

**AGBANDHA JOINT FOREST MANAGEMENT COMMITTEE (JFMC)
DIGBOI FOREST DIVISION**

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

**Prepared by
Agbandha Joint Forest Management Committee**

**Assisted by
Assam Forest Department
&
COMPELO
(IIE & RGVN)**

June 2017

Approved

[Signature]

**Divisional Forest Officer
Digboi Division, Digboi
Tinsukia, Assam**

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 & 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>

Micro-Plan for the Agbandha JFMC	<p>This document gives the Micro-Plan for the Agbandha JFMC, which is located in the Tinsukia district of Assam. The Agbandha JFMC falls under the jurisdiction of the Margherita West Forest Range under Digboi 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 personnel of Centre for Microfinance and Livelihood (CML) Guwahati in June 2016. The micro-plan has been compiled by CML based on the project guidelines. The document has been discussed and finalized for adoption in July 2016.</p>
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2. Village Socio-Economic Profile

Location	<p>The Agbandha JFMC was formed comprising two villages namely Khariabasti and Tengapathar. The JFMC falls under Agbandha Forest Beat. The JFMC is located almost 10-12kms from the Divisional Forest Office, Digboi.</p> <p>Nearest town of the village is Digboi and the distance from Agbandha JFMC to Digboi is 12kms. District head quarter of the village is Tinsukia which is 40 km away.</p> <p>Appendix-1 gives the Village Map and GIS Map</p>																						
Key Information	<p>The key information of the JFMC is furnished below.</p> <p style="text-align: center;">Table A: Key Information of the JFMC</p> <table> <tr> <td>Name of the JFMC</td><td>Agbandha</td></tr> <tr> <td>Gram Panchayat</td><td>Bhitor Powai</td></tr> <tr> <td>Block</td><td>Margherita</td></tr> <tr> <td>District</td><td>Tinsukia</td></tr> <tr> <td>Forest Division</td><td>Digboi</td></tr> <tr> <td>Forest Range</td><td>Margherita West</td></tr> <tr> <td>Forest Beat</td><td>Agbandha</td></tr> <tr> <td>Year of formation</td><td>2015-16</td></tr> <tr> <td>Description of Boundary of JFMC</td><td> North: Upper Dehing Reserve Forest(West Block) South: Tengapathar Village East: Upper Dehing Reserve Forest(West Block) West: Upper Dehing Reserve Forest(West Block) </td></tr> <tr> <td>Total Households</td><td>116</td></tr> <tr> <td>Number of JFMC Villages</td><td>2</td></tr> </table> <p>Source: JFMC Records and Discussions during PRA exercise in June, 2016.</p> <p>Additional details are given at Table-1 of Record-I (Given as annexure)</p>	Name of the JFMC	Agbandha	Gram Panchayat	Bhitor Powai	Block	Margherita	District	Tinsukia	Forest Division	Digboi	Forest Range	Margherita West	Forest Beat	Agbandha	Year of formation	2015-16	Description of Boundary of JFMC	North: Upper Dehing Reserve Forest(West Block) South: Tengapathar Village East: Upper Dehing Reserve Forest(West Block) West: Upper Dehing Reserve Forest(West Block)	Total Households	116	Number of JFMC Villages	2
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Brief Details of the Executive Committee & General Body	<p>The brief details of the Executive Committee and General Body of the JFMC are contained in the table, which is given below:</p> <p style="text-align: center;">Table B: Brief details of the Executive Committee & General Body</p> <table> <tr> <td>Name of President</td><td>Juli Kullu</td></tr> <tr> <td>Name of Secretary</td><td>Mr. Padum Borpatra Gohain</td></tr> <tr> <td>No. of Members in Executive Committee</td><td>11</td></tr> </table>	Name of President	Juli Kullu	Name of Secretary	Mr. Padum Borpatra Gohain	No. of Members in Executive Committee	11																
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	Source: JFMC Records
Household and Population Structure	<p>The JFMC has two villages namely Khariabasti and Tengapathar with a total households of 116 and the total population of 541.</p> <p>The total male population stands at 278 whereas the total female population is 263. Hindu and Christian are the religions practiced by the dwellers of the JFMC and residing communities are Adivasi and Ahom. Khariabasti is completely dominated by the Adivasi community and Tengapathar is dominated by the Ahom community followed by a single family from Rabha community.</p> <p>Almost 97.41% of the total population belongs to OBC category and rest are ST and others.</p> <p>The average size of the households is 4 and the sex ratio is 946 females per 1000 males in the JFMC villages.</p> <p>As per the household survey conducted, only 95.68% of the households are BPL whereas 0.86% 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. 78.44% of the households possess Government ration cards.</p> <p>Table-2 of Record-I may be referred for further details.</p>
Education & Skills Development	<p>The total literacy rate of the JFMC villages is 68.76%. Most of the villagers have attained school education upto standard IV. Only a mere 1% of the total population have passed graduation.</p> <p>The total number of literates reported in the JFMC villages is 372, out of which percentage rate of literacy among men is 54.03% and that of female stands at 46.96%.</p> <p>Table-3 of Record-I may be referred for further details.</p> <p>In the Agbandha JFMC villages, the villagers are traditionally skilled in following areas:</p> <ul style="list-style-type: none"> • Agriculture - 73 households are engaged • Livestock Rearing - 89 households are engaged • Bamboo Handicraft - 20 households are engaged • Weaving - 2 households are engaged • Daily wage Labour - 44 households are engaged • Driver - 2 households are engaged • Factory worker - 7 households are engaged <p>Source: Field survey</p>
Soil	<p>The Agbandha JFMC is situated on a layer of clay soil of light yellowish and dark grayish colour up to a depth of about 2.5 m. A layer of sand (Quartz) is up to about 16 m and an under layer of</p>

