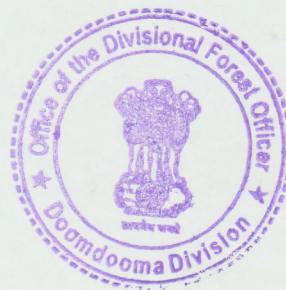


Forest Department



ASSAM PROJECT ON
FOREST & BIODIVERSITY
CONSERVATION



AGENCE FRANÇAISE
DE DÉVELOPPEMENT

Nabuday Joint Forest Management Committee (JFMC)

**Pengary Range, Forest Doomdooma Division
Tinsukia District, Assam**

**Micro-Plan
(2016-17 to 2025-26)**

**Prepared by Nabuday Joint Forest Management Committee
assisted by**

Assam Forest Department

&

**COMPELO
(IIE, RGVN and CML)**

July 2016

Approved

Divisional Forest Officer
Doomdooma Division
Doomdooma

LIST OF ACRONYMS

ACF	Assistant Conservator of Forests
AFD	Agence Francaise de Development
APFBC	Assam Project on Forest & Biodiversity Conservation
APL	Above Poverty Line
BPL	Below Poverty Line
CCF	Chief Conservator of Forests
CF	Conservator of Forests
CML	Centre for Microfinance and Livelihood
COMPELO	Consortium On Micro Planning And Enhancement of Livelihood Opportunities
DCF	Deputy Conservator of Forests
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
HH	Households
IIE	Indian Institute of Entrepreneurship
JFMC	Joint Forest Management Committee

MoEFCC	Ministry of Environment, Forests & Climate Change
MT	Metric Ton
NTFP	Non Timber Forest Produce
OBC	Other Backward Classes
SDP	Skill Development Programme
ST	Scheduled Tribes
SC	Scheduled Caste
PHC	Primary Health Centre
PMU	Project Monitoring Unit
PRA	Participatory Rural Appraisal
RO	Range Officer
RGVN	Rashtriya Gramin Vikash Nidhi
SDG	Sustainable Development Goals
SLF	Sustainable Livelihood Framework
SWOT	Strength Weakness Opportunity & Threat
WPC	Working Plan Circle

NABUDAY JOINT FOREST MANAGEMENT COMMITTEE
Sodia Range, Doomdooma Division

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

Table of Contents

Sl. No.	Heading	Page No.
1	Introduction	1
2	Village Socio-Economic Profile	2 - 7
3	Livelihood Opportunity Analysis	8 - 14
4	Livelihood Development Plan	15
5	Action Plan	16 - 18
6	Forest Development Plan	19 - 37
--	List of Appendices	Annexure

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, <i>Rashtriya Gramin Vikas Nidhi</i> (RGVN) and Centre for Microfinance and Livelihood (CML) 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 Nabuday JFMC</p>	<p>This document gives the Micro-Plan for the Nabuday JFMC, which is located in the Tinsukia district of Assam. The Nabuday JFMC falls under the jurisdiction of the Doomdooma Forest Range under Doomdooma Forest Division. 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 personal of Centre for Microfinance and Livelihood (CML) Guwahati in June 2016. The micro-plan has been compiled by CML based on the project guide lines. The document has been discussed and finalized for adoption in July 2016.</p>

2. Village Socio-Economic profile

Location	The Nabuday JFMC was formed to cover four villages namely- Dibrujan and Kothalguri. It is situated 6 km away from Doomdoo Forest Division. The total population of the two villages is 1260, of which 678 are males while 654 are female.																				
Key Information	<p>The key information of the JFMC is furnished below.</p> <p>Table – A : Key Information of the JFMC</p> <table> <tr> <td>Name of the JFMC</td><td>Nabuday</td></tr> <tr> <td>District</td><td>Tinsukia</td></tr> <tr> <td>Forest Division</td><td>Doomdoo</td></tr> <tr> <td>Forest Range</td><td>Khatangpani</td></tr> <tr> <td>Year of Formation</td><td>2015-16</td></tr> <tr> <td>Forest Area Allotted</td><td>30</td></tr> <tr> <td>Total Household</td><td>158</td></tr> <tr> <td>Nos. of JFMC Village</td><td>Nahor jan</td></tr> <tr> <td>Description of boundary of JFMC</td><td> <ul style="list-style-type: none"> • North : Arunachal • South : Kapoupathar Ahom gaon • West : Bokapathar & Padumpukhuri • East : Kapoupathar deuvari Gaon & AP </td></tr> <tr> <td>Beat Office Name</td><td>Kakopathar</td></tr> </table> <p>Source: JFMC Records & Discussions during PRA Exercise in June 2016</p> <p>Additional details are given at Table-1 of Record-I. (Given at Annexure)</p>	Name of the JFMC	Nabuday	District	Tinsukia	Forest Division	Doomdoo	Forest Range	Khatangpani	Year of Formation	2015-16	Forest Area Allotted	30	Total Household	158	Nos. of JFMC Village	Nahor jan	Description of boundary of JFMC	<ul style="list-style-type: none"> • North : Arunachal • South : Kapoupathar Ahom gaon • West : Bokapathar & Padumpukhuri • East : Kapoupathar deuvari Gaon & AP 	Beat Office Name	Kakopathar
Name of the JFMC	Nabuday																				
District	Tinsukia																				
Forest Division	Doomdoo																				
Forest Range	Khatangpani																				
Year of Formation	2015-16																				
Forest Area Allotted	30																				
Total Household	158																				
Nos. of JFMC Village	Nahor jan																				
Description of boundary of JFMC	<ul style="list-style-type: none"> • North : Arunachal • South : Kapoupathar Ahom gaon • West : Bokapathar & Padumpukhuri • East : Kapoupathar deuvari Gaon & AP 																				
Beat Office Name	Kakopathar																				
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 given below:</p> <p>Table – B : Brief details of Executive Committee & General Body</p> <table> <tr> <td>Name of President</td><td>Jogeswar Moran</td></tr> <tr> <td>Name of Secretary</td><td>Mridul Kakoti</td></tr> <tr> <td>Name of the Treasurer</td><td>Puna gohain</td></tr> <tr> <td>No. of Members in Executive Committee</td><td>10(Male:7, Female:3)</td></tr> <tr> <td>No. of Members in the General Body</td><td>320</td></tr> </table> <p>Source: JFMC Records</p>	Name of President	Jogeswar Moran	Name of Secretary	Mridul Kakoti	Name of the Treasurer	Puna gohain	No. of Members in Executive Committee	10(Male:7, Female:3)	No. of Members in the General Body	320										
Name of President	Jogeswar Moran																				
Name of Secretary	Mridul Kakoti																				
Name of the Treasurer	Puna gohain																				
No. of Members in Executive Committee	10(Male:7, Female:3)																				
No. of Members in the General Body	320																				
Households & Population Structure	<p>The JFMC has one village namely Nabuday with a total households of 320 and the total population of 1260.</p> <p>The total male population stands at 678 whereas the total female population is 654. Hindu is the dominant religion practiced of the JFMC and residing communities is only Adivasi.</p> <p>Almost 90.50% of the total population belongs to OBC category.</p>																				

	<p>The average size of the households is 4.5 and the sex ratio is 934.78 females per 1000 males in the JFMC villages.</p> <p>As per the household survey conducted, 87.34% of the households are BPL whereas 9.49% belong to APL category and the status of the remaining households have not been reported in the field survey conducted. This signifies that the economic condition of majority of the households in the JFMC is not better off. Only 21 households possess Government ration cards.</p> <p>Table-2 of Record-I may be referred for further details in the above regard.</p>
Education & Skill Development	<p>The literacy rate in the Nabuday JFMC is of 52%. Around 16% of the households from the area is illiterate. Majority of population have studied upto class IV only The female members from the area have weaving as a traditional skill, available with them. The male members from the village have skills like masonry and technical knowledge is prevalent among the youths from the area, which is mainly computer knowledge and literacy.</p> <p>The households are dependent on agriculture for their income. Under agriculture they mostly go for the cultivation of rain fed paddy. Almost all the households have agricultural land and they are engaged in the cultivation of other seasonal crops like mustard, green leafy vegetables, brinjal, cabbage etc.</p> <p>Provision of Education facility up to primary level is satisfactory in the village as there is one primary school, one Anganwadi centre. But, for any education beyond that the children need to travel to the nearest town Chapakhowa.</p> <p>So the activities which has been found out in the area are:</p> <ol style="list-style-type: none"> 1. Agriculture-paddy and rabi crop cultivation 2. Livestock Rearing
Soil	<p>There are three types of soil available: sandy loam, loam and clayey loam in Nabuday JFMC villages.</p> <p>These favour the cultivation of Summer rice (Sali paddy), Rabi crops including mustard, pea, seasonal vegetables, etc.</p>

Water	Ground water is the main source of drinking water. Good quality water is available to the villagers around the year. Almost every household has tube well connections and wells. There are natural small outlets.
Climate: Temperature & Rainfall	<p>Highest temperature is generally observed in the months of July/August (35°C) and lowest is in the months of December/January (7-8°C). Humidity is the morning hour's ranges from 90-95% and 50-70% in the afternoon hours. The climate of the region is sub-tropical wet and is characterized by hot and humid summer and dry cool winter.</p> <p>The Nabuday JFMC is experiences 2300 to 3000 mm rainfall per year. Average annual rainfall of the area is 2819 mm. While normal rainfall (1901-1950) is 2796.4 mm. It is observed that on an average 64 to 68% of annual rainfall is received during the monsoon period (June-September) and 22-26% of annual rainfall during pre-monsoon period (March-May).</p>
Forest & Bio-diversity	<p>The local forests have been broadly classified as- Tropical Wet Evergreen forest.</p> <p>The nearby forest is enriched with various tree species like- Lagerstroemia parviflora (Sida), Delonix resia (Radhasura), Cresiniferum (Dhuna, Dhup), Ficus hispida (Dimoru), Caeslpima pulcherima (Krishnasura), Tetrameles mdiflora (Bheleu) and Tactona srandis (Segun) etc. The forest can yield elephant apples, bamboo, thatch, fodder, medicinal plants.</p> <p>Additional information is provided in 'Forest Development Plan'.</p>
Land Use Pattern	<p>Annexure-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> <ul style="list-style-type: none"> • Firewood plantation -56% • Forest degraded-19% • Paddy field -8% • Pond -3% • Road-6% • Settlement area-2% • Stream -1% • Tree Clad area 3% • Water body-2%
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"> • 62.93% HH (73 HH) have farming lands • Large farmer (> 10 ha.) 4.31% (5 HH) • Small Farmer (2 – 10 ha.) 15.52% (18 HH) • Marginal Farmer (<2 ha.) 43.10% (50 HH) • Landless 37.07% (43 HH)

