/-
	3 rd year maintenance of 3 rd plot of 25 ha viz 4 Weedings including replacement of dead/struggling saplings raised in the year, 2019-20 & fire watching	210000/-
	2 nd year maintenance of 4 th plot of 25 ha viz 4 Weedings including replacement of dead/struggling saplings raised in the year, 2020-21	210000/-
2022-23*	4 th year maintenance of 3 rd plot of 25 ha viz 4 Weedings including replacement of dead/struggling saplings raised in the year, 2019-20 & fire watching	210000/-
	3 rd year maintenance of 4 th plot of 25 ha viz 4 Weedings including replacement of dead/struggling saplings raised in the year, 2020-21 & fire watching	210000/-
	Silvicultural thinning of 25 ha.(1 st plot) plantation created in 2017-18, 10 Dls./ ha.@Rs.280/ DL .	70000/-
2023-24*	4 th year maintenance of 4 th plot of 25 ha viz 4 Weedings including replacement of dead/struggling saplings raised in the year, 2019-20 & fire watching	210000/-
	Silvicultural thinning of 25 ha.(2 nd plot) plantation created in 2018-19, 10 Dls./ ha.@Rs.280/ DL .	70000/-

2024-25*	Silvicultural thinning of 25 ha.(3rd plot) plantation created in 2019-20, 10 Dls./ ha.@Rs.280/- per DL.	70000/-
2025-26*	Silvicultural thinning of 25 ha.(4 th plot) plantation created in 2020-21, 10 Dls./ ha.@Rs.280/ DL.	70000/-
Total Budgetray Requirement		5152000/-

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

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

Action Plan for Plantation of Non Timber Forest Produce

Name of Plantation : NTFP Plantation
Plantation Period : 2016-17 to 2025-26 (10 Years)
Plantation Area : 20 ha
Spacing : 2m X 2 m-2500 plants per ha.
No. of Plants to be Raised : 50,000 (Annually)
Number Blocks : 1 Number (20 ha)
Species : Amla, Hilikha, Bhomora, Mango, Guava, Neem, Arjun, etc

Wage Rate=Rs.280/DL

Financial Year	Activities	Amount (Rs.)
2016-17	A. Advance Works :	
	1. Survey (GPS), site clearance, stacking etc-10 DLs/ha @Rs.280/ha	56000/-
	2. Raising of site Nursery – 9 DLs/ ha.@Rs.280/ DL	50400/-
	3. Providing fencing in vulnerable point @Rs.2000/ha	40000/-
2017-18*	B. Creation & Maintenance :	
	Creation of 20 ha plantation during the period of April-June ; followed by 1 st year maintenance viz 4 weedings - 60 Dls/ ha. @Rs.280/ DL.	336000/-
2018-19*	2 nd year maintenance viz 4 weedings, replacement of dead/struggling saplings - 30 Dls/ ha. @Rs.280/ DL.	168000/-
	3 rd year maintenance viz 3 weedings, replacement of dead/struggling saplings - 20 Dls/ ha. @Rs.280/ DL.	112000/-
2020-21*	4 th year maintenance viz 2 weedings, replacement of dead/struggling saplings, pruning etc. - 15 Dls/ ha. @Rs.280/ DL.	84000/-
Total Budgetary Requirement		846400/-

4.3. Nursery Development Plan

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

(a) JFMC Peoples' Nursery (incl. Departmental Nursery)

The details are given below.

JFMC Nurseries

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

Table-9 : JFMC Nurseries of the Leku JFMC

Location of Nursery	Species	Year of Development	Number of Seedlings	Remarks
Within the Village	Major- Ajar, Gamari, Bhumora & Owtenga	2016-17	40000 Nos	Provide sapling for plantation to be under taken in the year 2017-18
	Associates- Sissoo, Titasopa, Koroi, Arjun, Khayer etc		22500 Nos	
	NTFP		50000 Nos	
	Major- Ajar, Gamari, Bhumora & Owtenga	2017-18	40000 Nos	Provide sapling for plantation to be under taken in the year 2018-19
	Associates- Sissoo, Titasopa, Koroi, Arjun, Khayer etc		22500 Nos	
	NTFP		-	
	Major- Ajar, Gamari, Bhumora & Owtenga	2018-19	40000 Nos	Provide sapling for plantation to be under taken in the year 2019-20
	Associates- Sissoo, Titasopa, Koroi, Arjun, Khayer etc		22500 Nos	
	NTFP		-	
	Major- Ajar, Gamari, Bhumora & Owtenga	2019-20	40000 Nos	Provide sapling for plantation to be under taken in the year 2020-21
	Associates- Sissoo, Titasopa, Koroi, Arjun, Khayer etc		22500 Nos	
	NTFP		-	

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

4.4. Maintenance Plan - 10 Years

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

(A) Fuel wood Plantation

Table-10(A) : Maintenance Plan of Misc Hardwood with associates of Fuel Wood Plantation in the Leku JFMC

Year(s)	Treatment
2016-17 to 2025-26	As provided in Action Plan for Misc. Harwood Plantation with Associates of Firewood.

Source: Discussions with Forest Department personnel & Community members

(B) NTFP / Medicinal Plantation

Table-10 (B): Maintenance Plan of NTFP / Medicinal Plantation in the Leku JFMC

Year(s)	Treatment
2016-17 to 2025-26	As provided in Action Plan for NTFP Plantation

Source: Discussions with Forest Department personnel & Community members

4.5 ENTRY POINT ACTIVITIES FOR LEKU J.F.MC:-

Based on the priority Ranking of Entry Point Activities resulted from PRA exercises carried out by the JFMC personnel, Forest Department and IIE the following activities as a part of Forest Development Plan are hereby proposed to be executed for the JFMC villagers during the project period.

1. Construction of composite Plants of Biogas and Vermicompost to the needy House Holds on priority basis.
2. Renovation of Community Hall.

The detailed action plan along with financial assistance @Rs.25,000.00 per Ha of Plantation proposed is mentioned below (Table No-11)

Area of Plantation proposed for Leku JFMC= 120 Ha
Amount earmarked =25000x120= Rs.30,00,000.00

Table No-11

Financial Year	Activities	Amount (Rs)
2016-17	Nil	Nil
2017-18	Construction of Biogas and Vermicompost Plants- 12 Nos @Rs.55,000/No	6,60,000.00
	Renovation of Community Hall-1 No @Rs.250000/No	2,50,000.00
2018-19	Construction of Biogas and Vermicompost Plants- 12 Nos @Rs.55,000/No	6,60,000.00
2019-20	Construction of Biogas and Vermicompost Plants- 12 Nos @Rs.55,000/No	6,60,000.00
2020-21	Construction of Biogas and Vermicompost Plants- 14 Nos @Rs.55,000/No	7,70,000.00
	TOTAL=	30,00,000.00

The concerned Estimates are annexed as Annexure-1, 2 & 3

Abstract of total Financial outlay :

Sl No	Activities	Amount (Rs)
1	Creation & maintenance of 120 Ha Plantation over a period of 10 years	Rs.59,98,400.00
2	Entry Point Activities over a period of 5 years	Rs.30,00,000.00
	Grand Total =	Rs.89,98,400.00

4.6 Miscellaneous Operations Plan

The miscellaneous operations planned in the Leku JFMC are given below.