	<p>clay, grayish colour hard and sticky.</p> <p>For the Agbandha JFMC, the salient points of the forest soil type are summarized below:</p> <ol style="list-style-type: none"> 1. Alluvium 2. Entisol 3. Alfisols
Water	<p>Ground water is the main source of drinking water. Community consultation revealed that adequacy and quantity is not a problem in case for drinking water. But the content of iron is high in the sources.</p>
Climate, Temperature & Rainfall	<p>Highest temperature is generally observed in the months of July/August (33-35°C) and lowest is in the months of December/January (10-12°C).</p> <p>The climate of the region is sub-tropical wet and is characterized by hot and humid summer and dry cool winter.</p> <p>The Agbandha JFMC experiences 1500 to 2000 mm rainfall per year. 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 and Tropical Semi-Evergreen.</p> <p>The Agbandha JFMC forest is enriched with tree species like- Lagerstroemia speciosa (Ajhar), Mansoniadiipikae (Badam), Morns laevigata (Bola), Biscofiarnmnica (Uriam), Cordial dichotoma (Bual), Bombaxceiba (Simalu), Lagerstroemia parviflora (Sida), Delonixresia (Radhasura), Canariumbenealensis & Cresiniferum (Dhuna, Dhup), Ficushispida (Dimoru), Premnabengalensis (Gohra), Caeslpimapulcherima (Krishnasura), Tetramelesmdiflora (Bheleu), and Tactonasrandis (Segun).</p> <p>The Digboi Forest division falls under Indo-Burma biodiversity hotspot. It is also integral part of the Dehing Patkai Elephant Reserve with total area of 609.55 sq km. The sanctuary is famous for many species such as Asian Elephant, Royal Bengal Tiger, Black Panther, Hollock Gibbon, Leopard, Jungle Cat, Barking deer, Bison, Bear, Common Monkeys, Slow Loris , Flying Squirrel, Mongoose, Pangolin Great Indian Civet, Birds like Winged Wood Duck, Hornbill, Kingfisher, Woodpecker, Myna, Dove, green pigeon, Barbet, Bulbul, Vulture, Kite, Hawk, Owl, Bat, Giant Bat, varieties of cranes, Darter, Stork, Cormorant, Monitor Lizard, Python, Viper , Cobra and many more varieties of poisonous and non-poisonous snakes. The</p>

	region is rich in medicinal plants, tea etc. The high biological diversity found in the district is often related to its forest cover, which is categorized into tropical wet evergreen forests.												
Land - use Pattern	<p>The cropping system is diversified depending upon soil, microclimate condition and socio-economic status</p> <ul style="list-style-type: none"> ▪ Land under agriculture: 24 % ▪ Land under non-agricultural use: 33 % ▪ Cultivable wasteland: 14 % ▪ Land under Misc. tree crops and groves: 10 % ▪ Barren and uncultivable land: 19 % 												
Land Holdings	<p>The land-holding pattern of the JFMC can be depicted as below:</p> <p>Homestead land: 96.55% of the total households have homestead lands.</p> <p>Farm land: 53.44% of the total households have farm lands</p> <p>Waste land: Only 5.17% of the total households have land</p> <p>Share-cropping: Only 0.86% of the total households are practicing share-cropping</p> <p>Land Mortgage: Only 0.86 % of the total households have mortgaged their land as security</p> <p>The details of the land-holding pattern is provided at Table 4 of Record-I</p>												
Livestock	<p>The total numbers of livestock in the JFMC villages are - cows, bulls, buffaloes, duck, local poultry, pigs and goats. The details of the livestock reared are provided as below:</p> <table border="1"> <tr> <td>Cow</td><td>149</td></tr> <tr> <td>Bull</td><td>190</td></tr> <tr> <td>Duck</td><td>266</td></tr> <tr> <td>Local poultry</td><td>711</td></tr> <tr> <td>Pig</td><td>44</td></tr> <tr> <td>Goat</td><td>235</td></tr> </table> <p>Table 5 of Record-I can be referred for details on the above.</p>	Cow	149	Bull	190	Duck	266	Local poultry	711	Pig	44	Goat	235
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Village Infrastructure & Communication Facilities	<p>The infrastructures which are available in the villages can be categorized under the following heads:</p> <p>1. Physical Infrastructure: The households have the basic amenities including electricity, mobile phones, cycles and</p>												

	<p>motorbikes for communication purposes. But electricity is available only in Tengapathar village of the JFMC whereas unfortunately, none of the households in Khariabasti have access to electricity. Almost 40.51 % of the households have access to electricity. The road to the JFMC from Digboi through Golai-Margherita road is in a motorable condition but requires repair as few patched on the road are in extremely poor condition. There are two approach roads to reach JFMC namely Agbandha Bengali Gaon road and the other is through Dehing tea estate road. But the condition of the latter is not fully motorable. The nearest market is located at Dehing Bagan which is located at a distance of 4-6 kms from the JFMC villages.</p> <p>2. Education and Health facilities: Education and health facilities include two primary schools and 1 anganwadi centre. The nearest ME school is 4-6 kms from the JFMC located at namely Makum Killa. The nearest High School namely Town High School is located at a distance of almost 8-10kms from the JFMC villages.</p> <p>For medical emergencies and regular check-up, people mostly refer to Margherita Civil Hospital located which is located at a distance of 8 kms from the JFMC.</p> <p>3. Govt. Offices: The Government offices and line departments which are existing at a reasonable distance from the JFMC are Panchayat office, Revenue office and local police station. However, the Agbandha Forest Beat office is located very close to Khariabasti.</p> <p>4. 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 3-7 kms from the villages.</p> <p>Details of infrastructures are given in Table 6 of Record I</p>
Agriculture Crops & Crop Production Profile	<p>The principle cultivated crops grown in the JFMC villages is:</p> <p>Kharif: Paddy (Sali)</p> <p>Plantation crop: Tea, bettlenut, bamboo, banana etc.</p> <p>Almost 62.9% of the households cultivate paddy with an average harvest of 1233.54 kilograms. The average are under cultivation in case of paddy is 1.74 acres. The average investment made by a farmer for paddy cultivation is INR 4000.</p> <p>So far as tea cultivation is concerned, only 8.62% of the households practice the activity with an average harvest quantity</p>

	<p>of 237 kg per season and the average investment made by a farmer comes to the tune of INR 4800.</p> <p>It was also seen that there is no irrigation facility in the farm lands and 100% of the farm land under paddy cultivation is rain-fed.</p> <p>The field survey has also reported cultivation of jackfruit, mangoes, banana etc. but additional details on the same have not been reported.</p> <p>Table 7 of Record-I depicts the details on agriculture crops</p>
Fodder Availability	<p>The main sources of fodder are:</p> <ol style="list-style-type: none"> 1. Collection from Forest 2. Household kitchen waste <p>It is seen that almost 36.20% of the households let their livestock graze especially cow, bull and goats on forests and the peak season of forest grazing starts from June till December.</p> <p>Table 8 of Record-I depicts the seasonality of grazing.</p>
Markets	<p>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 are nearly 4-6 km distance from village at Dehing Bagan. ▪ The Weekly/ Bi-weekly Market is nearly 6km away at Dehing bagan ▪ Major Market is at Digboi and Margherita which is 8 and 12 kms respectively from the JFMC villages <p>Table 9 of Record-I depicts the proximity of market.</p>
Water Resources	<p>The main water resources within the JFMC villages are as follows:</p> <p>(A) Tube-well: 100 HHs (Water availability: Perennial)</p> <p>(B) Ring Well: 7 HHs (Water availability: Perennial)</p> <p>(c) Pond: 18 HH (Water availability: Perennial)</p> <p>It has been observed that in most of the water sources, iron content has been found to be high. Bacteria in case of ring well water has also been reported.</p> <p>Table 10 of Record-I depicts the availability of water resources</p>