Livestock	<p>The total number of livestock in the village is 654. The main types of livestock possessed by the households include:</p> <ul style="list-style-type: none"> • Cattle 380 • Bull 140 • Buffaloes 15 • Poultry 4110 • Pigs 55 • Goat 370 <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 infrastructures which are available in the villages can be categorized into the following heads:</p> <ul style="list-style-type: none"> • Physical Infrastructure: The households have the basic amenities including electricity, mobile phones, cycles and motorbikes for communication purposes. The villages are well connected to the main road which connects them to the town. • Education and Health facilities: Education and health facilities include one lower primary school, 2 anganwadi centers, one public health center which is available with the families. • Govt. Offices: The Government offices and line departments which are existing in the area are Panchayat office, Revenue office, local police station, Forest beat office but those all are located in a considerable distance from the villages. • Financial Institutions: There are banks and post offices which are present in the area but they are at a considerable distance of at an average distance of 5 km from the villages. <p>Table-5 of Record-I, which gives the present status of the village infrastructure.</p>
Agricultural Crops	<p>The details of the agricultural crops grown in the village is available at Table-6 of Record-I.</p> <ul style="list-style-type: none"> • Only 6% of the households from the villages are engaged in Sali paddy cultivation. • Proximity to the Doomdooma town and limited farm landholding discourages the farmers from engaging in agriculture and certain traditional fruits like jackfruit, mango, banana and vegetables are grown by the farmers.

	<ul style="list-style-type: none"> Few families have also started engaging in the cultivation of small scale tea gardens.
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 production and yield details of the crops grown in the village are as follows. The crop cultivated by the families is basically rain fed.</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:</p> <ul style="list-style-type: none"> Crop residue, Grazing in forest, Household vegetable wastes Green Fodder
Markets	<p>Table - 9 of Record-I shows the location of the different markets from the village. The main markets used by the community and its distance from the JFMC villages are mentioned below:</p> <ul style="list-style-type: none"> The Grocery/ PDS shops: Nearly 1 km distance from village The Weekly/ Bi-weekly Market Nearly 3 km away Major Market: Digboi (nearly 4 km away)
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> <ul style="list-style-type: none"> Tube-well: 88 Nos. (Adequate) River: 1 No. (Adequate)- Digboi River Ring well: 5
Energy Consumption	<p>Table-11 of Record-I shows the major sources of energy in the village. The same have been listed below.</p> <ul style="list-style-type: none"> Firewood: Households Depending: 130 Nos. Source: Local forest area Kerosene: Households Depending: 130 Nos. Source: outside market. LPG: Households Depending: 23 Nos.
Socio-economic status	<p>Social set up- The villages are inhabited by people mostly belonging to the OBC category. The society overall is not marked by deep caste divisions. The observed position of women is satisfactory.</p> <p>Economic Conditions- The economic condition of the people in the area is overall satisfactory. The annual income of the household ranges between Rs 20,000 to Rs 1, 50,000 per annum for the households.</p> <p>The families belonging to the OBC categories do not migrate much from the villages, but there are some Adivasi families who have youths migrating to neighbouring town in search of stable employment.</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	<p>The PRA was done in Nabuday JFMC villages which are situated under Doomdooma Forest range of Tinsukia district of Assam. The four villages are having a total of 320 household with 1260 populations</p> <p>Date: 9th June, 2016</p> <p>Facilitators: Abhishek Mazumder, CML and Dr. Pallabi Bhagawati, CML</p> <p>Venue: Kathalguri Namghar</p> <p>In the presence of: JFMC office bearers, community members, Forest Personnel</p>
Objective of PRA	<p>The specific objectives of the exercise are to:</p> <ol style="list-style-type: none"> To understand the livelihood options existing within the region, its prevalence and challenges. Better understand the credit needs of the poor and their coping mechanism. Examine the options, challenges, and opportunities for financial institutions interested in delivering financial services and Identify existing livelihood support mechanisms and explore viable options of providing livelihood support services for increasing income and employment opportunities of the people.
Tools Used & Outcomes of the PRA	<p>In this study, different tools were used. These includes</p> <ul style="list-style-type: none"> • Social Mapping • Resource Mapping, • Wealth Ranking, • Seasonality of Livelihoods and • Venn diagram
Ranking	<p>Ranking exercise has been done for the following:</p> <ul style="list-style-type: none"> • Livelihoods & Skills Development • Entry Point Activities (EPA) <p>Appendix-3 elaborates the above. From the same, it is stated that: Ranking of Livelihoods & Skills Development</p> <ol style="list-style-type: none"> 1. Agriculture 2. Livestock 3. Medicinal Plant

	<div>Ranking of EPA</div> <table><tr><th>Rank</th><th>Village EPA as ranked</th><th>Details (Appendix-3 has additional particulars)</th><th>Probable source of funding/ Department</th></tr><tr><td>1</td><td>Agriculture</td><td>Agri Practice</td><td>Agri Dept</td></tr><tr><td>2.</td><td>horticulture</td><td></td><td>Horti. Depart</td></tr><tr><td>3.</td><td>Tea</td><td></td><td>Tea Board</td></tr><tr><td>4</td><td>Wage</td><td></td><td>MGNREGA</td></tr><tr><td>5</td><td>Bussiness</td><td></td><td></td></tr></table>	Rank	Village EPA as ranked	Details (Appendix-3 has additional particulars)	Probable source of funding/ Department	1	Agriculture	Agri Practice	Agri Dept	2.	horticulture		Horti. Depart	3.	Tea		Tea Board	4	Wage		MGNREGA	5	Bussiness																			
Rank	Village EPA as ranked	Details (Appendix-3 has additional particulars)	Probable source of funding/ Department																																							
1	Agriculture	Agri Practice	Agri Dept																																							
2.	horticulture		Horti. Depart																																							
3.	Tea		Tea Board																																							
4	Wage		MGNREGA																																							
5	Bussiness																																									
Livelihood opportunities	<div>Livelihood Opportunities were identified as follows:</div> <div>Keeping the view of the present livelihood of the villagers, an overall assessment of skill needs/ skill preference of JFMC have been analysed. The categorisation has been divided into farm sector and non-farm sector. The responses towards preference towards skill development training programmes have been presented in the following chart.</div> <div>Table I: Livelihood Opportunities Ranking</div> <table><tr><th rowspan="2">Type of training programme</th><th colspan="5">Mark the preferred option</th></tr><tr><th>1</th><th>2</th><th>3</th><th>4</th><th>5</th></tr><tr><td>• Vermi Compose</td><td>1</td><td>-</td><td>-</td><td>-</td><td>-</td></tr><tr><td>• Beautician</td><td>-</td><td>-</td><td>-</td><td>4</td><td>-</td></tr><tr><td>• Food processing</td><td>-</td><td>2</td><td>-</td><td>-</td><td>-</td></tr><tr><td>• Mushroom</td><td>-</td><td>-</td><td>-</td><td>4</td><td>-</td></tr><tr><td>• Driving</td><td>-</td><td>-</td><td>-</td><td>4</td><td>-</td></tr></table> <div>Source: PRA</div> <div>It is observed during the PRA that preference for Vermi compose training programmes is highest. This is because of the available resource present in the JFMC area. The second and third preference is given to Beautician & Food processing. Mushroom and Driving sector like activities are came less into focus.</div>	Type of training programme	Mark the preferred option					1	2	3	4	5	• Vermi Compose	1	-	-	-	-	• Beautician	-	-	-	4	-	• Food processing	-	2	-	-	-	• Mushroom	-	-	-	4	-	• Driving	-	-	-	4	-
Type of training programme	Mark the preferred option																																									
	1	2	3	4	5																																					
• Vermi Compose	1	-	-	-	-																																					
• Beautician	-	-	-	4	-																																					
• Food processing	-	2	-	-	-																																					
• Mushroom	-	-	-	4	-																																					
• Driving	-	-	-	4	-																																					
Agriculture & Horticulture	<div>Table-12 under Record-2 may be seen in this connection for opportunities in the areas of agriculture and horticulture.</div> <div>The main constraints are:</div> <div><div>a) Very negligible use of fertilizers and pesticides, insecticides.</div><div>b) Lack of irrigation facilities</div><div>c) Lack of agricultural infrastructure, modern tools and equipment’s viz, power tillers, tractors etc.</div><div>d) Non usages of high yielding seeds etc.</div></div>																																									

	<p>The opportunities are:</p> <ol 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. All they need is improvisation of their skill level. <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"> 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. No veterinary care clinic. Lack of knowledge about the proper rearing of live stock <p>The opportunities are:</p> <ol style="list-style-type: none"> Higher income from livestock rearing. A huge demanded market for milk is available as Tinsukia district head quarter. <p>The suggested programme is:</p> <ol style="list-style-type: none"> Piggery Poultry
NWFP	<p>The opportunities for NWFP are tabulated at Table-14 under Record-2</p> <p>The main constraints are:</p> <ol style="list-style-type: none"> Less availability of NWFP No technical know-how No processing units <p>The opportunities is:</p> <ol style="list-style-type: none"> Availability of fertile fallow land <p>The suggested programme are:</p> <ol style="list-style-type: none"> Plantation of Food plants, Medicinal Plant etc.
Specialized Skills	<p>For skills development, the opportunities are tabulated at Table-15 under Record-2</p> <p>The main constraints are:</p> <ul style="list-style-type: none"> Lack of product diversification Lack of research on product quality Lack of TQM techniques.