Table-13): Miscellaneous Operations in the Leku JFMC

Operation	Required (Yes / No)	Responsibility	Month / Year	Area (Ha)
No such planned	-	-	-	-

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

5. Expected Benefits

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

5.1. Expected Benefits Related to Wood & Grass

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

Table-14: Expected Benefits from Forests Protected by Members of Leku JFMC

Item	Month	Year (Indicative)	Quantity
Firewood	Throughout the year	2026-27 onwards	10000 Kg. (Approx)
Timber for House	Throughout the year	2040 Onwards	3000 Kg. (Approx)
Small timber for Implements	-	-	-
Bamboo	Throughout the year	2030 Onwards	8000 Kg. (Approx)
Pole	-	-	-
Fodder from Forest Trees & Grass	Throughout the year	2026-27 onwards	50000 Kg. (Approx)
NTFP	Throughout the year	2035 onwards	1000 Kg. (Approx)
Wages	Throughout the year	2016-17 onwards	25000 DLs (Approx)
Other	-	-	-

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

5.2. Sharing Mechanisms

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

Table-15: Sharing Mechanism for Leku JFMC

Method	Items
To be shared equally	NTFP
To be freely collected by the members	Firewood,

Other Methods	Processing of NTFPs
---------------	---------------------

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

List of Appendices

Appendix No	Heading	Page No
1	Maps Village Map Village Social Map Village Resources Map	27 28 29
2	Land Use Map of Village (GIS)	30
3	PRA Exercise	
	Social Mapping Wealth Ranking Time Line review Seasonality of Livelihoods Venn Diagram Chapatti Diagram Priority ranking of EPA Priority ranking of Livelihood	33 35 35-36 36-37 38 39 40 41
4	Photographs	42-43
5	List of JFMC Members	44
6	Filled Up Tables (Proforma-1 to Proforma-4) Table Nos. 1-16	45-52

HOW TO REACH

Guwahati to Jonai distance, location, road map and direction

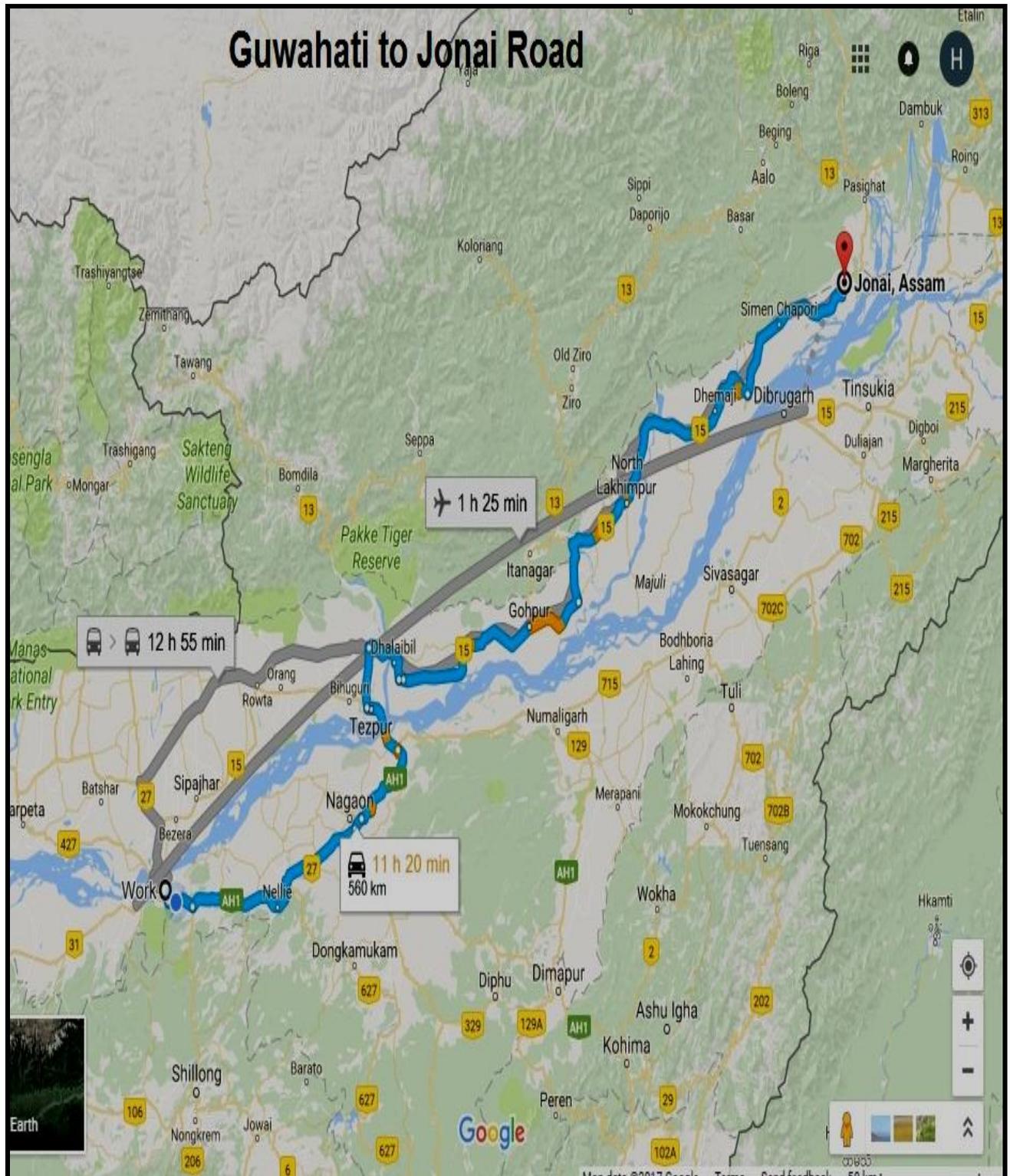
Guwahati is located in **India** at the longitude of 91.75 and latitude of 26.19. Jonai is located in **India** at the longitude of 95.23 and latitude of 27.83.

Distance between Guwahati and Jonai

The total straight line distance between Guwahati and Jonai is **389 KM** (kilometers) and 730.36 meters. The miles based distance from Guwahati to Jonai is **242.2** miles. This is a straight line distance and so most of the time the actual travel distance between Guwahati and Jonai may be higher or vary due to curvature of the road.