Energy Consumption	<p>The major sources of energy in the village have been listed below:</p> <ul style="list-style-type: none"> Firewood: Households Depending: 113. Source: Local forest area Average HH consumption of firewood: 256.10 kg Kerosene: Households Depending: 99. Source: Local market. Average HH consumption of Kerosene: 6.39 litres/day LPG: Households Depending: 13 Source: Local Gas agency Average HH consumption of LPG: 1 cylinder/2 months <p>Table 11 of Record-I depicts the energy use of villagers</p> <p>In case of household lighting, 51.72% of the households completely depend on kerosene lamp which clearly shows that poor penetration of electricity in the JFMC villages especially Khariabasti. Again, 16.37% of the total households depend both on kerosene lamps and electric run bulbs for household lighting.</p> <p>As per the field survey conducted, only 40.51% of the total households have access to electricity.</p>
Socio-Economic Status	<p>Social set-up: The population caste break-up is not very diverse in the JFMC villages with each village being dominated by an individual dominant community; Adivasi is the dominant community of the JFMC whereas Ahom community is the one at Tengapathar along with a few other communities like Rabha and others</p> <p>Economic Condition: The overall economic condition of the villagers is not found to be satisfactory. The average household income has been found to be INR 20277/- (Rupees twenty thousand two hundred and seventy seven only) as per the field survey undertaken.</p> <p>If we compare the standard of living between the Adivasi community on one hand and the Ahom on the other, it is seen the socio-economic condition of the latter is much better than the former.</p>
Maps	<p>Appendix-1 gives the following maps, based on PRA exercise:</p> <ul style="list-style-type: none"> Village Map (Resource and Social) GIS Map Wealth Ranking

3. Livelihood Opportunity Analysis

PRA Exercise	The CML team conducted the PRA exercise on 2 nd June, 2016 at Khariabasti village in presence of representatives from all the villages, JFMC President, Village Headmen, Executive Committee Members, Village Head and Personnel from Forest Department.
Objectives of PRA	<p>The specific objectives of the exercise are to:</p> <ul style="list-style-type: none"> (a) To understand the livelihood options existing within the region, its prevalence and challenges. (b) 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 (c) 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 for PRA	<p>The tools applied for PRA are given as below:</p> <ul style="list-style-type: none"> • Focus Group Discussion (FGD) • Seasonality Analysis • Social and Resource Mapping <p>Appendix-2 furnishes the details on the above</p>
Ranking	<p>Ranking exercise has been conducted for the following:</p> <ul style="list-style-type: none"> • Livelihood & Skills Development • Entry Point Activities (EPA) <p>Appendix-2 elaborates the above.</p> <p>Ranking of Livelihood & Skills Development:</p> <ol style="list-style-type: none"> 1. Bamboo Craft 2. Promotion of integrated backyard kitchen gardening and livestock rearing <p>Ranking of EPAs</p>

	Rank	Village EPA as Ranked	Details (Appendix-2 Additional Particular)	Probable source of funding/Deptt.
	1	Electricity	Solar Based Mini power-Grid	SELCO Power
	2	Irrigation	Low-cost irrigation facility for farmers	Dept. of Irrigation
	3	Agro-Veterinary Extension Services	Establish at least one agro-vet care to promote the backyard agriculture and livestock activity	Dept. of Agriculture and Dept. Veterinary (Assam)
	4	Skill Training School	Up-gradating the existing skills	NSDC
	5	Road Connectivity	Black Topping Road	PMGSY/PWD
	6	Fencing	In order to avoid elephant depredation	Dept. of Forest, Govt. of Assam
Livelihood Opportunities	<p>The identified livelihood opportunities were as follows:</p> <ul style="list-style-type: none"> Bamboo Craft with special reference to mora making and other household utility items Promotion of integrated backyard Kitchen gardening and livestock rearing 			
Bamboo Craft	<p>The main constraints towards promotion of bamboo craft as a potential livelihood option are:</p> <ul style="list-style-type: none"> Lack of design development 			

	<ul style="list-style-type: none"> • Lack of knowledge on market and pricing • Poor infrastructure • Lack of mechanization <p>Some of the possible interventions in the promotion of bamboo craft sub-sector are as follows:</p> <ul style="list-style-type: none"> • Basic skills-development training on bamboo craft which can be again upgraded for advanced-level training more focusing on machine based bamboo craft making • Introduction of specialized tools for enhancing production • Establishment of the JFMC run training cum production centre • Training on entrepreneurship and business orientation <p>Table-12 under Record-II can be referred for details</p>
Integrated backyard cultivation and Livestock Rearing	<p>The main constraints towards promotion of integrated backyard cultivation and livestock rearing as a potential livelihood option are:</p> <ul style="list-style-type: none"> • Lack of timely farm inputs • Lack of irrigation facilities • Lack of technical know-how on the part of the farmers • Outbreak of diseases • Lack of knowledge on scientific method of livestock rearing • Lack of initial investment on the part of the villagers • Unavailability of quality feed - nutrients and other sources of fattening and growth. <p>Some of the possible interventions in the promotion of integrated backyard cultivation and livestock rearing sub-sector are as follows:</p> <ul style="list-style-type: none"> • Training on seasonal vegetable crops and high value crops by an agro-expert • Developing specialized Package of Practice (PoP) for the households taking up kitchen gardening • Setting up JFMC run agro-vet information centre which is to function on an enterprise mode • Specialized training on livestock rearing and para-vet professional • Setting up of a JFMC run agro-veterinary care centre • Setting up of a JFMC run butchering shop in the nearby town • Training on entrepreneurship and business orientation