	<p>The opportunities are:</p> <ul style="list-style-type: none"> • Providing good communication facility • Training of the skill holder • Financial assistance from govt. <p>The suggested programme are:</p> <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.
Credit Facility	<p>Table-16 under Record-2 discusses this aspect.</p> <p>The main constraints with the reasons are:</p> <ul style="list-style-type: none"> • Financial exclusion • Higher rate charged by the private money lender. <p>The opportunities are:</p> <ul style="list-style-type: none"> • Setting up modern financial institution • Adequate awareness. <p>The suggested programme is:</p> <ul style="list-style-type: none"> • Setting up modern financial institution in the nearby areas.
Strategic Interventions	<p>Summarizing the suggested programmes at above as strategic interventions for the Livelihood Development Plan:</p> <ul style="list-style-type: none"> • Agriculture & Horticulture: Tractor operation training, Agri-skill development programme ,Training on insecticides, pesticides, hybrid cultivation • Livestock: Piggery, Poultry. • NWFP: Plantation of Food plants, Medicinal Plant etc. • 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. • Credit facility: Setting up modern financial institution in the nearby areas.
Livelihood Opportunity Analysis	<p>Framework of livelihood Opportunity Analysis has been done with the help of the following criteria:</p> <ul style="list-style-type: none"> • Livelihood assets • Livelihood context • Priority ranking on potential livelihood

	<p>The livelihood situation of Nabuday 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 –</p> <ol style="list-style-type: none"> 1. Natural Capital 2. Physical Capital 3. Social Capital 4. Human Capital 5. Financial Capital
	<p>1. <u>Natural Capital :</u></p> <p>The project area is renowned for its biological diversity. Key natural assets include trees like Hollock, Gamari, Titachopa, Nahar, Bonsum, Bogipoma, Bola etc. These high value of trees and their extraction for fuelwood collection, zhumi cultivation, timber exploitation (either for local consumption or for sale to urban centers), causes deforestation and it is directly connected to rural livelihood strategies.</p> <p>This broad-based dependence on natural resources in the project area, we do not put forward an expectation regarding distinctions in access to natural capital across the populations. There is a need to provide alternative such as LPG connection for cooking etc would provide a lesser dependence in the forest. Other livelihood option to be build up for the same cause to preserve the natural resource in the project area.</p> <p>2. <u>Physical Capital :</u></p> <p>Physical capital include the basic infrastructure that people need to make a living, as well as the tools and equipment that they use. For example, transport and communication systems, shelter, water and sanitation systems, and energy.</p> <p>When we observe the availability of physical capital in the project area, the situation is very poor. There is no good roads, transport and communication systems is very weak, water and sanitation systems are not adequate and access to electricity is nil.</p> <p>In order to improve the livelihood of the project area, emphasis should be given to improve the physical structure of the JFMC area by providing road, water and sanitation facilities and solar lights alternative to electricity.</p> <p>3. <u>Social Capital :</u></p> <p>Social capital has been used to explain the improved performance of diverse groups, the growth of entrepreneurial firms, superior managerial performance, enhanced supply chain relations, the value derived from strategic alliances, and the evolution of communities.</p>

In the project area, only limited number of SHG groups are available. In this case, there is a need to strengthen the SHGs and build up village communities and cooperative societies for better performance of the livelihood opportunities in the area.

It is also seen that the delivery of government schemes to the people is very less. Social schemes are yet to be received in the area.

4. Human Capital :

In the project area, as far as human capital is concern, the people are traditionally skills in the farming sector. All the household reported to be farmer in nature and do subsistence agriculture for self-sufficiency. The farmers focus on growing enough food to feed themselves and their families. The output is mostly for local requirements with little or no surplus for trade.

Although it is also seen from the survey that there is an immense potentiality of sericulture, weaving and cane and bamboo industry in the area.

In the project area, it is seen that majority of the households having land holding from 2-10 hector. It is found that the relationship between land holding and livelihood strategies that larger landholding did not imply higher income after a particular class or stage. Having higher land holdings did not suggest a greater dependence on land in terms of higher agricultural income (in cash or food) from their lands.

This suggest need for building skills like cane and bamboo, tailoring and other non-farm based activities so as to enable household to diversify their basket of livelihood option.

Sustainable livelihood is the capability of people to make their living comfortable and improve their quality of life without endangering the livelihood options of others and education plays an important role to achieve this. The provision of educational opportunities to all people must be facilitate to alleviate poverty and social empowerment.

In the project area, it is seen that there is no facility to attain higher education. There is a need to provide both formal and informal education in the area to equip vulnerable with entrepreneurial and related functional literacy skills.

Source of information always a factor for successful society. Perhaps the reason for backward in the forest area is the lack of access to information. There is no such medium (only radio) available in the project area. There is also negligence of forest offices to provide information to the people. Source of information became an important factor so that people may became upto date to compete with modern society with a better livelihood opportunities gathered from various source.

	<p>The culture and tradition of a community shows a communities civilisation. The project area is highly cultured and their traditional way of living brought immense potentially of tourism in the area.</p> <p>In the project area, males are largely engaged in farm activities such as land preparation, sowing, weeding, inter culture and harvesting. Where females are involve in cooking, child care, livestock rearing etc. It is important to analyse gender participation to see how value addition can be provided based on their skills which they perform in day to day life.</p> <p>Migration is one of the important factor in analysing human capital. Out-migration or in-migration is take place due to available opportunities for better livelihood. In the project area there is no such out-migration or in-migration seen in the PRA. This is due to the less high educated persons available in the area. As education plays an important role in the migration factor. Higher education level increases the migration because people willing to go outside for better livelihood option. The family size also limited in this certain case migration from other place to another is seen negligible in the project area.</p> <p>5. <u>Financial Capital :</u></p> <p>Economic & Financial Capital indicates the capital base (cash, credit/debt, savings, and other economic assets, including basic infrastructure, production equipment and technologies) which are essential for the pursuit of any livelihood strategies.</p> <p>In the project area, it is seen that only limited number of people (2 percent of the total households) having their bank accounts. Other facilities like having health insurance, crop insurance, bank loans, availing micro finance is nil.</p> <p>In this case there is a need to improve the Economic & Financial Capital in the area by providing bank accounts, health insurance, crop insurance, bank loans, availing micro finance in order to improve the livelihood scenario of the area.</p>
Livelihood Context	<p>Livelihood activities of the Nabuday JFMC are identifies on the basis of following criteria:</p> <ul style="list-style-type: none"> • Contribution of particular livelihood activity in the total income of the JFMC • Percentage involvement of income group in a particular livelihood activities • Priority ranking of the potential livelihood activities

4. Livelihood Development Plan (LDP)

Income Generating Activities	<p>The main income generating activities as planned at the village are:</p> <p>Farm Sector :</p> <ul style="list-style-type: none"> • 1.poultry and piggery • Paddy cultivation <p>Non-Farm sector:</p> <ul style="list-style-type: none"> • Driving • Food processing.
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. Exposure to Agriculture University
Summary of Action Plan	<p>As attached in next page.</p>
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>

5.Action Plan Nabuday JFMC				
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	Training Programme on Livestock & Weaving.	1	Conducting Training	2,00,000.00
2	Skill Development Training Programme on Weaving.	1	Conducting Skill Development Training programme (40 days)	2,00,000.00
3	Training on Micro Enterprise	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 self-employment and placement		Hand holding support from CML experts through out the year upto march 2017	50,000.00
	Total			1,00,000.00
D. Value Chain Improvement				
C1	Product improvement Through Value Chain Improvement			
1	Value Chain Improvement in readymade	1	10 days Training on design diversification	50,000.00

		garment			
	C3	Supply of modern tools			
		Supply of modern tools for Weaving	7	supply of modern tools	1,50,000.00
		Supply of utensil for Livestock	15	Supply of spinning machine	70,000.00
	C4	Improved Production and Processing Capacity			1,30,000.00
		Total			4,00,000.00
E. Support for Access to Market					
	D1	Linkage with institutional buyers and/or govt. Organizations. (throughout the year)	2	Creating platform for buyers' and sellers' interactions (2 day)	80,000.00
	D2	Setting Up Ban Bazar	Throughout the year	linkage through van bazar	1,00,000.00
	D3	Exhibition Participation	1	Participation in one exhibition through forest department	1,20,000.00
	D4	Access To Other Geographical Markets	1	Exposure visit	1,20,000.00
	D5	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
Convergence	<p>The planned initiatives may be converged with the following schemes of the Government of India:</p> <ol style="list-style-type: none"> National Rural Employment Guarantee Scheme - for rural employment Rashtriya Krishi Vikas Yojana (RKVY) - for agricultural and allied developmental activities Rashtriya Krishi Sinchay Yojana (RKSJ) - for irrigation, including watershed development National Rural Livelihoods Mission 				

	<p>e. Skills Development schemes</p> <p>f. Other schemes for rural development and livelihoods as found appropriate.</p> <p>g. MGNREGA/Job Card related works with DRDA</p> <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>
--	---

6. Forest Development Plan (FDP)

This Forest Development Plan has been prepared after a detailed PRA exercise at the village level as a part of the Micro-Plan of Nabuday 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 Nabuday 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 Nabuday JFMC have been summarized below.

Table-1: Conditions of the Forests of Nabuday 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				
Along the periphery Area	30 Ha	0Km	Good Area: - 16Ha Degraded Area: 5 Ha	2-3m
(B) Other Planted Area				
To be allotted as per sanction amount in due course of time	632Hact. (NR474hact. IP-158)		Good Area: - Nil Degraded Area: Nil	
TOTAL				

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

It is seen that the Nabuday JFMC has 210 Ha under its forests, of which 160 Ha is '**Good**' and 50 Ha is '**Degraded**'.