Guwahati To Jonai road map

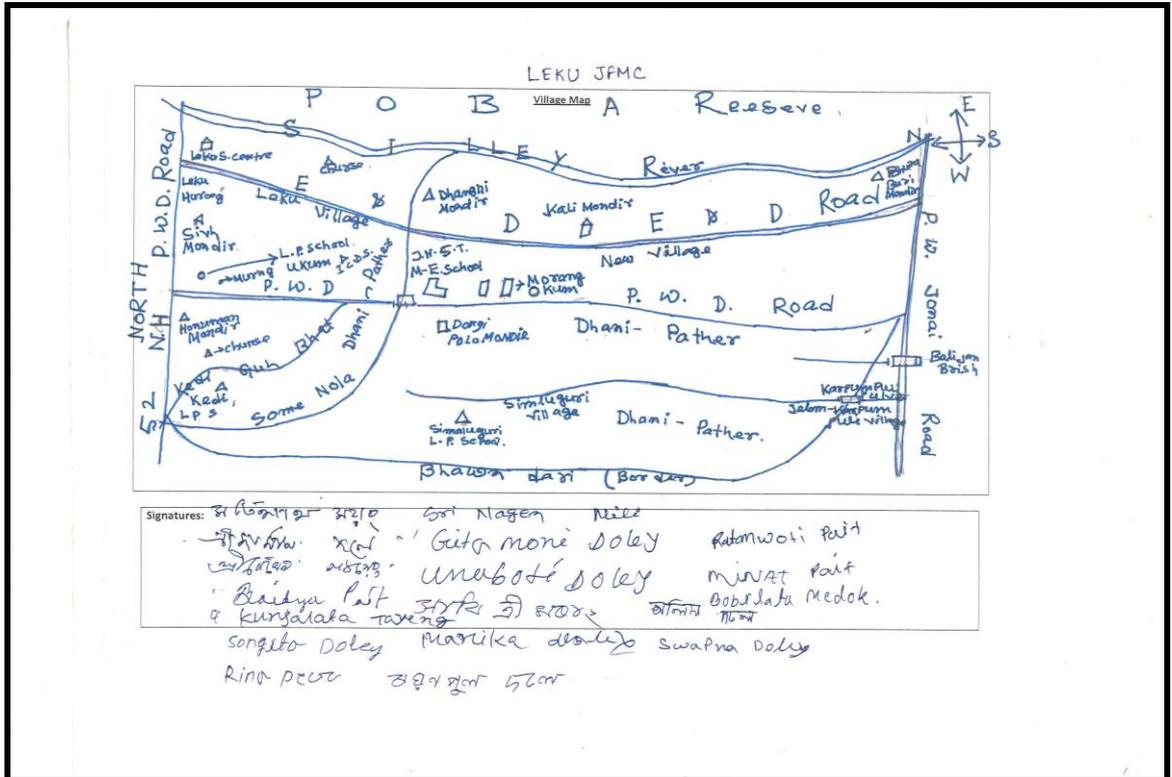
Guwahati is located nearly west side to Jonai. The given west direction from Guwahati is only approximate. The given google map shows the direction in which the blue color line indicates road connectivity to Jonai . In the travel map towards Jonai you may find enroute hotels, tourist spots, picnic spots, petrol pumps and various religious places.



Source: Google Map

Appendix 1

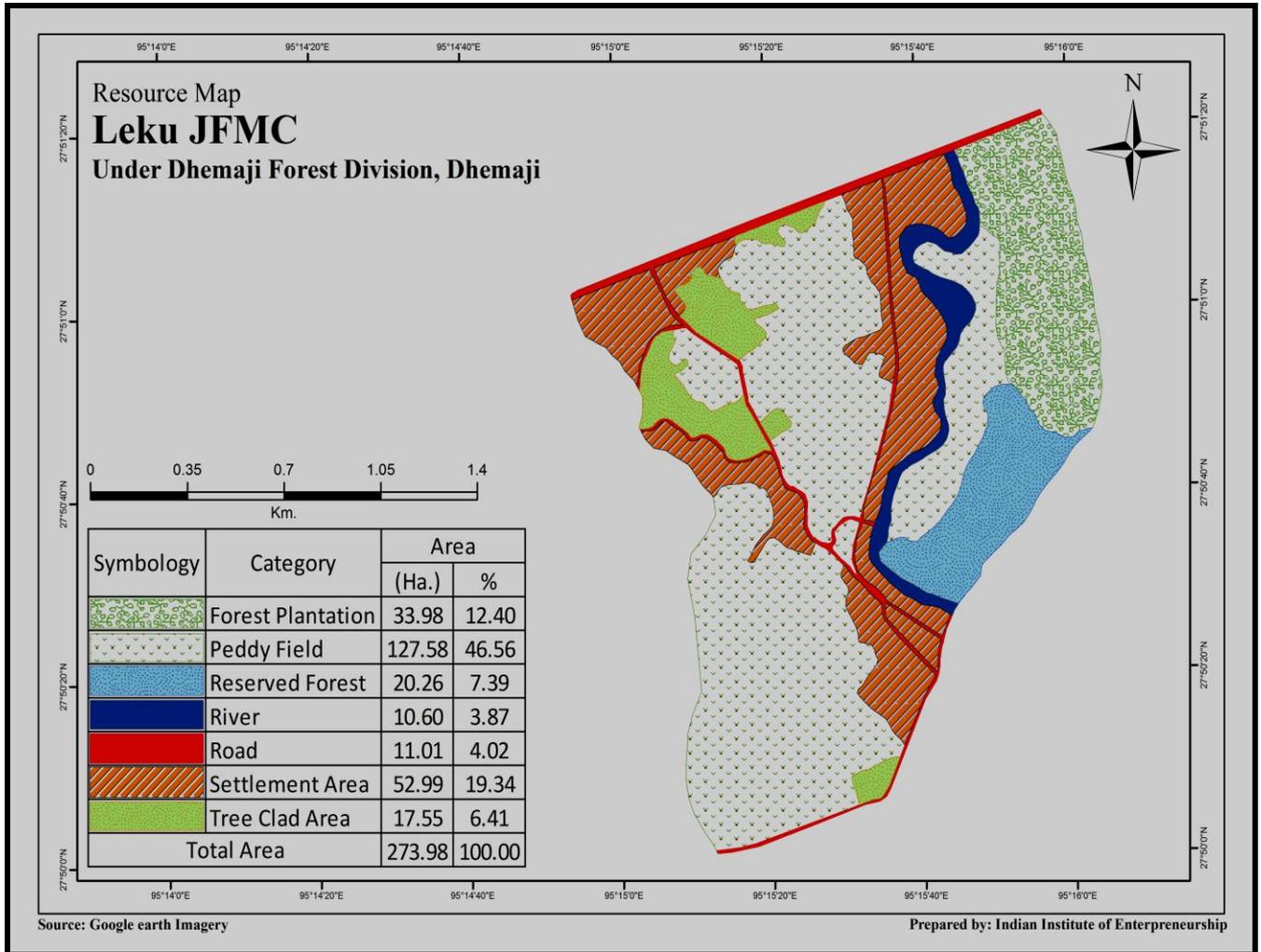
1. Village Map:



Village Map Drawn By the Village

Appendix 2

Land Use map of GIS



Appendix 3

PRA ACTIVITY

Location and Timing of Participatory Rural Appraisal:

Numbers of participants :	65
Time :	11:30 am, 4 th March 2017
Venue :	Community Hall, Leku

Source: Field Survey

Table – 3.1 Brief Profile about the villages under Leku JFMC

Sl. No.	Name of the Village	No. of households	Population		
			Total	Male	Female
1	Leku	310	1650	612	938
	Total	310	1650	612	938

Source: Field Survey

Table – 3.2 Age Profile of Leku JFMC

Age Class	<5 years	5-18 years	18-45 years	45-60 years	>60 years
Male	124	191	153	83	61
Female	222	226	259	124	107
Total	346	417	412	207	168

Source: Field Survey

Table – 3.3 Education Profile of Leku JFMC

Village Name	Illiterate	Up- to IV	V- VII	VIII- X	X- XII	Graduate	Masters
Leku	66	383	271	493	390	44	3
Total	66	383	271	493	390	44	3

Source: Field Survey

Table – 3.4 Income Distribution of Leku JFMC

Income Category(in Rs) Yearly	No of HHs
>5000 Rs	0
5,000-10,000	0
11,000-20,000	0
21,000-30,000	0
31,000-40,000	0
41,000-50,000	57
51,000-60,000	0
61,000-70,000	243
71,000-80,000	5
81,000-90,000	0
91,000-1,00,000	0
<1,00,000	5

Source: Field Survey

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

- a) Social Mapping
- b) Wealth Ranking
- c) Time Line Review
- d) Seasonality Analysis
- e) Chapatti diagram

3.1 Social Mapping:

Social mapping is used to visualise the socio-economic aspects of the Leku JFMC 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 Leku Tiniali. And due to time constraint we have to skip the transect walk. The villagers were enthusiastic about the mapping process and they actively participated in the process.