	Table-13 under Record-II can be referred for details
Credit Facility	<p>The main constraints with regard to credit facility in the JFMC are as follows:</p> <ul style="list-style-type: none"> • High rate of interest charged by the unorganized village money lenders • Reluctance on the part of the financial institutions to provide loans to interested borrowers <p>Some possible interventions in order to foster better credit facilities among the villagers may be follows:</p> <ul style="list-style-type: none"> • Facilitating bank linkage program on a regular basis • Penetration of Microfinance institutions into the area • Promotion of SHGs or village level institutions <p>Table-14 under Record-II can be referred for details</p>
Strategic Interventions	<p>Some of the strategic interventions for the above mentioned livelihood opportunities are as follows:</p> <p>Bamboo craft:</p> <ul style="list-style-type: none"> ✓ Basic skills-development training on bamboo craft which can be again upgraded for advanced-level training more focusing on machine based bamboo craft making ✓ Introduction of specialized tools for enhancing production ✓ Establishment of the JFMC run training cum production centre ✓ Training on entrepreneurship and business orientation. <p>Promotion of integrated backyard kitchen gardening and livestock rearing:</p> <ul style="list-style-type: none"> ✓ Training on seasonal vegetable crops and high value crops by an agro-expert ✓ Developing specialized Package of Practice (PoP) for the households taking up kitchen gardening ✓ Setting up JFMC run agro-vet information centre which is to function on an enterprise mode ✓ Specialized training on livestock rearing and para-vet professional ✓ Setting up of a JFMC run agro-veterinary care centre ✓ Setting up of a JFMC run butchering shop in the nearby town ✓ Training on entrepreneurship and business orientation <p>Credit Facility:</p> <ul style="list-style-type: none"> ✓ Facilitating bank linkage program on a regular basis ✓ Penetration of Microfinance institutions into the area ✓ Promotion of SHGs or village level institutions

4.Livelihood Development Plan

Income Generating activities	<p>The main income generating activities as planned for the JFMC villages are as:</p> <p>Farm Sector:</p> <ul style="list-style-type: none"> Promotion of Integrated backyard kitchen gardening and livestock rearing <p>Non-Farm Sector:</p> <ul style="list-style-type: none"> Promotion of bamboo craft <p>Source: Table 32 of Record-IV</p>
SHG Activities	<p>SHGs can play a very pivotal role in harnessing the social capital of the JFMC by taking up the following activities:</p> <ul style="list-style-type: none"> To generate awareness on importance of skill development and entrepreneurship among the villagers To promote Village Organizations (VO) through formation of multiple SHGs Promotion of micro-enterprises with focused livelihood interventions among the SHGs thereby creating a cluster of specialized interventions in the JFMC villages. To also play as an agent to check social evils available within the villages <p>Source: Table 33 of Record-IV</p>
Exposure Trips	<p>No exposure trips are planned yet</p> <p>Source: Table 34 of Record-IV</p>
Summary of Action Plan	<p>Attached in the subsequent pages of the plan</p>
Convergence	<p>The planned initiatives have a lot of possibilities to invite convergence from multiple stakeholders including Government and Private players:</p> <ul style="list-style-type: none"> Department of Industries & Commerce, Govt. of Assam The National Smallholder Poultry Development Trust (NSPDT) Indian Council of Agricultural Research - Central Institute for Research on Goats (ICAR-CIRG) Indian Oil Corporation Limited (IOCL) Coal India Limited (CIL)

	<ul style="list-style-type: none"> National Rural Livelihood Mission National Foundation for India (NFI)
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5.Action Plan of Agbandha JFMC

Sl. No.	Activity	Numbers	Method
A. Participatory Micro Planning			
1	Preparation of Micro Plan	1	PRA, Baseline Survey
B. Organize Producers and Build Entrepreneurial and Technical Capacities (Capacity Building)			
1	Awareness Build-up Programme (2016-17)	1	Awareness Programme
B1	Training on Skill development		
1	Skill Development Training Programme in Bamboo craft (2016-17)	1	Conducting Training on skill development in bamboo craft (200 hours)
2	Skill Development Training Programme in integrated backyard kitchen gardening and livestock rearing	1	Conducting training on Livestock rearing and development of Ago and vet Para Professional (20 days)
3	Training on Entrepreneurship Orientation	1	Entrepreneurship Orientation programme (30 days)
C. Social Mobilization (2016-2017 to 2018-2019)			
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
2	Hand Holding guidance support and linkage promotion programme for self-employment and placement		Hand holding support from agencies experts throughout the year up to march 2017
D. Value Chain Improvement (2018-2019 to 2019-20)			
D1	Product improvement Through Value Chain Improvement		
1	Value Chain Improvement in bamboo craft	1	7 days Training on design development
B2	Supply of modern tools		
1	Supply of modern tools kits for trainees	30	Supply of modern tools
2	Supply of Piglet	30	
B3	Improved Production and production centre		

E. Support for Access to Market (2019 to 2026)			
D1	Linkage with institutional buyers and/or govt. Organizations. (throughout the year)	2	Creating platform for buyers' and sellers' interactions (5 days)
D2	Setting Up Ban Bazar	Throughout the year	Linkage through van bazar
D3	Trade Fair & Exhibition Participation	1	Participation in one exhibition and Fair through forest department
D4	Access To Other Geographical Markets	1	Exposure visit
D5	Publicity through E-portal, brochure, catalogue etc.	1	2 day training and awareness programme taken by marketing experts

NB:- Details estimated for the above will be approved at appropriate authority item wise before execution of the work.

6. Forest Development Plan

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

Status of the JFMC Forests

The micro-plan takes into consideration the following categories of the Agbandha Forests:

- (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.

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 Agbandha JFMC have been summarized below.

Table-1: Conditions of the Forests of Agbandha

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	30 ha	0.5 KM	Good area 11 ha degraded 19 ha	6-9
Along the periphery of UDRF (WB) under Digboi range	Upper Dehing reserve (West block)	-	Good area 11 ha degraded 19 ha	6-9
(B) Other Planted Area	-	-	-	-
To be allotted as per sanction amount in due course of time.	464 hac.(NR-348 hac.IP-116)	-	-	6-9
TOTAL	30 ha	0.5 KM	Good area 11 ha degraded 19 ha	6-9

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

It is seen that the Agbandha has 30 Ha under its forests, of which 11 Ha (36 %) is 'Good' (Crown density >40%) and the rest 19 ha is 'Degraded'.

Forest Soil Type

The forests of Agbandha are located in Upper Dehing reserve (West block). Some salient points of the forest soil type have been given in the following table.