1.2. Forest Soil Type

The forests of Nabuday 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 Nabuday JFMC

Parameter	Status in Assigned Forests	Status in Other Planted Areas
Fertility Level	2.3 to 2.94% organic. The available N, P205 and K20 content of the Soil is comparatively less.	-
Soil Erosion Status	-	-
Presence of:		
(a) Silt	24%	-
(b) Mud-flat	31%	-
(c) Newly accreted land	Low	-
(d) Sand dune	45%	-

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

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

1. Entisol (30.3%)
2. Inceptisol (51.3%)
3. Alfisols (11.3%)
4. Ultisols (7.1%)

1.3. Existing Composition of Flora

In the forests of the Nabuday 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 Nabuday JFMC

Parameter	Local Name(s)	Biological Name(s)
Major Forest Species	Teak	<i>Tectona grandis</i> Linn
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>
	Jati bet	<i>Calamus tenuis</i>

Others, if any	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.

2. Other Inputs for the Forest Development Plan

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

2.1. Past Protection Measures of the JFMC

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

- (a) Number of households involved: 183
- (b) Number of people involved: 183 (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]

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 Nabuday JFMC

Name of Forest Produce	Average Household Requirement		How met at Present	Source
	Frequency of Requirement	Approx. Qty		
Firewood	Frequent	60-75 kg		Forest
Timber for House	Once in a year	2nos.		Forest
Small timber for Implements	-	-		-
Pole / Bamboo	Once in a month	2-3 bamboo / per month		Forest
Fodder from Forest	Frequent	5-6 kg per day		Forest
NTFP	Frequent	2-3 kg per day		Forest
Other _____	-	-		-

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

There are 116Nos.households in the Nabuday JFMC. From the above table and this number of households, it is inferred that the total annual requirements of the Nabuday village for forest products for own use is as follows:

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

Name of Forest Produce	Community Requirement (Kg per annum) (*)	Remarks
Firewood	120700	Throughout the year
Timber for House	116 nos.	Dec – Jan
Small Timber for Implements	-	-
Pole / Bamboo	730 bamboo	Dec – Jan
Fodder from Forest	140800	Throughout the year
NTFP	204000	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

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 Nabuday JFMC is given in the following table.

Table-5 (A): Collection & Marketing of Forest Produce by Villagers of the Nabuday 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	183	4320	Forest
Timber for House	Dec – Jan	183	4 nos.	Forest
Small timber for Implements	-	-	-	-
Bamboo	Dec – Jan	183	16 nos.	Forest
Pole	-			
Fodder from Forest	Throughout the year	183	8 kg per day	Forest
NTFP	Throughout the year	183	9-11 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 (B): Collection & Marketing of Forest Produce - Additional Information [Nabuday JFMC]

Name of Forest Produce	Surplus Marketed (Kg)	How marketed	Average Income per HH from sale of Forest Produce
Firewood	117000 kg/year	Local Market	1800-2100/month
Timber for House	-	-	-
Small timber for Implements	-	-	-
Bamboo	22-40 pc/month	Local Market	800-1250/month
Pole	-	-	-

Fodder from Forest	1200 kg /year	Local Market	900-1400/month
NTFP	-	-	-
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 Nabuday JFMC have been summarized below - based on the information in the previous sub-sections.

Refer to: 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 Nabuday JFMC have been summarized below.

- **Table-7: Protection Problems of the Nabuday 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

3.2. Reasons for Degradation of the Forest

In the Nabuday 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]

4. Components of the Forest Development Plan

The following sub-sections discuss the main components of the Forest Development Plan of Nabuday 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 Nabuday JFMC from the issues discussed earlier at Sub-section 3.1

Table-8: Protection Plan of the Nabuday 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.	3 km	6pm-6am	High
2. Informers award	R.F.	3km	Anytime	High
3. Fire Protection	R.F.	3km	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 Nabuday JFMC (with high / medium priority) are as follows:

- (a) Fencing
- (b) Fire protection

4.2. Types of Operations Proposed

The types of operations proposed for the treatment of degraded areas of the JFMC Forest of Nabuday JFMC are given hereunder.

Table-9: Types of Operations Proposed in the Nabuday 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	200 Ha

Treatment	Required (Yes/ No)	Responsibility of JFMC (Yes / No)	Month / Year when can be done	Extent of Area proposed for Treatment (Ha)
Protection to Cut Stumps of Trees	Yes	Yes	All the Year	200 Ha
Watershed Treatment	Yes	Yes	All the Year	5 Ha
Water Reservoirs	Yes	Yes	All the Year	5 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	-
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	200 Ha
Social Fencing	Yes	Yes	All the Year	200 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 Nabuday JFMC:

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

4.3. Forest Improvement Plan - Advance Works & Creation

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

Table-10: Forest Improvement Planned in the Nabuday JFMC

Treatment	Area in Ha under Plantation Module	Priority for Block Plantation	Species	Spacing (metre x metre)
Assisted Natural Regeneration (with plantation in gap)	45 Ha ANR by APFBC	-	Non Sal NTFP	2/2
Block Planting	-	-	-	-
Sowing of Neem, Amla,	15	-	Medicinal Plants	-

Treatment	Area in Ha under Plantation Module	Priority for Block Plantation	Species	Spacing (metre x metre)
Mahua, Bahera (Medicinal Plants)				
Enrichment Plantation/ Sowing	-	-	-	-
Direct Plantation	-	-	-	-
Other	-	-	-	-
Total Area (in Ha.)	60 Ha	-	-	-

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

4.4. Forest Improvement - Annual Targets

5. Table-10 (A) and (B): Annual Targets of Forest Improvement in Nabuday 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	596400

	season of April-June ; GPS marking of the area	
	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 (in Rs.)
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 Budgetary Requirement		2149586

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

5.1. Nursery Development Plan

The Nursery Development Plan for the Nabuday 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 Nabuday JFMC. This includes the Departmental Nursery involved in JFMC works.

Table-11 (A): JFMC Nurseries of the Nabuday JFMC

Location of Nursery	Species	Year of Development	Number of Seedlings	Remarks
Nabuday JFMC	Varieties	2016	7,20,000	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 Nabuday JFMC.

Table-11 (B): Other Nurseries near the Nabuday JFMC

Name of Nursery	Species	Year of Development	Number of Seedlings	Remarks
Nabuday JFMC	Varieties	2016	7,20,000	Proposed

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

5.2. Maintenance Plan - 10 Years

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

(A) Timber Species, Gameri, Tik

Table-12 (A): Maintenance Plan of Teak Plantation in the Nabuday 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

(B) Bamboo

Table-12 (B): Maintenance Plan of Bamboo Plantation in the Nabuday 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

(C) Fuel wood Plantation

Table-12 (C): Maintenance Plan of Fuel Wood Plantation in the Nabuday 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

(D) NTFP / Medicinal Plantation

Table-12 (D): Maintenance Plan of NTFP / Medicinal Plantation in the Nabuday 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

Year(s)	Treatment
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

5.3. Miscellaneous Operations Plan

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

Table-13): Miscellaneous Operations in the Nabuday 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 Nabuday 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 Nabuday JFMC, as well as the sharing mechanism for the usufruct benefits.

5.4. Expected Benefits Related to Wood & Grass

The above has been tabulated below for the Nabuday 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 Nabuday JFMC

Item	Month	Year (Indicative)	Quantity
Firewood	12 month		65-75 Kg/month
Timber for House	-	-	-
Small timber for Implements	-	-	-
Bamboo	12 month	32-40 pc/ month	700 -1250 Kg/month
Pole	-	-	-
Fodder from Forest Trees & Grass	12 month	-	1600-2000 Kg/month

5.5. Nursery Development Plan

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

- (c) JFMC Nurseries (incl. Departmental Nursery)
- (d) Other Nurseries - SHG & Private.

The details are given below.

JFMC Nurseries

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

Table-11 (A): JFMC Nurseries of the Nabuday JFMC

Location of Nursery	Species	Year of Development	Number of Seedlings	Remarks
Nabuday	Varieties	2016	7,20,000	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 Nabuday JFMC.

Table-11 (B): Other Nurseries near the Nabuday JFMC

Name of Nursery	Species	Year of Development	Number of Seedlings	Remarks
Nabuday JFMC	Varieties	2016	7,20,000	Proposed

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

5.6. Maintenance Plan - 10 Years

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

(E) Timber Species Sal , Gamera, Tik

Table-12 (A): Maintenance Plan of Teak Plantation in the Nabuday 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

(F) Bamboo

Table-12 (B): Maintenance Plan of Bamboo Plantation in the Nabuday 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

Year(s)	Treatment
	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

(G) Fuel wood Plantation

Table-12 (C): Maintenance Plan of Fuel Wood Plantation in the Nabuday 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

(H) NTFP / Medicinal Plantation

Table-12 (D): Maintenance Plan of NTFP / Medicinal Plantation in the Nabuday 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

Year(s)	Treatment
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

5.7. Miscellaneous Operations Plan

The miscellaneous operations planned in the JFMC are give Nabuday below.

Table-13): Miscellaneous Operations in the Nabuday 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)Prootion 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 Nabuday 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 Nabuday JFMC, as well as the sharing mechanism for the usufruct benefits.