Table 3.2: Information about the villages

	Village →	Leku
Social information	Total population	1650
	Male	612
	Female	938
	Total households	310
	Numbers of Pucca Houses	7
	No of thatch house	260
	Nos of semi pukka house	43
	River	1
	Community hall	1
	Tube Well	35
	Anganwadi Centre	1
	LP School	2
	ME School	1

At first, the people of villagers were asked to draw the main roads of the village during the PRA exercise and then they were asked to locate their houses and the important social places and government offices with the help of the PRA team members. Few of them voluntarily came out to draw and they were assisted by other villagers and the team members. All the villagers spotted their households in the map. After the mapping process the team members collected the information about the pattern of their household's namely pukka, semi pukka and thatch house.

Findings of social map:

- The participants of social mapping have identified all 310 households out of which 260 households are thatch house or Kuccha house. There is only 43 semi pukka houses and 7 Pucca houses. This shows that the people of the village is still deprived of the basic household schemes from the Government.
- From the observations it is learnt that there are one Community hall, Two LP Schools, One ME School, Two Anganwadi Centres, one embankment system, Ring Wells, Electricity but is deprived of Proper Drainage System, Veterinary centre, Transport Facilities, Primary Health Centre etc.
- Main sources of water for the villagers is Leku River which is used by villagers for their day to day use. The water is available throughout the year.
- Provision of Education facility is not satisfactory in the villages as there are only two primary schools, one ME school available within the village. There are Five Anganawadi centres in the village but there are no Health facilities within the JFMC.
- All of the people belong to the Mishing community and are of schedule tribe caste. The religion of all the villagers is Hindu.

Learnings:

- Electricity is available inside the village of the Leku JFMC. There are few LPG gas connections in the JFMC. The Household still dependent on forest and use firewood for their cooking purposes. They used to go to the forest for collecting the firewood which is still a concern for the forest department for degradation of the forest.
- The primary health centre along with bank, Bus facility is located in Jonai which is 5 KM away from the JFMC. The villagers have to cover a long distance for their health check-up.
- There is one community hall available in the JFMC but they use the Anganwadi centre and the LP School where various meetings are held. Major meeting are – Gram panchayat meeting, village head meetings, forest department meetings and other political meetings.
- The availability of fodder for domestic animals depends on the resource available in the forest area and the capacity of the household who can rear the livestock's. The Village of the JFMC are fully dependent on crop residue, trees fodder, grasses, and green fodder. Field residues are materials left in an agricultural field after the crop has been harvested. These residues include stalks and stubble (stems), leaves, and seed pods.
- There are some grazing field where villagers use for their cattle rearing. These fields are available for a maximum of six months. Seasonal grazing incorporates “grazing animals on a particular area allows the land that is not being grazed to rest and allow for new forage to grow.
- The villagers of the Leku JFMC have to move Jonai, a distance covered with 5 km, for their weekly marketing activity. Domestic materials, utensils, bangles, cloths and stationeries are sold in different stalls.

3.2 Wealth Ranking:

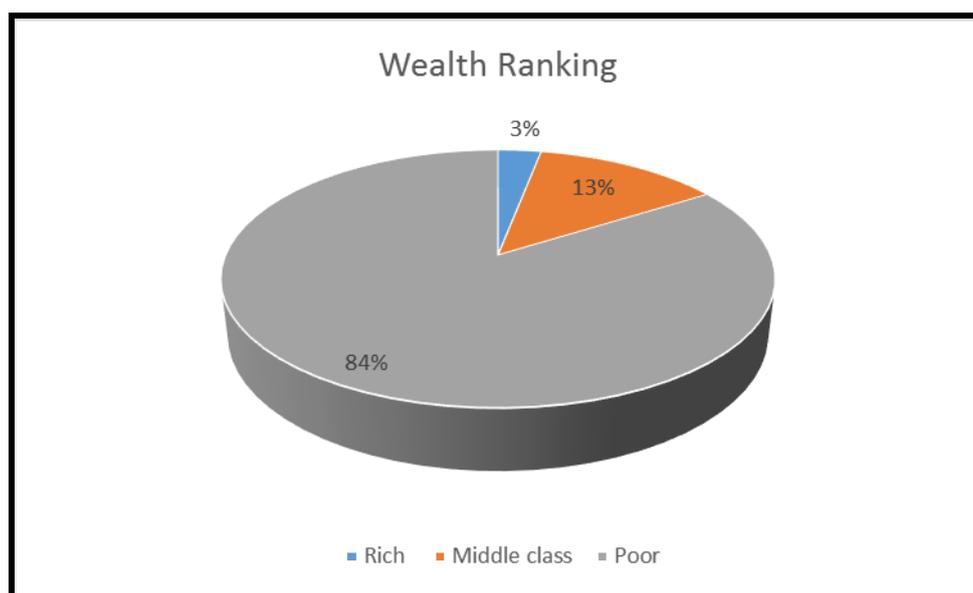
Wealth ranking, or well-being ranking, involves community members identifying and analysing the different wealth groups in a community. It enables evaluators to learn about the socioeconomic stratification of project beneficiaries and local people's definitions and indicators of wealth/well-being.

Wealth ranking was done with the help of the following criteria:

- a) Land holding
- b) Occupation

About 84 per cent people are poor, about 13 per cent are belong to middle class and about 3 per cent are categorised to be rich. Poor people are mainly landless irregular wage earners, sometimes they lease (adhi lua) others land. They have favourable amount of agricultural land.

Figure 3.1: Wealth Ranking



3.3 Timeline Review

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 the following events.

Table 3.3: Timeline review

Year	Event	Type	
1972	A Plague caused a great havoc in the JFMC area during the Time which killed a lot of Village People.	Destructive	
1985	A racial Conflict Occurred between the village people and the people of Arunachal Pradesh namely Balakgaon which created severe massacre in the village and have made many people to leave the village suddenly in search of shelter and security.	Destructive	
20 th Century	2000	A Heavy flood occurred in the village which destroyed the village in a great extent.	Destructive

	2003-04	Construction Of Morong Ghar Started.	Constructive
	2016-2017	Construction Started For New Community Hall	Constructive

Learning:

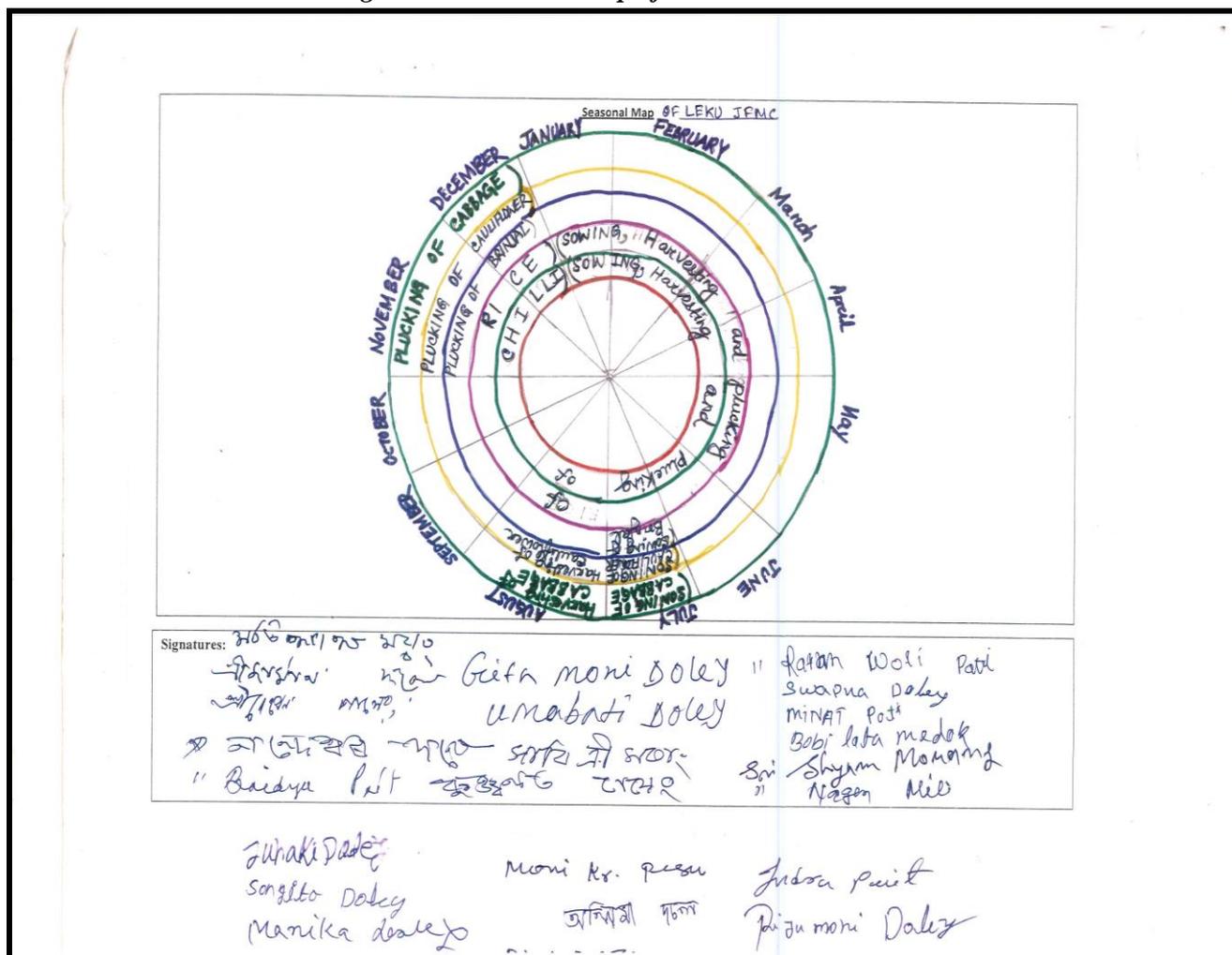
- It has been observed and learnt from our research and information from the village people that there are some kind of destructive and constructive events in the village during the PRA exercise.

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, labour 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 crops and the timing of three activities viz. sowing, 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 Aijong, Pankaj, Bao rice, Mustard, Betel-nut, Ginger, Potato, Cabbage, Tomato, etc. The FGD conducted revealed that other major livelihood options available in the JFMC are handloom, Livestock rearing (Piggery, poultry), Cane Bamboo, Eri Cultivation , daily wage labourers, masonry, tailoring, carpentry which are not seasonal in nature.

Figure 3.2: Seasonal Map of Leku JFMC



Seasonal Map Drawn By the Villagers

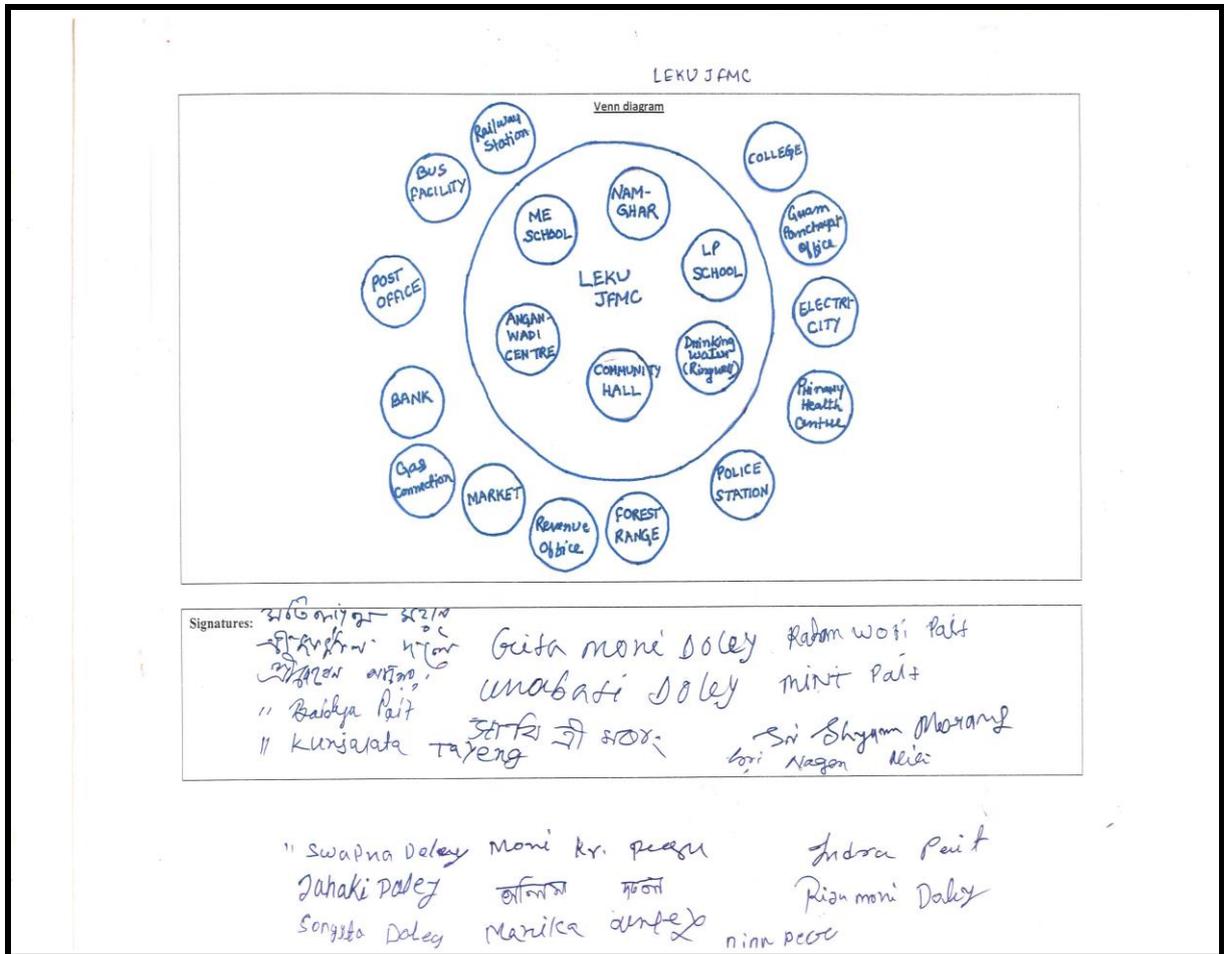
Table 3.4 Seasonal cropping pattern

Categories	Time of Activity			
	Sowing	Harvesting	Plucking	
Farming	Cabbage	July	August	Dec-Jan
	Pumpkin	Jan-March		May-June
	Cauliflower	July	August	Dec-Jan
	Brinjal	July	August	Dec-Jan
	Paddy	Throughout the Year		
	Chilli	Throughout the year		
	Non-Farming	Weaving	Throughout the year	
Livestock Rearing				
Daily Wage Earning				
Masonry				
Tailoring				

Learnings:

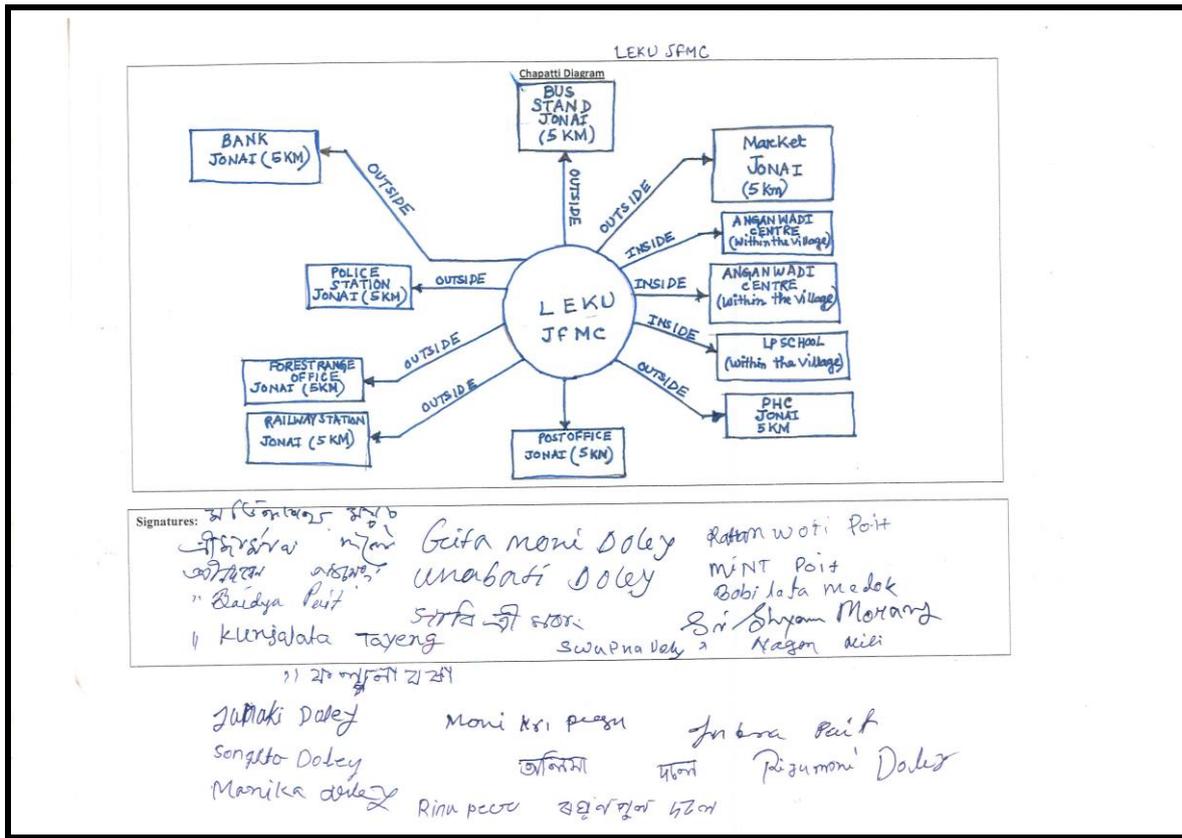
- The villagers are involved in cropping of Paddy which includes Sali, Aijong, Pankaj, Joha, Bora, BaoDhan, Vegetables (Lemon, Chilli, Cauliflower, Potato, Pumpkin, etc), Mustard, Fruits like Guava, Mango, Litchi, Papaya, Jackfruit, Sweet potato etc.

3.5 Venn Diagram



Venn diagram Drawn by the Villagers

3.6 Chapatti Diagram



Chapatti Diagram Drawn By the Villagers

Priority Ranking- EPA and Livelihood

EPA activity:

LEKU JFMC

Priority Ranking of Entry Point Activity

Entry Point Activities	Bio-gas	Drinking Water	Sanitation	Medical Sub Centre	Veterinary	Immunisation System	Community Hall Renovation							Marks	Rank
	A	B	C	D	E	F	G	H	I	J	K				
Bio-gas	X	A	A	A	A	A	A							6	1
Drinking water		X	B	B	B	B	B							5	2
Sanitation			X	C	C	C	C							4	3
Medical Subcentre				X	D	D	D							3	4
Veterinary					X	E	E							2	5
Immunisation System						X	F							1	6
Community Hall Renovation							X							0	7

Signatures:

Gubi lata medok
 Gufa mone Doley
 unagati Doley
 kunsalata tayeng
 Fakam woti Rait
 mint Pait
 Sri Shyam Mehat
 Sri Nagen Neli
 Swa Pua Doley
 Manika Doley
 Risumoni Doley
 mani kri pegen
 Juhaki Doley
 Indra Pail
 songlita Doley

Priority Ranking Of EPA by the Villagers

Livelihood activity:

LEKU JFMC

Priority Ranking of Livelihood Activities

Livelihood Activities	Handloom	Livestock	Cane & Bamboo	Eri cultivation	Tailoring	Wage Earning	Farming			Marks	Rank
	A	B	C	D	E	F	G	H	I		
Handloom	A	X	A	A	A	A	A			6	1
Livestock	B		X	B	B	B	B			5	2
Cane & Bamboo	C			X	C	C	C			4	3
Eri Cultivation	D				X	D	D			3	4
Tailoring	E					X	E			2	5
Wage Earning	F						X			1	6
Farming	G							X		0	7
	H										
	I										

Signatures: *ଶ୍ରୀମତୀ ସୁମିତ୍ରା ଦାସ*
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Priority Ranking Of Livelihood Activities by the Villagers

DETAILED COST ESTIMATE FOR CONSTRUCTION OF FIXED DOME DEENBANDHU
MODEL BIOGAS PLANT UNDER LEKU J.F.M.C.

Capacity of the Plant ...= 2 cum
Retention period = 40 days

(The Estimate has been prepared based on the Norms of National Biogas and Manure
Management Programme)

Sl No	Item of Works	Quantity	Rate/unit (Rs)	Amount (Rs)
1	Supply of 1 st class Bricks	1000 Nos	9/No	9,000.00
2	Supply of Cement	12 Bags	375/bag	4500.00
3	Supply of Stone Chips	1.20 cum	1700/cum	2040.00
4	Supply of Sand	2.50 cum	1300/cum	3250.00
6	Cost of G.I Pipe (1/2 inch)	20 cm	4.75/cm	95.00
7	Cost of A.C Pipe (130 mm dia)	1.83 m	100/m	183.00
8	Cost of Iron bars (6 mm dia)	7 kg	60/kg	420.00
	Cost of Brass Nipple	1 pc	90/pc	90.00
	Cost of Gate Valve	1 pc	600/pc	600.00
	Cost of Bend Pipe	30 cm	3/ cm	90.00
9	Cost of Paint	1.00 litre	300/litre	300.00
	Cost of Biogas Stove	1 pc	2500/pc	2500.00
10	Engaging of semi-skilled labours for digging of Pit	10 DLs	350/DL	3500.00
11	Engaging Masons for construction works	5 Nos	500/No	2500.00
13	Contingency	L.S		932.00
	TOTAL			30,000.00

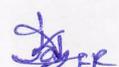
Cost of construction of one Biogas Plant = Rs.30,000.00