Table-2: Forest Soil Type in Agbandha

Parameter	Status in Assigned Forests	Status in Other Planted Areas
Fertility Level	3.9 to 4.8 organic	NA
Soil Erosion Status	Geographical erosion	NA
Presence of:		
(a) Silt	39 %	NA
(b) Mud-flat	33 %	NA
(c) Newly accreted land	20 %	NA
(d) Sand dune	8 %	NA

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

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

4. Alluvium
5. Entisol
6. Alfisols

Existing Composition of Flora

In the forests of the Agbandha JFMC, the existing composition of the flora has been given as follows. It may be noted that the local forests are classified as: Tropical Semi-Evergreen and Tropical Wet Evergreen

Table-3: Existing Composition of Flora in the Agbandha JFMC

Parameter	Local Name(s)	Botanical Name(s)
Major Forest Species	Ghora Neem	

Associates	Bandordima Morhal Poma Bhat ghila	
Shrubs	Putukola Bagdhoka Dighloti	
Medicinal Plants	Nefafu Narahingha hatibhekuri	
Produces	-	
Others, if any	-	

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

Other Inputs for the Forest Development Plan

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

Past Protection Measures of the JFMC

No measures have been taken by the Agbandha JFMC for the forest protection in the past.

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

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 Agbandha JFMC

Name of Forest Produce	Average Household Requirement		How met at Present	Source
	Frequency of Requirement	Approx. Qty		
Firewood	Whole year	80,000	-	Local
Timber for House	3-4 months	2000-2500 cft	-	Local
Small timber for Implements	Plantation time	110 cft	-	Local
Pole / Bamboo	Whole year	2000 pieces	-	Local
Fodder from Forest	Whole year	40000-60000	-	Local
NTFP	-	-	-	-

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

There are 116 households in the Agbandha JFMC. From the above table and this number of households, it is inferred that the total annual requirements of the two villages under Agbandha JFMC for forest produce for own use is as follows:

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

Name of Forest Produce	Community Requirement (Kg per annum) (*)	Remarks
Firewood	80,000	-
Timber for House	2000-2500 cft	-
Small Timber for Implements	110 cft	-
Pole / Bamboo	2000 pieces	-
Fodder from Forest	40000-60000	-
NTFP	-	-
Other _____	-	-

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

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

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 Agbandha JFMC villages is given in the following table.

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

	Season / Months	No of Households Collecting	Average Qty. Collected (Kg)	
Firewood	Whole year	180	3	Local
Timber for House	Dec-Jan	180	2-3	Local
Small timber for Implements	April-May	180	45	Local
Bamboo	Dec-Jan	180	2000	Local
Pole	Winter	180	700	Local
Fodder from Forest	Whole year	180	40000-60000	Local
NTFP	-	-	-	-
Other	-	-	-	-

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

The community collect the above mentioned forest produces for their self-consumption. In the above connection, the following table gives additional pertinent information.

Table-5 (B): Collection & Marketing of Forest Produce - Additional Information Agbandha JFMC

Name of Forest Produce	Surplus Marketed (Kg)	How marketed	Average Income per HH from sale of Forest Produce
Firewood	NA	-	-
Timber for House	NA	-	-
Small timber for Implements	NA	-	-
Bamboo	NA	-	-
Pole	NA	-	-
Fodder from Forest	NA	-	-
NTFP	NA	-	-
Other _____	NA	-	-

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

Total Requirements of Forest Produce - Domestic Use & Marketing

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

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

Name of Forest Produce	Community Requirement (Kg per annum) From Table-4(B)	Surplus Marketed (Kg) From Table-5(B)	Total Requirements (Kg)
Firewood	80,000	NA	80,000
Timber for House	2000-2500 cft	NA	2000-2500 cft
Small timber for Implements	110 cft	NA	110 cft
Bamboo	2000	NA	2000
Pole	-	-	-
Fodder from Forest	40000-60000	NA	40000-60000
NTFP	-	-	-
Other _____	-	-	-

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

Forest Protection Issues

Protection Problems

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

Table-7: Protection Problems of the Agbandha 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	No	No
Accidental Fires	No	No
Encroachment of Forest Lands	No	No
Others	No	No

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

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

- The grazing animals destroy the crop during harvesting period.
- Due to increase in population, land are encroached by the people.
- Accidental fire and smuggling is another factor that is contributing in degradation of forest.

Reasons for Degradation of the Forest

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

- Increase of Population

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

Components of the Forest Development Plan

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

Protection Plan

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

Table-8: Protection Plan of the Agbandha 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]
Hiring of local Chowkidar	Agbandha JFMC	30 ha	Round the year	High
Bring awareness through camp regarding importance of forest for environmental balances	Agbandha JFMC	90 radius	Round the year	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 Agbandha JFMC (with high / medium priority) are as follows:

1. Hiring of local Chowkider should be given high priority. He can give regular monitoring within and nearby the JFMC area.
2. Bringing awareness about environmental and eco-logical balances among the villagers should also provide high priority. It can reduce the un-necessary cutting of forest trees.

Types of Operations Proposed

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

Table-9: Types of Operations Proposed in the Agbandha 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	Nov-Jan	50
Protection to Cut Stumps of Trees	Yes	Yes	Nov-Jan	50
Watershed Treatment	Yes	Yes	Nov-Jan	50
Water Reservoirs	Yes	Yes	Whole year	50
Grass & Silvi-pasture	Yes	Yes	Nov-Jan	50
Bamboo Plantation	No	No	-	-
Seed Sowing	No	No	-	-
Root & Shoot Cutting & Plantation	Yes	Yes	Nov-Jan	50
Cut Back & Coppice Treatment	Yes	Yes	Nov-Jan	50
Physical Fencing	No	No	-	-
Social Fencing	Yes	Yes	Nov-Jan	50
Other Activities	-	-	-	-

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 Agbandha JFMC:

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 Agbandha JFMC

Treatment	Area in Ha under Plantation Module	Priority for Block Plantation	Species	Spacing (metre x metre)
Assisted Natural Regeneration (with plantation in gap)	30	-	Ghora Neem	2*2
Block Plantation	-	-	-	-
Sowing of Neem, Amla, Mahua, Bahera (Medicinal Plants)	-	-	-	

Treatment	Area in Ha under Plantation Module	Priority for Block Plantation	Species	Spacing (metre x metre)
Enrichment Plantation	-	-	-	
Direct Plantation	-	-	Ghora Neem	2*2
Other		-		
TOTAL AREA (in Ha)	30	-	-	-

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

Forest Improvement - Annual Targets

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

Table-10 (A): Annual Targets of Forest Improvement in Agbandha JFMC (Year-1 to Year-5)

Treatment	2016	2017	2018	2019	2020
Assisted Natural Regeneration (with plantation in gap)					
Block Plantation					
Sowing of Neem, Amla, Mahua, Bahera (Medicinal Plants)					
Enrichment Plantation					
Direct Plantation					
Silvi-cultural Operations					
Intermediate Operations					

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

Table-10 (B): Annual Targets of Forest Improvement in Agbandha JFMC (Year-6 to Year-10)

Treatment	2021	2022	2023	2024	2025
Assisted Natural Regeneration (with plantation in gap)	30	60	90	120	150
Block Plantation	-	-	-	-	-
Sowing of Neem, Amla, Mahua, Bahera (Medicinal Plants)	-	-	-	-	-
Enrichment Plantation	-	-	-	-	-
Direct Plantation	-	-	-	-	-
Silvi-cultural Operations	-	-	-	-	-

Treatment	2021	2022	2023	2024	2025
Intermediate Operations	-	-	-	-	-

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

Nursery Development Plan

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

- (a) Site Nursery(Agbandha JFMC)

The details are given below.