5.8. Expected Benefits Related to Wood & Grass

The above has been tabulated below for the Nabuday 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 Nabuday JFMC

Item	Month	Year (Indicative)	Quantity
Firewood	12 month		65-75 Kg/month
Timber for House	-	-	-
Small timber for Implements	-	-	-
Bamboo	12 month	32-40 pc/ month	700 -1250 Kg/month
Pole	-	-	-
Fodder from Forest Trees & Grass	12 month	-	1600-2000 Kg/month

5.9 Sharing Mechanisms

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

Table-15: Sharing Mechanism for Nabuday JFMC

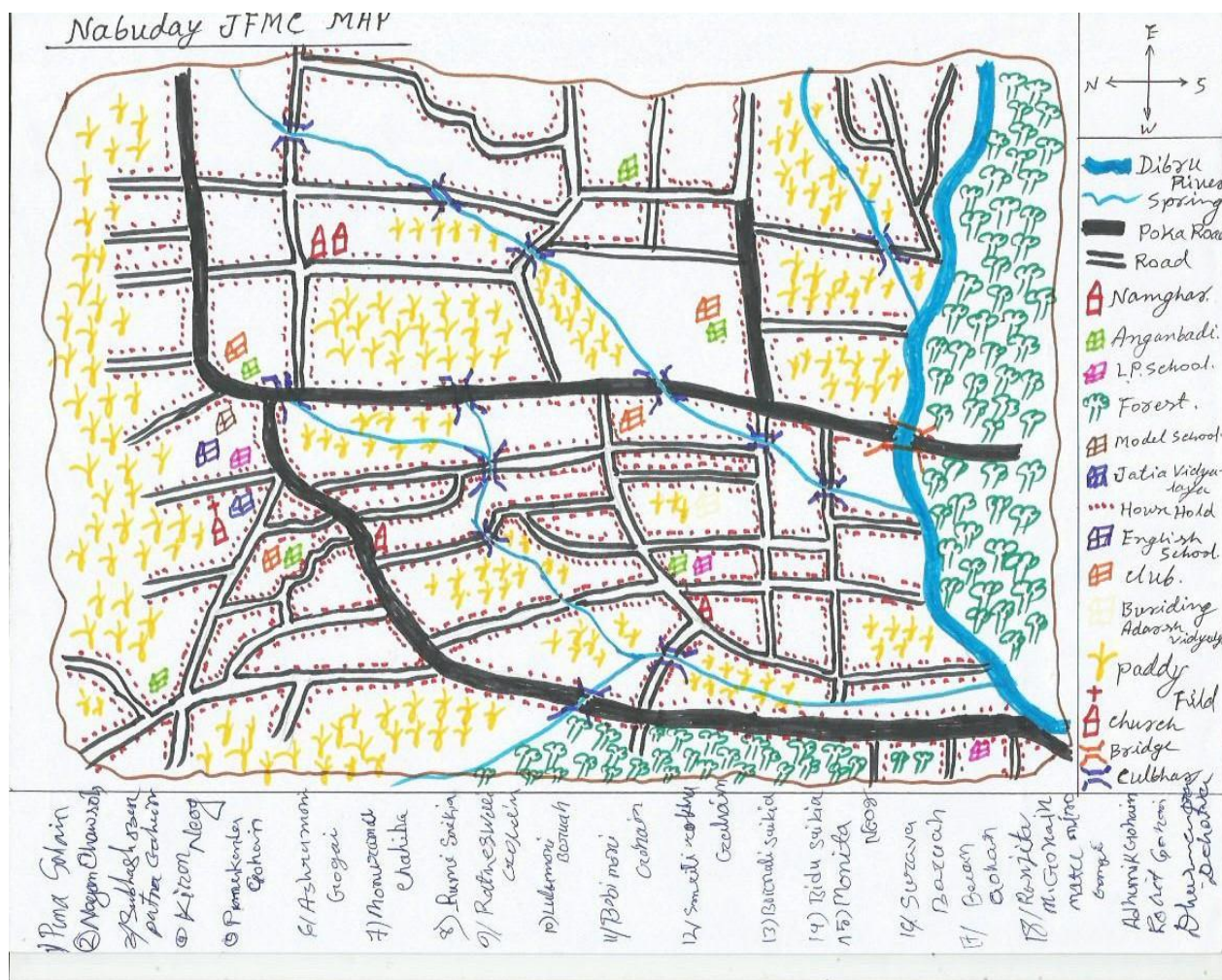
Method	Items
To be shared equally	NTFP, firewood(as revenue sharing)
To be freely collected by the members	Firewood,
Other Methods	Processing of NTFPs

List of Appendices

Annexure No.	Heading	Page No.
1	Maps: <ul style="list-style-type: none"> • Social Map • Resources Map • GIS Map 	
2	PRA Exercise <ul style="list-style-type: none"> • Focussed Group Discussion • Seasonality Analysis • Social Mapping • Wealth Ranking • Venn Diagram • Chapatti Diagram • Priority Ranking and EPA 	
3	Photographs	
4	List of JFMC Members	
5	Filled Up Tables- Proforma 1 to 4 (Table 1-37)	

Annexure- 1

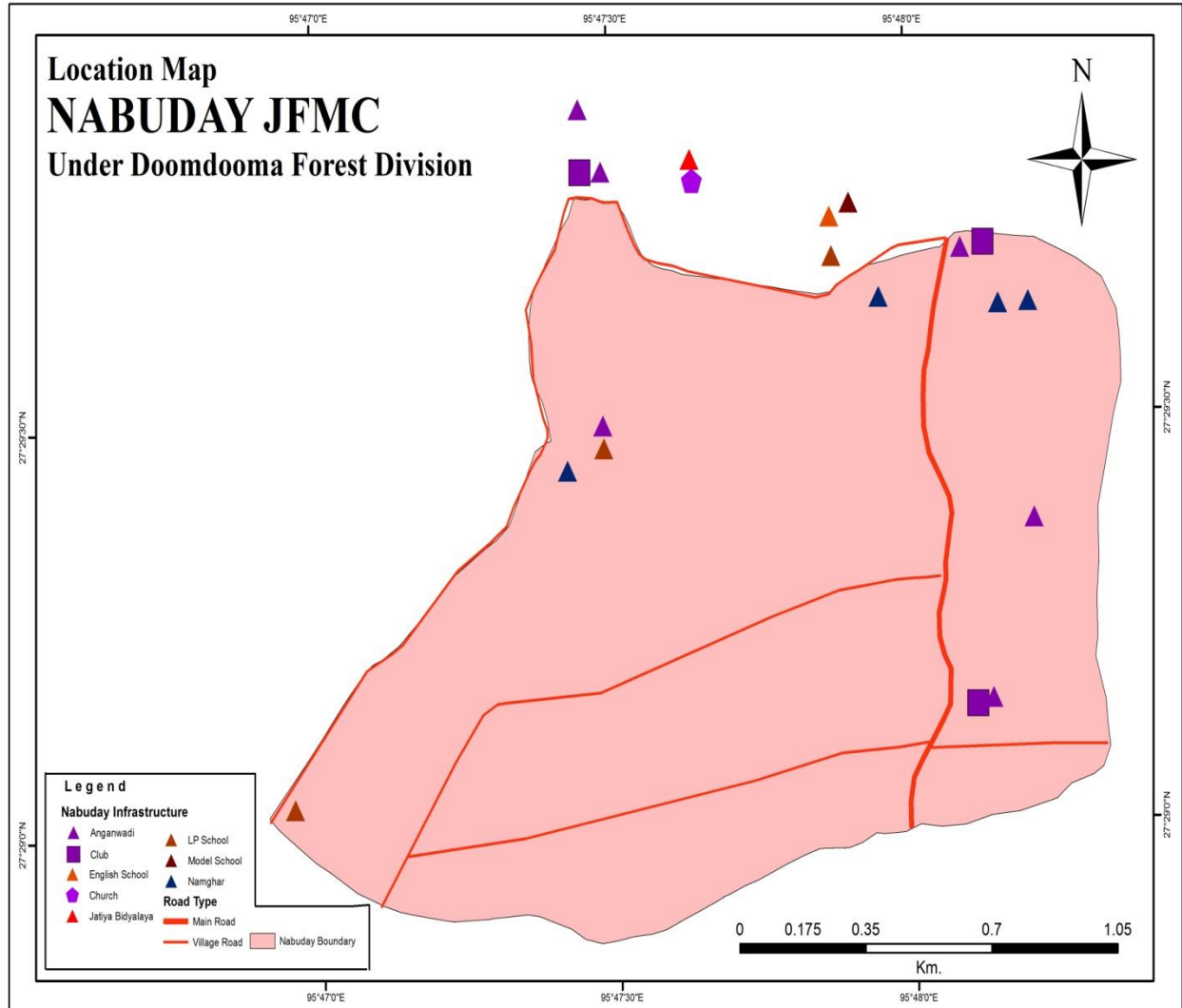
1. Social Map



2. Resource Map



3.GIS Map



Annexure- 2: PRA Activities

Location and Timing of PRA

Numbers of participants :	51
Time :	1:00 pm
Venue :	Community Hall

Table – 2.1 Brief about the villages under Nabuday JFMC

Sl. No.	Name of village	Households (No.)	Population (No.)		
			Total	Male	Female
1	Dibrujan	180	712	466	454
2	Kothalguri	140	340	158	172

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

- Focussed Group Discussions
- Seasonality Analysis
- Social Mapping
- Wealth Ranking
- Venn Diagram
- Chappati Diagram
- Priority Ranking – EPA and Livelihood

a) Focussed Group Discussion:

The entire FGD were centred on the elements of rural economy namely- primary livelihood options of the JFMC, agriculture, livestock, skill-sets, available support services, infrastructure etc. and also considering the important determinant of the presence of forests area all around. These factors have been blended well before extracting the information out from the respondents.

Findings from FGD

- The existing livelihood options available in the JFMC villages are daily wage labour and a few private jobs. Agriculture is not prevalent in the JFMC, only about 6% of the families cultivate paddy which is mainly rain fed.
- Some of the emerging livelihood options are mid-scale poultry and wage labour in the nearby tea gardens.
- There is no support services available in the field of agriculture.
- The villagers rear cow, duck, local poultry and pig. Almost in 90% of the cases, it is mostly the womenfolk who looks after the reared livestock. However, the villagers face serious challenges like outbreak of diseases, attack of wild animals etc. while rearing livestock.