(Rupees Thirty thousand) only

Submitted


President,
Leku JFMC,
Jonai

President
Leku JFMC
Jonai Forest Range


Range Forest Officer
Jonai Range
Jonai


Member Secretary
Leku JFMC,
Jonai

Member Secy
Leku JFMC
Jonai Forest Range

Approved


I/C Divisional Forest Officer
Dhemaji Division
Dhemaji

COST ESTIMATE OF A TWO TANK VERMICOMPOST UNIT

Tank Size- 2.00m x 1.00m x 0.75m
Wall thickness =0.25m

SI No	Particulars	Quantity	Rate/unit	Amount in Rs.
1	Bricks	1000 Nos	9.00/no	9000.00
2	Cement	11 Bags	380.00/Bag	3080.00
3	Sand	3 cum	900.00/cum	2700.00
4	Jelly	2 cum	1200.00/cum	2400.00
5	BHuluka Bamboo Posts	6 Nos	120.00/No	720.00
6	Thatch	600 bundles	5.00/bundle	3000.00
7	Cost of Earthworm	L.S		2000.00
8	Labour charges (Carpenter & Mason)	L.S		2000.00
9	Miscellaneous expenditure	L.S		100.00
TOTAL				Rs.25,000.00

(Rupees twenty five thousand)only

Submitted


President
Leku JFMC

President
Leku JFMC
Jonai Forest Range


Range Forest Officer
Jonai Range
Jonai


(Anum ch. Bora)
Member Secretary
Leku JFMC

Member Secy
Leku JFMC
Jonai Forest Range

Approved

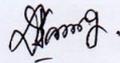

I/C Divisional Forest Officer
Dhemaji Division
Dhemaji

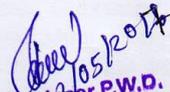
**Name of Work :- Repair/Renovation of Laku JFMC Community Hall at Jonai,
Dist-Dhemaji for the year 2017-2018**

ABSTRACT OF COST

1. Repair/Renovation of Community Hall _____	Rs. 2,75,448.00
Less 10% Contractor Profit _____ (-)	Rs. 27,544.00
	Total Rs. 2,47,903.00
Add 1% contingency (+) _____	Rs. 2,479.00
	Total Rs. 2,50,382.00
	Say Rs. 2,50,000.00

(Rupees Two Lakhs Fifty Thousand) only


President
Leku JFMC
Jonai Forest Range


Sub-Engineer P.W.D.
Building Sub-Division
Dhemaji


Member Secy
Leku JFMC
Jonai Forest Range

Approved


I/C Divisional Forest Officer
Dhemaji Division
Dhemaji

Name of Work :- Repair/Renovation of Laku JFMC Community Hall at Jonai, Dist-Dhemaji for the year 2017-2018

Item No.1/9.2.1:- Providing undressed wood work in roof truss, rafter, purlin, tie and the like including hoisting and fixing in position with necessary spikes, nails including M.S straps with bolt and nuts etc.complete with kiricide oiling two coats to all timber members and two coats of anticorrosive paint to M.S straps (M.S flats, angle cleats, and bolt and nuts required for flat and angle cleats wherever used shall be measured and paid separately)

(b) With Hollock/ Sundi/ Sam

Rafter	=	2 x 7 x 2.55 x 0.10 x 0.08	= 0.2856 m ³
Purlin	=	2 x 3 x 19.50 x 0.08 x 0.05	= 0.468 m ³
		Total	= 0.7536 m ³

@Rs. 51,443.43/m³

Rs. 38,767.00

Item No.2/8.1.33:- Providing Pre Painted Galvanized Iron Sheet Roofing (PPGI) at all levels including fitting and fixing with self drilling, self tapping screws complete. (Roof trusses, purlins etc. to be measured and paid separately.)
TATA Blue scope/ Dyna roof / Durakolor /Wonder Roof or equivalent as directed by the Departement

(b) 0.50 mm thick.

	=	2 x 19.50 x 2.55	= 99.45 m ²
	=	2 x 19.50 x 3.25	= 126.75 m ²
		Total	= 226.20 m ²

@Rs. 802.77/m²

Rs. 1,81,586.00

Item No.3/9.1.1:- Providing dressed wood work in post, walls,battens, post plate bressumers etc. includingsupplying and fixing with spikes, nails,bolt and nuts of 12mm dia(M.S) and required length etc.complete with kiricide oiling two coats to faces in contact with C.C or masonry (M.S flats, angle cleats and bolt and nuts required for flats,angle cleats wherever use shall be measured and paid separately)

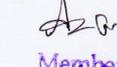
(b) With hillock timber.

	=	2 x 19.50 x 0.15 x 0.08	= 0.468 m ²
--	---	-------------------------	------------------------

@Rs. 56,388.61/m³

Rs. 26,389.00


President
Leku JFMC


Member Secy
Leku JFMC
Jonai Forest Range


Sub-Engineer P.W.D.
Building Sub-Division
Dhemaji

Annexure 4

PHOTOGRAPHS



A Snap During Awareness



PRA Mapping with the Village People



A Snap after the Completion of PRA



A Group Photo with The Villagers

Annexure 5

LIST OF JFMC MEMBERS

RECORD 7 : MEMBERSHIP REGISTER

Name of JFMC
LEKU

Division
Dhemasi

Range
Jonai

Beat
LEKU

JFMC Code

Sonyam →

Sr. No.	Name	Father's/ Husband's name	Age	Male/ Female	Education	SC/ST/ BC/OBC
1	Deban Panyang	Lt Pahlukan Panyang	60	Male		st
2	Bilash Batis	Lt Kasinah Batis	70	Male		st
3	Motilal Motang	Lt Karba Motang	65	Male		st
4	Sonyam Motang	Lt Hazem Motang	48	Male		st
5	Nandawana Doley	Lt Anoyk Doley	67	Male		st
6	Armit Doley	Lt Bhamu Doley	50	Male		st
7	Jasman Doley	Lt Robison Doley	70	Male		st
8	Bayalha Pait	Lt Panyam Pait	47	Male		st
9	Uma Sirang			Female		st
10	Kalpana Bora	Sri Kuntal Bora	52	Female		st
11	Aruti Bora	Lt Madan Bora	55	Male	B.A.	O.B.C.

Sri Derson Panyang
President
Leku JFMC
Jonai Forest Range

Range Forest Officer
Jonai Range
Jonai

Annexure 6 (Record I)

Table 1: Basic data of the village:

Table 1: Basic data of the JFMC

Name of the JFMC	Date of establishment	No. of members in executive	Name of the president	Name of the member secretary	Money in VDF	Contribution per family /per person	Social fencing used Yes / No	Remarks on special attainment	Grading %of success by RFO
Leku	2003-04	11	Jogeswar Moran	Arun Bora	No		Yes		80%

Source: JFMC Records

Table 2: Village wise population data:

Table -2: Demographic status of the project villages

Sl. No.	Name of village	Households (No.)	ST			Sex ratio (per 1000 male)	Avg. HH size
			Total	Male	Female		
1	Leku	310	1650	612	938	574	5
Total		310	1650	612	938	574	5

Source: - Field survey report.

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

Table3 Village wise farmer category on the basis of land holding

Sl no	Name of the village	Type of famer according to land holding				
		Large farmer >10 ha.	small farmer 2-10 ha.	Marginal farmer (household) <2ha.	Land less (household)	total
1	Leku	-	3	282	25	310
Total		-	3	282	25	310

Source: - Field survey report.

Table 4: Cattle Population:*Table 4: Cattle Population of the JFMC*

Sl no	Name of the village	Village-wise No.of Cattle's or Type of Animals						
		cows	Poultry	Pig	Bulls	Duck	Goats	Total
1	Leku	210	1120	490	230	96	85	1220
Total		210	1120	490	230	96	85	2231

Source: - Field survey report.