JFMC Nurseries

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

Table-11 (A): Nurseries of the **Agbandha JFMC**

Location of Nursery	Species	Year of Development	Number of Seedlings	Remarks
Site Nursery (Agbandha JFMC Nursery)	Ghora Neem	2016-17	3000	Individuals will be assisted
	Ghora Neem	2016-17	3000	Individuals will be assisted

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 **Agbandha JFMC**.

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

Name of Nursery	Species	Year of Development	Number of Seedlings	Remarks
No	No	No	No	No
-	-	-	-	-
-	-	-	-	-

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

Maintenance Plan - 10 Years

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

Timber Species: Firewood (Velkor,Mojj,Ajhar)

Table-12 (A): Maintenance Plan of Teak Plantation in the **Agbandha JFMC**

Year(s)	Treatment
1 st Year	Weeding
2 nd Year	Removal of creepers
3 rd Year	Weeding in more effectively done
4 th to 6 th Year	Thinning up
7 th to 9 th Year	Pruning
10 th Year	Removal of side branches and alternative row

Source: Discussions with Forest Department personnel & Community members

Bamboo

Table-12 (B): Maintenance Plan of Bamboo Plantation in the **Agbandha JFMC**

Year(s)	Treatment
1 st Year to 3 rd Year	Weeding
4 th year	Removal of heavy weeds
5 th Year	Separation of clumps
6 th Year	Trimming of criss-cross culms
7 th Year	Light pruning
8 th Year	Light pruning and collection of fruits
9 th Year	Trimming and minimal pruning
10 th Year	Removal of clumps

Source: Discussions with Forest Department personnel & Community members

Fuel Wood Plantation

Table-12 (C): Maintenance Plan of Fuel Wood Plantation in the **Agbandha JFMC**

Year(s)	Treatment
1 st Year to 2 nd Year	Weeding and Ring formation around the seedlings
3 rd Year to 4 th Year	Removal of side branches
5 th Year	Weeding
6 th Year	Cutting of unwanted branches
7 th year	Cutting of unwanted branches
8 th Year	Weeding
9 th Year	Pruning
10 th Year	Light pruning

Source: Discussions with -Forest Department personnel & Community members

NTFP / Medicinal Plantation

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

Year(s)	Treatment
1 st & 2 nd Year	Weeding
3 rd Year	Disbudding
4 th Year	Minimum pruning
5 th 6 th & 7 th Year	Fruit yield
8 th & 9 th Year	Fruit yield and pruning
10 th Year	Thinning up and Fruit yield

Source: Discussions with Forest Department personnel & Community members

Miscellaneous Operations Plan

The miscellaneous operations planned in the **Agbandha JFMC** are given below.

Table-(13): Miscellaneous Operations in the **Agbandha JFMC**

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

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

Marketing Operations

For produce from the Agbandha JFMC the planned marketing operations are:

- (a) Linkages will be established with traders inside and outside the district
- (b) Selling to the Ban Bazar
- (c) Participating in Exhibition and food festivals

Expected Benefits

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

Expected Benefits Related to Wood & Grass

The above has been tabulated below for the Agbandha 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 **Agbandha JFMC**

Item	Month	Year (Indicative)	Quantity
Firewood	-	-	-
Timber for House	-	-	-
Small timber for Implements	-	-	-
Bamboo	-	-	-
Pole	-	-	-
Fodder from Forest Trees & Grass	-	-	-
NTFP	-	-	-
Wages	-	-	-
Other _____	-	-	-

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

Sharing Mechanisms

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

Table-15: Sharing Mechanism for **Agbandha JFMC**

Method	Items
To be shared equally	-
To be freely collected by the members	-
Other Methods	-

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

List of Appendices

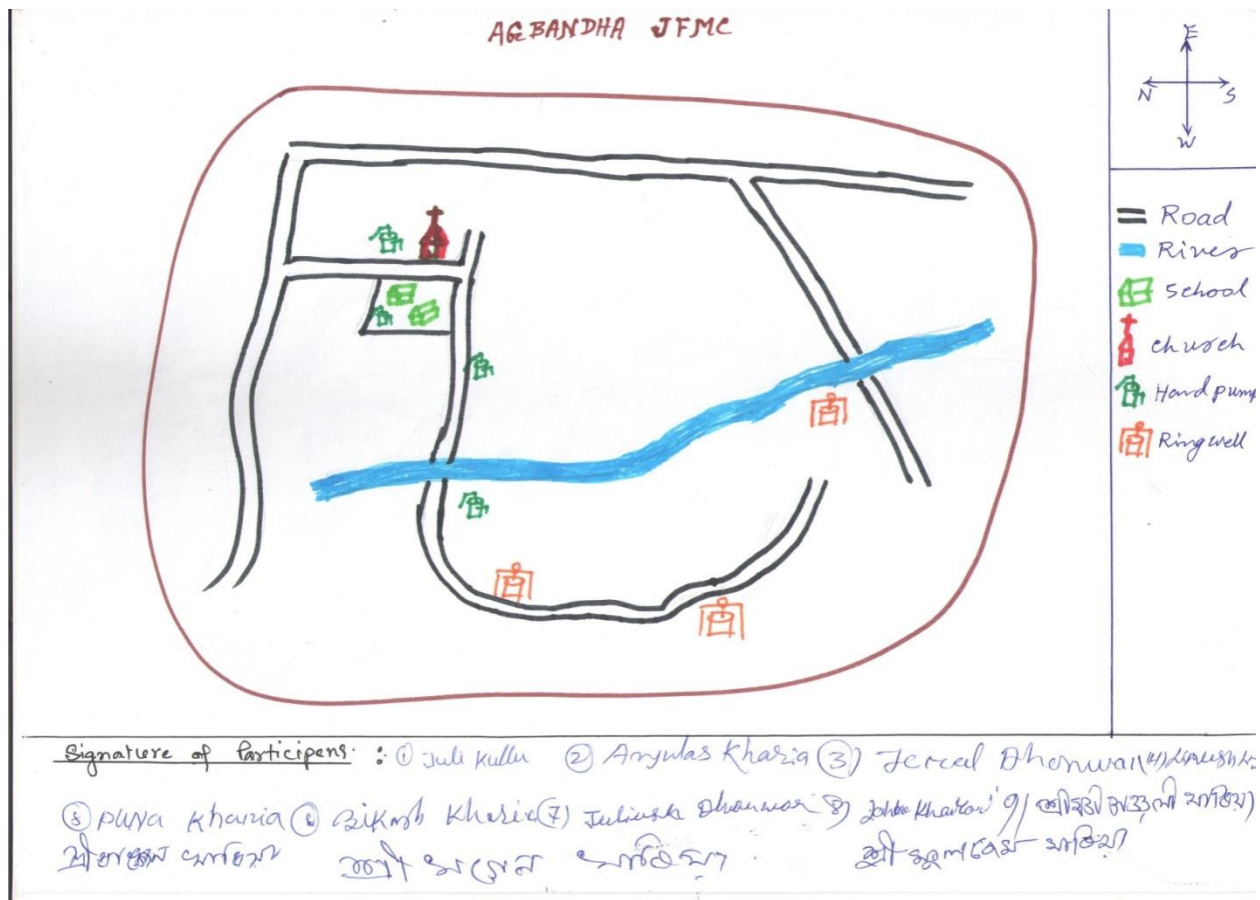
Annexure No.	Heading
1	Maps: <ul style="list-style-type: none"> • Social Map • Resources Map • GIS Map
2	PRA Exercise <ul style="list-style-type: none"> • Focus Group Discussion (FGD) • Seasonality Analysis • Social Mapping • Wealth Ranking • Venn Diagram • Priority Ranking and EPA
3	Filled Up Tables-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