- There is no support services provided by the Government authorities in ensuring proper rearing of livestock. Even the veterinary sub-centre available in Doomduma is non-functional.
- Some of the traded where the villagers are skilled at are weaving, masonry, bamboo craft, electrician, plumbing etc. In few of these courses, the villagers have been provided basic training as well under the Forest Department project.
- Some of the Government schemes through which some of the villagers have been benefitted are MGNREGA, IAY, provision of tube-well etc. However, these benefits have covered only 20-30% of the villagers.

b) Seasonality Analysis

Seasonality analysis was done to generate information about and identifying periods of particular stress and vulnerability. In the context of a group discussion with respondents during the PRA, parameters such as expenditure, income, credit and savings were probed in sync with the factors such as employment trend, health conditions, education etc. associated with its increase or decrease in one's households.

Expenditure & Income

Children's education is also a component where most of the households spend during the start of the year. It is especially during the months of January to March when the new academic session of schools begin and apart from admission fees, the people also spend on buying new uniforms, textbooks and stationaries. The community also spends during April as it marks the onset of festival of Bihu. Again, for those engaged in paddy cultivation spends significantly during sowing season starting May till July along with harvest season starting in the months of October till December.

When it comes to income, it is seen that selling of paddy, arecanut and livestock provides a good source of income to the villagers in the months of October and November. Those are engaged as daily wage labour in nearby tea estates earn good amount of income in the months of June and July as these months are considered to be peak season for plucking.

Savings and Credit

It was mostly found that amount of savings increases with the increase in income and most of the dwellers resort to institutional savings with likes of Post Office and bank savings. It is to be noted that the rate of interest for credit varies between group inter-loaning and outside members.

Seasonality of Engagement_ Farm Activities

Crop	Cultivating	Harvesting
Paddy	May-July	October- December

Seasonality of Engagement_ Non-Farm Activities

Engagement	Period of Engagement
Daily Wage Labour	April-August
Masonry	September-March
Petty business	Throughout the year
Mason	August to March
Other Private Service	Throughout the year

c)Social Mapping:

The social mapping activity was carried out to visualise the socio-economic aspects of the household under the JFMC villages. The mapping identified the housing patterns of the households, availability of schools, social infrastructure, religions and beliefs of the communities etc. Prior to social mapping an awareness camp was organised within the villages with an objective to gather villagers for PRA. The villagers were actively participated in the PRA activity. Initially, 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.

Table-3.1: Information about the villages

Social information	Village	Dibrujan	Kathalguri
	Total Population	920	340
	Male	454	158
	Female	466	172
	Total households	180	140
	Numbers of semi pucca Houses	20	17
	Numbers of Pucca Houses		
	Numbers of IAY Houses		
Landmarks	Bridges		
	Stream	Nil	
	River	Nil	
	PHC	1(Not functioning)	
	Power Transformer	-	
	Community hall		
	Primary School	2	2
	Anganwadi Centre	4	3
	ME, High School &		

- Under social mapping study a total of 115 households have been identified. Out Of which only 25 houses are pucca houses (bricked wall)
- Other than the class based division of the households, important places like community hall, primary schools, anganwadi centre and playground, religious institutions etc. were mapped.
- Main sources of water for the villagers are the tube-well which is used by villagers as a source of drinking water and for their day to day use.

- Provision of Education facility up to primary level is satisfactory in the village as there are 4 primary schools in two villages along with Anganwadi centres. However, for ME & High School, the students have to go upto 4-5 kilometers.

a) Seasonal Mapping of livelihood activities:

Seasonal calendars were drawn to generate information about and identifying periods of particular stress and vulnerability. In the context a group discussion with villagers were organised, using stones or seeds, as in a preference-ranking matrix. For instance, simple line graphs were drawn to show seasonal increasing or decreasing trends. Seasonal variables like-rainfall, crop sequences, labour demand, availability of paid employment, out-migration, incidence of human diseases, expenditure levels etc., has been considered. Besides, important periods, such as festivals have also been included.

Findings from Seasonality Analysis: To find out the status of household income, expense, savings and credit, both qualitative and qualitative research tool namely- Seasonality Analysis (SA) was carried out in sync with Focus Group Discussion in the JFMC villages. **Appendix-2** furnishes detailed information of the above.

Key Findings:

The FGD conducted revealed that the major livelihood options available in the JFMC are agriculture, Government and Private Job, weaving, livestock rearing and daily wage labour. One of the recent livelihood options which according to the respondents have emerged in the last 3-4 years has been the engagement of some village youth in owning and running auto-rickshaws or small-sized commercial transport carrier such as Tata Ace.

Agriculture: Agriculture is the primary occupation of the people in the JFMC and the principle crop cultivated is paddy which is also the staple diet of the people. People also take up seasonal vegetable cultivation in their backyard homestead gardens and the produce is mostly for self-consumption. However, a few families also take to commercial vegetable cultivation. Mostly, people engaged in *Sali* paddy cultivation are busy in the months starting from June until the harvest is done in November-December

Challenges in Agriculture: Agricultural produce to a great extent depend on the type of soil, inputs like- high yield variety seeds and fertilizers, capital investment and also a good linkage with the different schemes of government, institutions etc. But, the study in the area brought into light problems particular to this area and expressed as serious by the villagers engaged in agriculture. Some of the problems expressed by the villagers are as follows:

- The trespassing of elephants in the paddy fields especially during harvest season has been expressed as one of the major problems faced by the farmers. The herd of elephants attack the fields mostly during the peak season because of which many lose their desired harvest.
- Poor irrigation is problem in the area. Recession of ground water level and low retention of rain water are causing water shortage problem for paddy cultivation. The respondents pointed out that the farmers in their own ways have been managing irrigation for their farm lands which is not sufficient in most cases.
- Also, villagers even if they want to take up homestead gardening as a commercial activity, can't take up owing to lack of irrigation facilities.

- The villagers lack the know-how on scientific agricultural technical application for ensuring better agricultural productivity

Livestock Rearing/Holding: Livestock is a key component in the economic growth of the JFMC. Most of the members are involved in rearing of goat, pigs, poultry and cows.

Challenges in livestock rearing:

- The Government veterinary care service in the area does not reach the villagers in most cases. The villagers have to take recourse to private veterinary services which are often costly for them. The veterinary doctors including the Government doctors charge high fees each time they visit. Some of the respondents also expressed that due to poor vet-care service, they have learnt from private clinics how to vaccinate and even provide medication to their livestock. In some of the places where people have started undertaking small scale or mid-scale poultry, lack of technical guidance and medication are acting as a great problem in scaling up the activities.
- Piggery is said to be the most profitable livestock but due to the high intensity in the outbreak of diseases, the villagers find it difficult to rear it on a large-scale. The pigs get sick with the change in season. Most prevalent diseases are swine fever, diarrhoea, and paralysis. Even in case of poultry, prevalence of avian flu is common and the situation becomes such that once the outbreak take its toll, most of the villagers sell their poultry at very lower prices
- **Non-Farm Livelihoods:** The number of available trained or skilled resources has been found to be very less in the JFMC. It was also expressed by some of the villagers that a few of them have also been trained in cane and bamboo craft but have not been able to pursue it as a livelihood option. Villagers are interested in taking up trainings on weaving, embroidery, soft toy making, LMV training and fabric painting

Challenges of Non-farm Activity

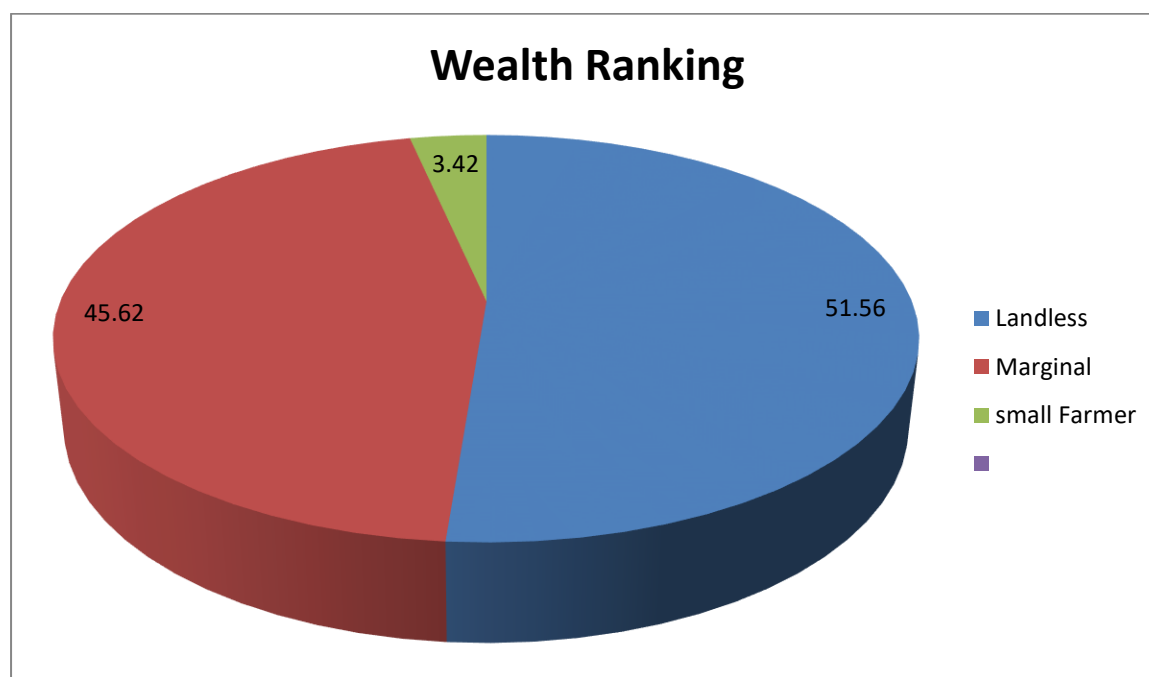
- The villagers engaged with craft and other activities are having low entrepreneurial Spirit. This can be attributed to the fact that, the artisans are having low level of education, lack of exposure and awareness regarding prospect of entrepreneurship income and employment generation.
- Non-availability of tools and machineries is another major impeding factor for the growth of non-farm activity in the JFMC villages.
- Absence of storage facilities of the raw material and finished products.
- Absence of adequate market and marketing channels