Table 5: Village wise Infrastructure:*Table 5 showing village wise infrastructure*

Sl no	Infrastructure	Location	Distance from village
1	Electricity	Jonai	5 km
2	Gas connection	Jonai	5 km
3	Transport	Jonai	5 km
4	PHC	Jonai	5 km
5	LP school	Inside	0 km
6	ME school	Inside	1km
7	Post office	Leku	0 km
8	Bank	Jonai	5 Km
9	Anganawadi centre	Inside	0.5Km
10	Revenue Office	Jonai	5 km
11	Police station	Jonai	5 km
12	Forest Office(Beat)	Leku Beat	1 km
13	Bus facility	Jonai	5 km
14	Railway Station	Jonai	5 km
15	District head quarter	Dhemaji	105 km

Source: - Field survey report.

Table 6: Agricultural crops*Table 6 Agriculture Crops*

	Rain Fed		Irrigation	
	Name of the crop	Area (in ha.)	Name of the crop	Area (in hac)
Kharif	Sali,Aijong, Pankaj,joha,Bao	127.58	-	-
Rabi	Mustard,Pea,Cabbage,Potato	211.41	-	-
Others	Fruits	25.11	-	-

Source: - Field survey report.

Table 7: Crop production profile of Leku JFMC:*Table 7 Crop production profile of Leku JFMC*

Type of crop	Total Production (approx) in quintals	No of household growing	Average production (quintal/ hac) approx
Paddy	7700	310	24.83
Oil seeds	100	125	0.80
Vegetables	155	310	0.5
Fruit	62	241	0.25

Source: - Field survey report.

Table 8: Fodder Availability (animal)*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: - Field survey report.

Table 9: Location of market from the village*Table 9 Location of market from the village*

For Purchase	Location	Distance from village if in other village (in km)
Grocery shop	Inside	0 km
Weekly Market	Jonai	5 km
Major Market	Jonai	5 km
Fish Market	Jonai	5km

Source: - Field survey report.

Table 10: Water Resources Facility:*Table 10: showing the water resource facility available in the village*

Water source	Number	Availability of water	Uses
Tube well	20	Adequate	Drinking, Bathing, Irrigation, livestock rearing
River	1	Adequate	Drinking, Bathing, Irrigation, livestock rearing
Ring well	35	Adequate	Drinking, Bathing, Irrigation, livestock rearing

Source: - Field survey report.

Table 11: Energy consumption:*Table11 showing the Energy Consumption of the JFMC*

Type of Fuel	Number of household depending	Number of months dependent	Sources (local, village, forest, other sources)	Major/ Secondary
Fuel wood	310	12	Forest	Major
Kerosene stove	28	4	Market	Secondary
LPG	15	4	Govt.	Secondary

Source: - Field survey report.

RECORD: II

LIVELIHOOD OPPORTUNITY ANALYSIS

Table 12: Agriculture and Horticulture:

Table 12: showing the agricultural and horticultural status

Constraints	Reason	Opportunities	Programme
Low Production	<ul style="list-style-type: none"> • Traditional way of cultivation. • Only one crop undertaken annually (Paddy) • Very negligible use of fertilizers and pesticides, insecticides. • Lack of irrigation facilities. • Lack of agricultural infrastructure, modern tools and equipment's viz, power tillers, tractors etc. • Non usages of high yielding seeds. 	<ul style="list-style-type: none"> • Application of proper and controlled pesticides and insecticides. • 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. • Usage of high yielding seed programme. 	<ul style="list-style-type: none"> • Tractor operation training • Agro-skill development programme. • Training on insecticides, pesticides, hybrid cultivation
Storage and Production	<ul style="list-style-type: none"> • Lack of common storing place • Lack of cold storage facility due to non-availability of electricity 	<ul style="list-style-type: none"> • Helpful in preserving unsold products for a longer period of time. • They can store their product and sell it when there is a higher demand. 	<ul style="list-style-type: none"> • Packaging • Transportation and distribution.
Marketing	<ul style="list-style-type: none"> • Lack of transporting facilities for carrying products • Less contact with the direct market; much dependency upon middle man • No knowledge on marketing know-how, dependence on traditional system of selling. 	<ul style="list-style-type: none"> • Smooth transportation facility will help the farmers to carry their products to the nearby markets. • Generate highest market price by removing middle men. • More knowledge about the current market situation as well as the current value of their products. 	<ul style="list-style-type: none"> • Buyers sellers meet

Table 13: Livestock*Table 13 Livestock*

Constraints	Reasons	Opportunities	Programme
Less grazing land	<ul style="list-style-type: none"> • 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. 	
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. 	
Milk market	<ul style="list-style-type: none"> • Less contact with the direct market for milk • Unaware of the market demand of different milk made products. 	<ul style="list-style-type: none"> • A huge milk market is in demand. 	

Table 14: NWFP*Table 14 NWFP*

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

Table 15: Specialised skill

Table 15: Specialised skills: Weaving

Constraints	Reasons	Opportunities	Programme
Raw material availability	<ul style="list-style-type: none"> • Ineffective use of the available raw materials • No Storage 	<ul style="list-style-type: none"> • Common place for setting a raw material storage 	<ul style="list-style-type: none"> • Setting up a raw material bank • Training Programmes on Weaving by using modern methodology
Product quality	<ul style="list-style-type: none"> • Shortage of High Quality Materials • Use of Traditional machineries 	<ul style="list-style-type: none"> • Developing Quality Products for new market exploration. 	<ul style="list-style-type: none"> • Training on Modern Tools and Equipment. • Providing modern technology to the villagers
Marketing potential	<ul style="list-style-type: none"> • No standardised market • No pricing policy • No linkage with the institutional buyers • No Product Diversification or New Product Development. 	<ul style="list-style-type: none"> • Exploring new markets with diversified products 	<ul style="list-style-type: none"> • Providing a bulk buy arrangement of the finished product with institutional buyers.
Credit facilities	<ul style="list-style-type: none"> • No linkage with the banks or post office saving banks. • Unaware of the development schemes of banks and government 	<ul style="list-style-type: none"> • Financial assistance by the Govt. • Providing easy access to credit. 	<ul style="list-style-type: none"> • Microfinance, Term Loans, Working Capital Arrangement
Product Diversification	<ul style="list-style-type: none"> • No Product Diversification or New Product Development. • Lack of concept for product diversification. 	<ul style="list-style-type: none"> • Developing Demand Based Products, as per the needs of the modern day market. 	<ul style="list-style-type: none"> • Skill Upgradation & Training on New Product Development and Product Diversification

Table 16: Credit facility

Table 16 Credit facility

Constraints	Reason	Opportunities	Programme
Ineptness	-	<ul style="list-style-type: none"> • Setting up modern financial institution in the nearby areas. 	
Rate of interest	<ul style="list-style-type: none"> • Higher lending rates charged by the private money lender 	<ul style="list-style-type: none"> • Subsidised credit arrangement 	
Availability of loan	<ul style="list-style-type: none"> • Fear of risk taking • No knowledge of documentation 	<ul style="list-style-type: none"> • Start-ups entrepreneurial venture 	
Mortgage difficulty	<ul style="list-style-type: none"> • Unavailability of proper documentation of mortgaged property. 	<ul style="list-style-type: none"> • Proper awareness about documentation in the area 	

(Deven Paygg)

President
Leku JFMC
Jonai Forest Range

(Signature)
Range Forest Officer
Jonai Range
Jonai

(Signature)
Member Secy
Leku JFMC
Jonai Forest Range

Approved

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/C Divisional Forest Officer
Dhemaji Division
Dhemaji