Annexure 1

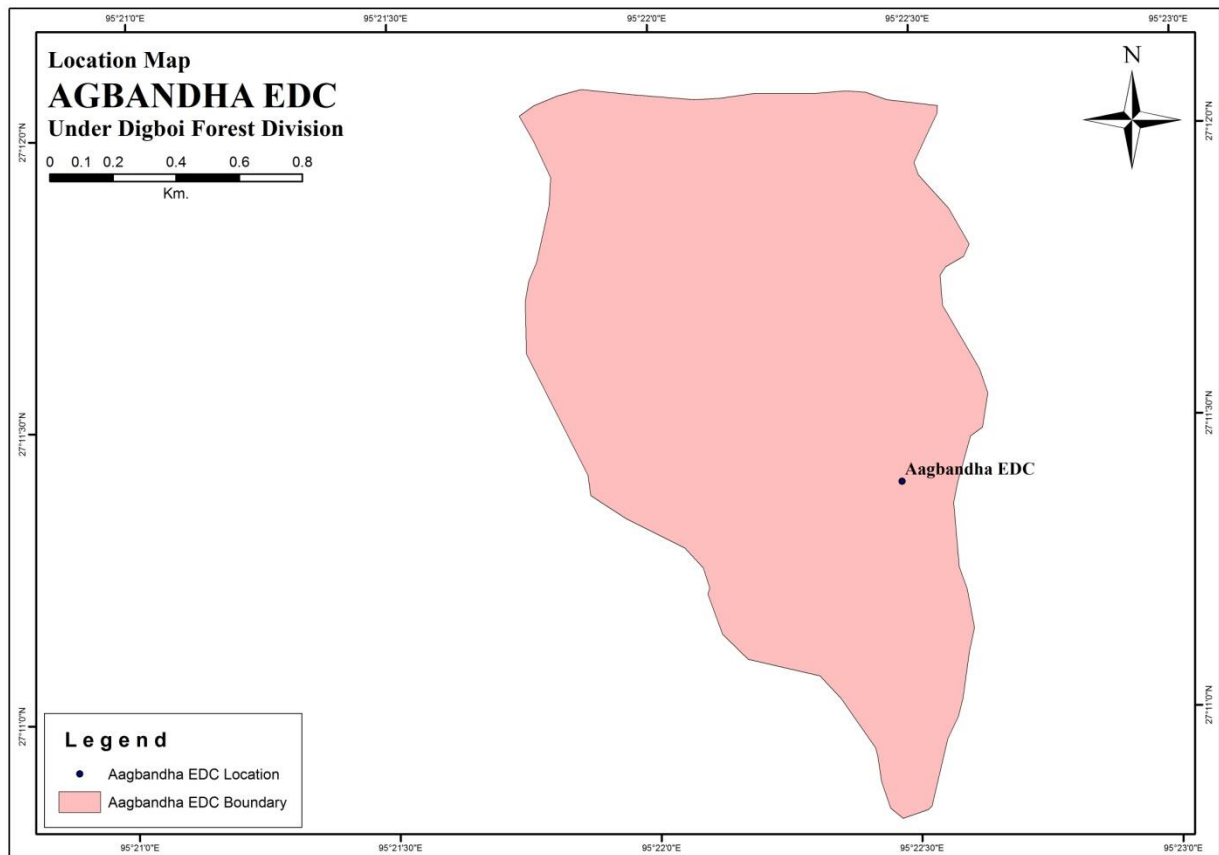
Social Map



Resource Map



GIS Map of Agbandha JFMC



Annexure 2

PRA EXERCISE

Location and Timing of PRA

Numbers of participants	15
Time	11:00 am
Venue	Kharia Basti

Table: 2.1. Brief about the villages under Agbandha JFMC

Sl. No.	Name of village	Households (No.)	Population (No.)		
			<i>Total</i>	<i>Male</i>	<i>Female</i>
1	Kharia Bosti	61	266	131	135
2	Tengapothar Bosti	55	275	147	128
	Total	116	541	278	263

Source: Village Survey

The tools used for conducting PRA in Agbandha JFMC are as follows:

- Focus Group Discussions (FGD)
- Seasonality Analysis
- Social Mapping
- Wealth Ranking
- Venn Diagram
- Chapatti Diagram
- Ranking Exercise

2.1 Focus Group Discussions:

The entire FGD were centered 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 agriculture, daily wage labour, livestock rearing and a few private jobs. Owing to close proximity with the neighbouring tea estates, many also get engaged as daily wage labourers.