Wealth Ranking

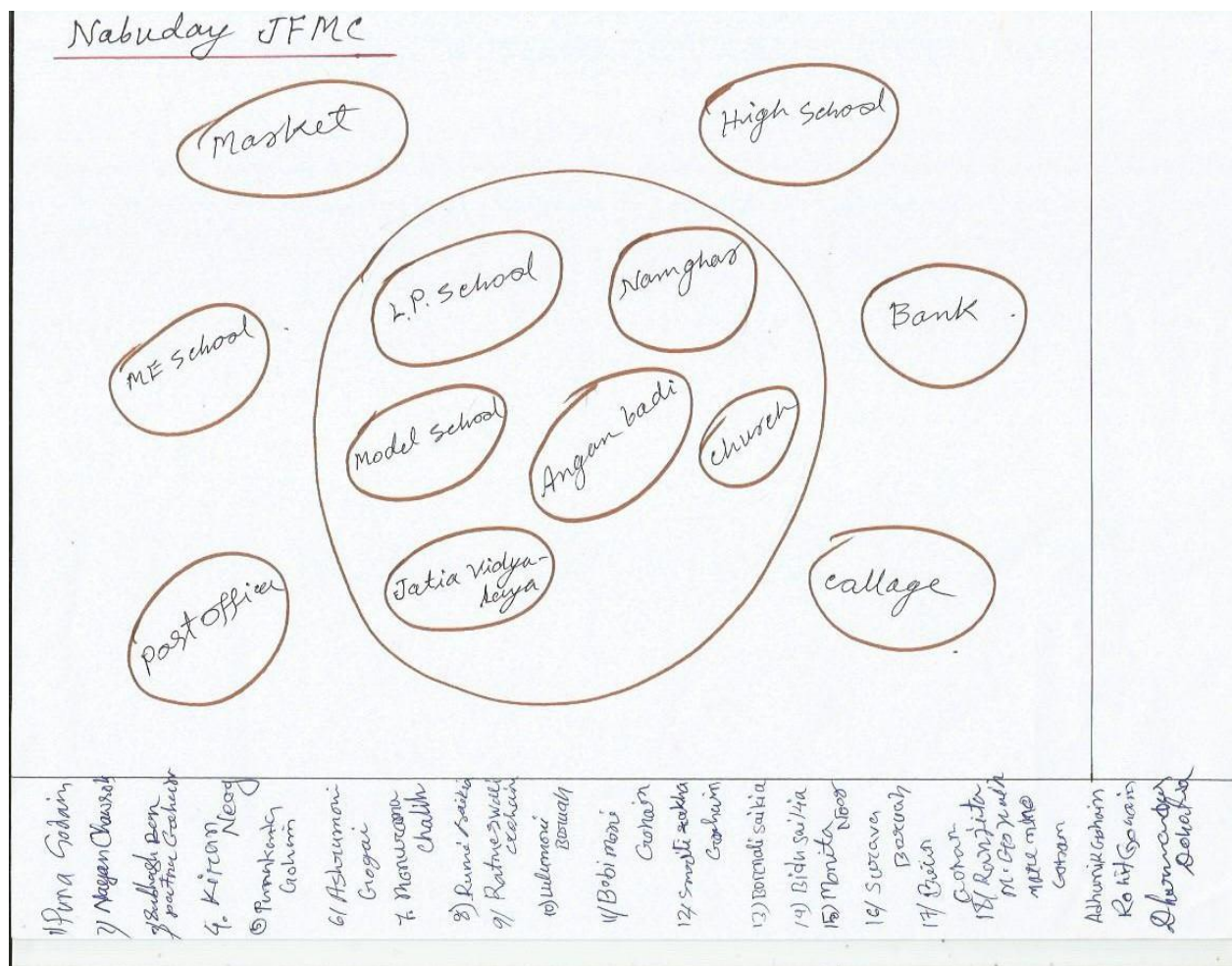
Wealth ranking, or well-being ranking, involves community members identifying well-being. Wealth ranking was done with the help of the following information about the households

- a) Occupation/livelihood
- b) Land holding
- c) Types of living house
- d) Ownership of assets

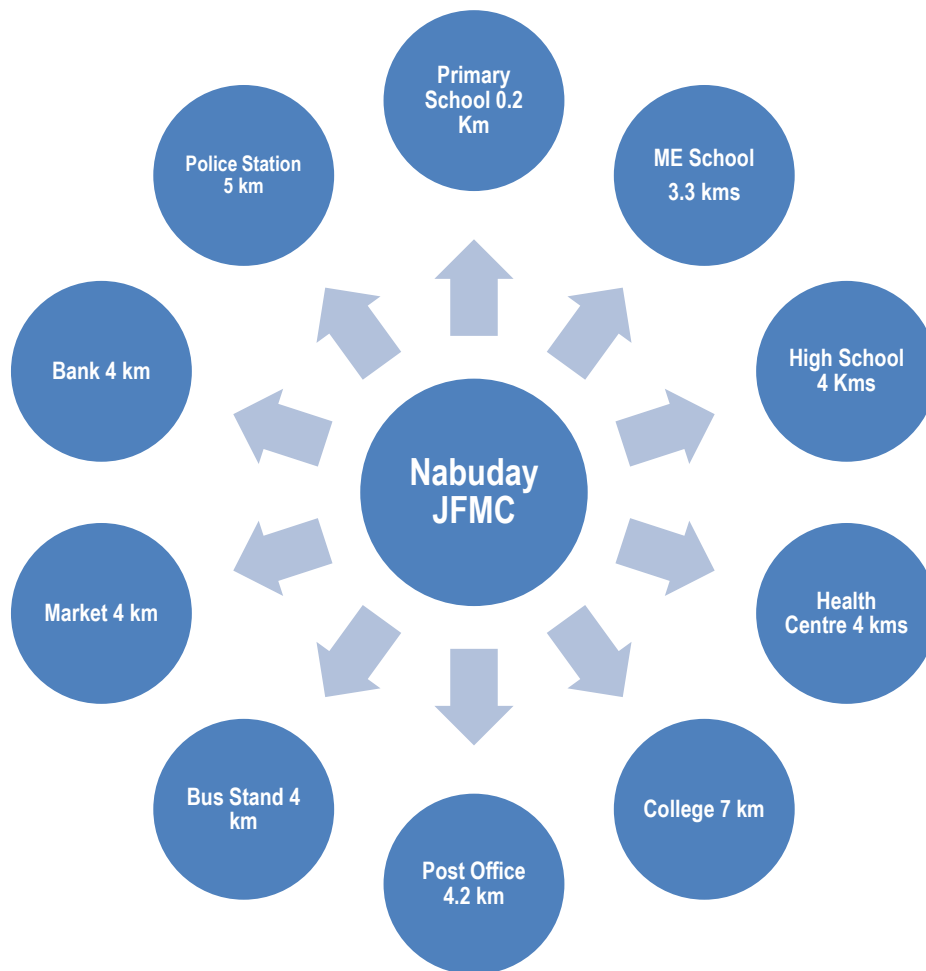
As such it is found that about 51.56 % per cent people are poor, about 45.62% per cent are belonging to middle class and about 3.43% per cent are categorized to be rich. Poor people are mainly irregular wage earners and mostly mortgage land for the paddy cultivation. Rich people are mainly involving in tea cultivators and paddy cultivators with good amount of agricultural land. They also have televisions sets, two wheelers, and four wheeler etc. Middle class people are doing cultivation of Tea, horticulture products as well as of paddy with own agriculture and analysing the different wealth groups in a community. It enables evaluators to learn about the socio-economic stratification of project beneficiaries and local people's definitions and indicators of wealth/land along with mortgaged lands.



Venn Diagram



Chapatti Diagram



Priority Ranking- EPA

Priority Matrix of Nabuday for Entry Point Activity

Nabuday JFMC EPA Ranking

EPA	Vermi Composite (A)	Food prn (B)	Mush prn (C)	Drinin (D)	Wear (E)	Diew (F)	Maty	Rank
Vermi Composite (A)	X	A	A	A	A	A	5	1
Food prn (B)		X	B	D	B	B	3	2
Mush prn (C)			X	C	C	C	3	2
Drinin (D)				X	D	D	2	3
Wear (E)					X	E	1	4
Diaty (F)						X	0	5

1) Pong Gahim	16) Gahim	31) Gahim	46) Gahim	61) Gahim	76) Gahim	91) Gahim	106) Gahim	121) Gahim	136) Gahim	151) Gahim	166) Gahim	181) Gahim	196) Gahim	211) Gahim	226) Gahim	241) Gahim	256) Gahim	271) Gahim	286) Gahim	301) Gahim	316) Gahim	331) Gahim	346) Gahim	361) Gahim	376) Gahim	391) Gahim	406) Gahim	421) Gahim	436) Gahim	451) Gahim	466) Gahim	481) Gahim	496) Gahim	511) Gahim	526) Gahim	541) Gahim	556) Gahim	571) Gahim	586) Gahim	601) Gahim	616) Gahim	631) Gahim	646) Gahim	661) Gahim	676) Gahim	691) Gahim	706) Gahim	721) Gahim	736) Gahim	751) Gahim	766) Gahim	781) Gahim	796) Gahim	811) Gahim	826) Gahim	841) Gahim	856) Gahim	871) Gahim	886) Gahim	901) Gahim	916) Gahim	931) Gahim	946) Gahim	961) Gahim	976) Gahim	991) Gahim	1006) Gahim
---------------	-----------	-----------	-----------	-----------	-----------	-----------	------------	------------	------------	------------	------------	------------	------------	------------	------------	------------	------------	------------	------------	------------	------------	------------	------------	------------	------------	------------	------------	------------	------------	------------	------------	------------	------------	------------	------------	------------	------------	------------	------------	------------	------------	------------	------------	------------	------------	------------	------------	------------	------------	------------	------------	------------	------------	------------	------------	------------	------------	------------	------------	------------	------------	------------	------------	------------	------------	------------	-------------

Priority Ranking- Livelihood Activity

Priority Matrix of Nabuday for Potential Livelihood Activity

Nabuday JFMC Livelihood Ranking.

Livelihood	Agriculture (A)	Horticulture (B)	Tea (C)	Wage (D)	Burn (E)	Livestock (F)	Mark	Rank
Agriculture (A)	X	A	A	A	A	A	5	1
Horticulture (B)	X	X	B	B	B	B	4	2
Tea (C)		X	X	D	C	C	2	3
Wage (D)				X	D	D	2	3
Burn (E)					X	E	1	4
Livestock (F)						X	0	5

1) Poma Gohain	2) Nagan Chasiboti	3) Bishesh pany Pooter Gohain	4) Kiran Neog	5) Purnakanta Gohain	6) Ashaunoni Gogoi	7) Manuwan Chalika	8) Luvu Batab	9) Ratneswari Gohain	10) Kulmori Dorah	11) Bobi mori Gohain	12) Soneta Gohain	13) Botnoli Sankha	14) Bida Sankha	15) Monila Neog	16) Suruan	17) Bexuan	18) Banta Gohain	19) Raniwta m. Banta	20) m. Banta m. Banta	21) Ashank Gohain	22) Rohit Gohain	23) Pharnadiy Dohain
----------------	--------------------	----------------------------------	------------------	-------------------------	-----------------------	-----------------------	---------------	-------------------------	----------------------	-------------------------	----------------------	--------------------	-----------------	--------------------	------------	------------	------------------	-------------------------	--------------------------	-------------------	------------------	-------------------------

Annexure-3

Photographs







Annexure-4
List of JFMC Members

- 1. Jogeswar Moran – President (8876955025)**
- 2. Mridul Kakoti – Secretary (9957077426)**
- 3. Puna Gohain – Member (9859297288)**
- 4. Mithu Baruah – Member**
- 5. Jiban Sonowal – Member**
- 6. Archana Gohain – Member**
- 7. Anupama Gohain – Member**
- 8. Dipali Dohotia – Member**
- 9. Nirab Dohotia – Member**
- 10. Subha Barpatra Gohain - Member**

Annexure-5

(Record I)

Table- 1: Basic data of the village:

Brief about the villages under Nabuday JFMC

Sl. No.	Name of village	Households (No.)	Population (No.)		
			Total	Male	Female
1	Dibrujan	180	920	466	454
2	Kathalguri	140	340	158	172
	Total				

Table -2 Village wise population data

Name of the village	No. of HHs	MOBC		ST		OBC		General		Total of all Category
		Male	Female	Male	Female	Male	Female	Male	Female	
Dibrujan	180	229	228			236	227			920
Kathalguri	140	82	88			86	84			340
TOTAL	320	311	316			322	311			1260

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

Sl. No.	Name of Village	Type of farmers according to land holding				Total
		Large Farmers >10 Hact.	Small Farmers 2 to 10 Hact.	Marginal Farmers < 2 Hact.	Landless	
1	Dibrujan		6	84	92	180
	Kathalguri		5	62	73	140
	Total		11	146	165	

Table- 4: Cattle Population

JFMC	Cows	Goats	Cocks/Hens	Bulls/Oxen	Duck	Pigs	Horse
Dibrujan	128	303	787	155	192	16	
Kothalguri	126	205	586	80	160		

Table- 5: Village wise Infrastructure:

Head	Particulars	Additional Information
Institution Name	Nabuday JFMC	President: Jogeswar Moran (Member Secy : Mridul Kakoti)
Year of Formation	June, 2015-16	Formed by forest department and villagers
Division	Doomduma Forest Division	15 kms from Nabuday JFMC
Range Office	KhtangPani	4 kms from Nabuday JFMC
Number of Executive Committee members	10	Male 7- Female -3
Names of cluster/villages under JFMC	1	Nabuday
Total no. of Households	320	
Residing Communities	Ahoum Moran ,Adavasi	
Nearest LP School	4	0 km
Anganwadi Kendra	7existing in the Village	0 km
Church/Temple/Namghar	1 Mandir, 4 Nam Ghar 1 Church	0 km
Nearest ME School	Khatangpani	5kms from the JFMC
Nearest High School	High School	7 kms from the JFMC
Nearest College	Doomduma College, (5kms)	
Nearest Hospital	Sub-centre (1 km) Digboi	20kms from the JFMC
Nearest Police Station	Digboi PS	1 5 kms from the JFMC
Nearest Post Office	Digboi	15 kms from the JFMC
Nearest Market	Dordungsha	15 kms from the JFMC
Approach Road	Through Digboi	15km

Table- 6: Agricultural crops

	Rain Fed		Irrigation	
	Name of the crop	Area (in ha.)	Name of the crop	Area (in hac)
Kharif	Sali rice,	30.5	NA	
Rabi	Mustard, leafy vegetables	Household use	NA	

Table -7: Crop production profile

Crop production profile

Type of crop	Total Production (approx) in quintals	No of household growing	Average production (quintal/ hac) approx	Area under crop (hac) approx
Paddy		396	22.42	30.5
Tea		396	4.98	16.05
Vegetable	288	53	22.32	12.9

Table -8: Fodder Availability

Types	1-3 months	3-6 months	>6 months
Crop Residue	√	--	--
Trees Fodder	--	--	√
Grasses	√	--	--
Green Fodder	--	√	--
Grazing in Forest	√	--	--

Table -9: Location of market from the village

For Purchase	Location	Distance from village if in other village (in km)
Grocery shop	Nabuday,	1
Weekly Market	Nazirating tea estat	4
Major Market	Khatangpani	4
Forest Corporation Sale Depo	NA	
Tendu Patta PHAD	NA	
Fish Market	Khatangpani	4

Medicinal Plant collection Centre	NA	
Forest Corporation Medicinal plant Collection Center	NA	

Table -10: Water Resources Facility

Water Source	Number	Water Availability	Uses
Water Harvesting Structure	NA		
Hand pump	320	Perennial	Drinking
Spring	1		
Pond		Seasonal	Washing and Kitchen Gardening

Table -11: Energy Consumption

Type of Fuel	Number of household depending	Number of months dependent	Sources (local, village, forest, other sources)	Major/ Secondary
Fuel wood	320	12	Forest	Major
Kerosene stove	320	4	Market	Secondary
Gobar/Bio gas	NA			
LPG	32	3	Market	Secondary
Electric Heater	NA			

Additional Tables

Table- 12: Income Distribution

Table -12: Income distribution of the households

Categories		No. of households in each category
BPL	below 25000	165
APL	25000-50000	146
	above 50000	11

Table -13: Education Status

Level of Education	Name of Villages	
	Dibrujan	Kothalguri
Illiterate	45	66
I-IV	61	106
V-VII	15	22
VIII-X	0	10
XI-XII	15	0
Graduate	0	0
Post Graduate	0	0
Total	136	204

RECORD: II

LIVELIHOOD OPPORTUNITY ANALYSIS

Table -12: Agriculture and Horticulture:

Constraints	Reason	Opportunities	Programme
Low Production/ Collection	<ul style="list-style-type: none">• Degraded fertility level of the paddy land due to tea Cultivation• Negligible knowledge for organic farming• No use of HYV seeds• Lack of irrigation facilities• Negligible use of modern machineries like tractor, power tiller etc.• Not driven by the market demand	<ul style="list-style-type: none">• Use of irrigation facilities, modern machineries which directly lead to increase production• Application of HYV (high yielding variety) seeds	<ul style="list-style-type: none">• Training on organic farming• Provide training on the application of modern seeds, machineries etc.• Provide credit facilities to buy modern machineries.
Storage and Processing	<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	
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">• Buyer seller meet

Table -13: Livestock

Constraints	Reasons	Opportunities	Programme
Less grazing land	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"> • Faster growth of cattle • Higher income from livestock rearing 	
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 • encourage livestock rearing for earning purpose 	
Production of milk	<ul style="list-style-type: none"> • Less availability of fodder • No scientific knowledge about the cattle rearing for increasing milk production 	<ul style="list-style-type: none"> • High demand for milk products • Availability of supplements to cattle like “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 demanded market for milk is available as Kokrajhar district head quarter and West Bengal state is too far from the JFMC. 	

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"> NA 	<ul style="list-style-type: none"> Availability of fertile fallow land 	
Low rates	<ul style="list-style-type: none"> NA 		
Value addition	<ul style="list-style-type: none"> No processing units Non availability of required resources No technical know-how 		

Table-15:Specialized Skills

Constraints	Reasons	Opportunities	Programme
Raw material availability	<ul style="list-style-type: none"> Non-Availability of Raw Materials within reachable location No Storage 	<ul style="list-style-type: none"> Common place for setting a raw material storage Strengthen the commercialisation 	<ul style="list-style-type: none"> Setting up raw material bank
Product quality	<ul style="list-style-type: none"> Lack of research on product quality Shortage of high quality materials Depend on traditional machineries. No use of modern machinery and equipment Lack of TQM techniques. Lack of innovation in product development 	<ul style="list-style-type: none"> Increase productivity Optimal use of manpower Use of modern machinery and equipment Improvement of quality and designs by comparing their products with those of others' artisans in the fairs/seminars/expos 	<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 proper market for hand made products No pricing policy No direct contact with the institutional buyers 	<ul style="list-style-type: none"> Better price for the products Expansion of market 	<ul style="list-style-type: none"> Establish link between buyers and sellers Marketing provision for participation in national and international seminars/expos Intervention in the form of engagement of market consultant

			Introduction of product catalogues
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"> 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 Up gradation & Training on New Product Development and Product Diversification

Table-16: Credit Facility

Constraints	Reason	Opportunities	Programme
Indebtness	Nil	<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 	<ul style="list-style-type: none"> Microfinance, Term Loans, Working Capital Arrangement
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 	

Divisional Forest Officer
Doomdooma Division
Doomdooma