- It was also expressed that people are also skilled in weaving especially in Tengapathar village but it is never taken up as a commercial activity
- Some of the serious challenges faced by the villagers practising agriculture are trespassing of wild animals especially elephants, poor irrigation facility, pest infestation, and lack of adequate technical know-how on the part of the farmers.

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.

- As far as existing support services in agriculture are concerned, no such support services which could have benefitted the farmers have been availed so far by the JFMC farmers.
- The villagers rear cow, bull, 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. In most of the cases, the State Veterinary Department has failed to take stock of the problems associated with livestock rearing but Indian Army has conducted several vaccination camps in the JFMC.
- Some of the trades where the villagers are skilled at are bamboo craft, weaving, driving, etc. In few of these trades, the villagers have been provided basic training as well under the Forest Department project.

2.2 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. In the month of April, the community spends a lot on the arrival of Bohagi Bihu as the villagers spend on new clothes etc. Also, during the months of September and October brings the arrival of Durga and Kali puja because of which the villagers of the JFMC have to spend a significant amount. 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. Also, since there is a concentration of Christian families in Khrai basti, December is the month where the families have to spend owing to arrival of Christmas.

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. The annual amount of saving per household ranges anywhere between INR 2000 to 5000.

There are almost 10 number of SHGs who are also engaged in inter-loaning as well as provides credit to other members. 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	Sowing	Harvesting
Paddy	May-July	October- December
Bettlenut	Plantation Crop	November-December
Tea	Plantation Crop	June-July

Seasonality of Engagement_ Non-Farm Activities

Engagement	Period of Engagement
Daily Wage Labour	June – August
Petty business	Throughout the year
Weaving	Throughout the year
Driving	Throughout the year

Other Private Service	Throughout the year
-----------------------	---------------------

2.3 Social Mapping:

Social mapping is used to visualize the socio-economic aspects of the Agbandha JFMC where the land holding patterns of the households, the numbers of schools, social infrastructure, and religious beliefs among households. Awareness among the villagers was carried out by the field teams, in order to infuse the self-consciousness for protection and enhancement of the forest areas. People from all the households of the village gathered for the PRA process, which was conducted in the community hall of the village. The PRA process was marked with enthusiasm and active participation from all people present.

The social and resource mapping process, was undertaken with the help of the villagers in identifying and marking the village. Villagers voluntarily came out to draw the maps. All the villagers spotted their households in the map. After the mapping process the team members collected the information about the pattern of their dwelling namely pucca, semi pucca, IAY and thatch house.

Table 2.2: Information about the villages

Social information	Village →	Kharia Basti	Tengapathar
	Total Population	266	275
	Male	131	147
	Female	135	128
	Total households	61	55
	Numbers of semi Pucca Houses	-	23
	Numbers of Pucca Houses	-	-
	Numbers of IAY Houses	-	-
Landmarks	Bridges	Nil	Nil
	Stream	Nil	Nil
	River	Nil	Nil

	PHE	Nil	Nil
	Power Transformer	Nil	Nil
	Community hall	Nil	Nil
	Church	1	-
	Namghar	-	1
	Primary School	1	1
	Anganwadi Centre	1	1
	ME, High School & College	Nil	Nil

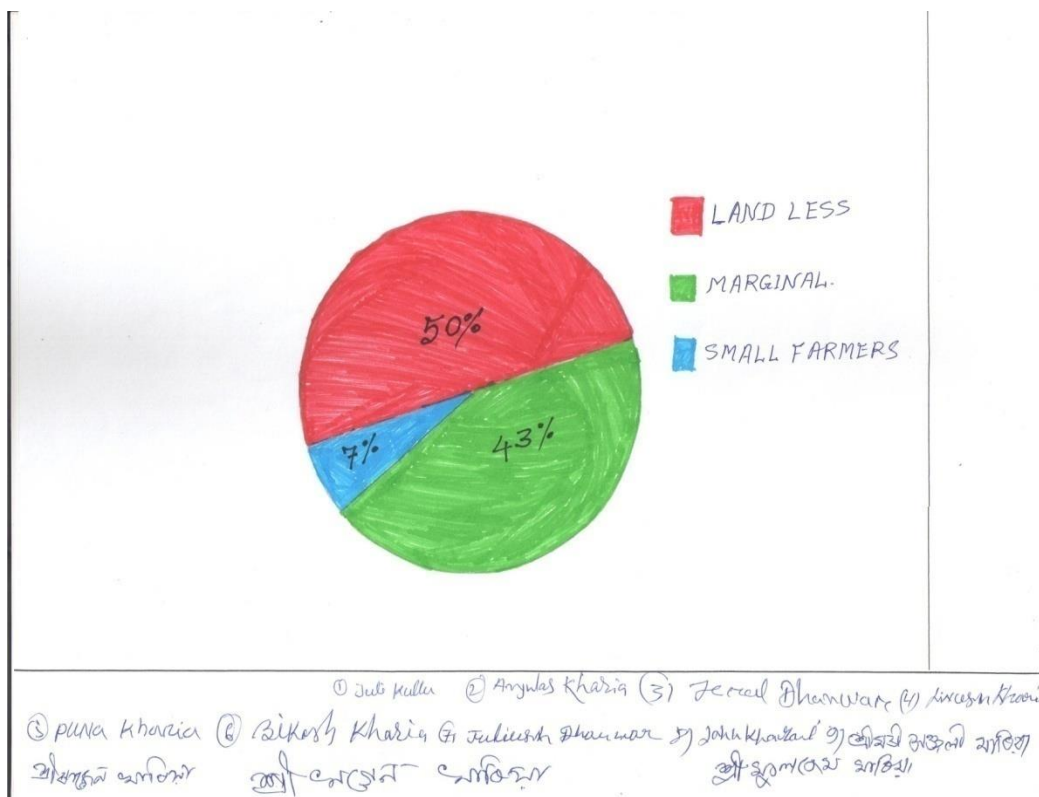
- Under social mapping study a total of 116 households have been identified. Of which 23 households stay in semi-pucca house with tin roof and cemented floor and the rest are mostly houses with thatched roofs and earthen floor.
- Altogether, there are 2 religious institutions in total in all the villages comprising 1 Church and 1 Namghar.
- Surprisingly, none of the village has a community hall.
- Physical infrastructure like primary schools and Anganwadi were mapped by the participants. Provision of Education facility up to primary level is quite satisfactory as 2 LP schools have been mapped. However, both ME and High school are located at a distance of 4-8 kilometers from the villages but it does not fall within the JFMC area.
- There are 2 approach roads to reach Agbandha JFMC namely Agbandha Bengali Village Road and Dehing tea estate road.

WEALTH RANKING :

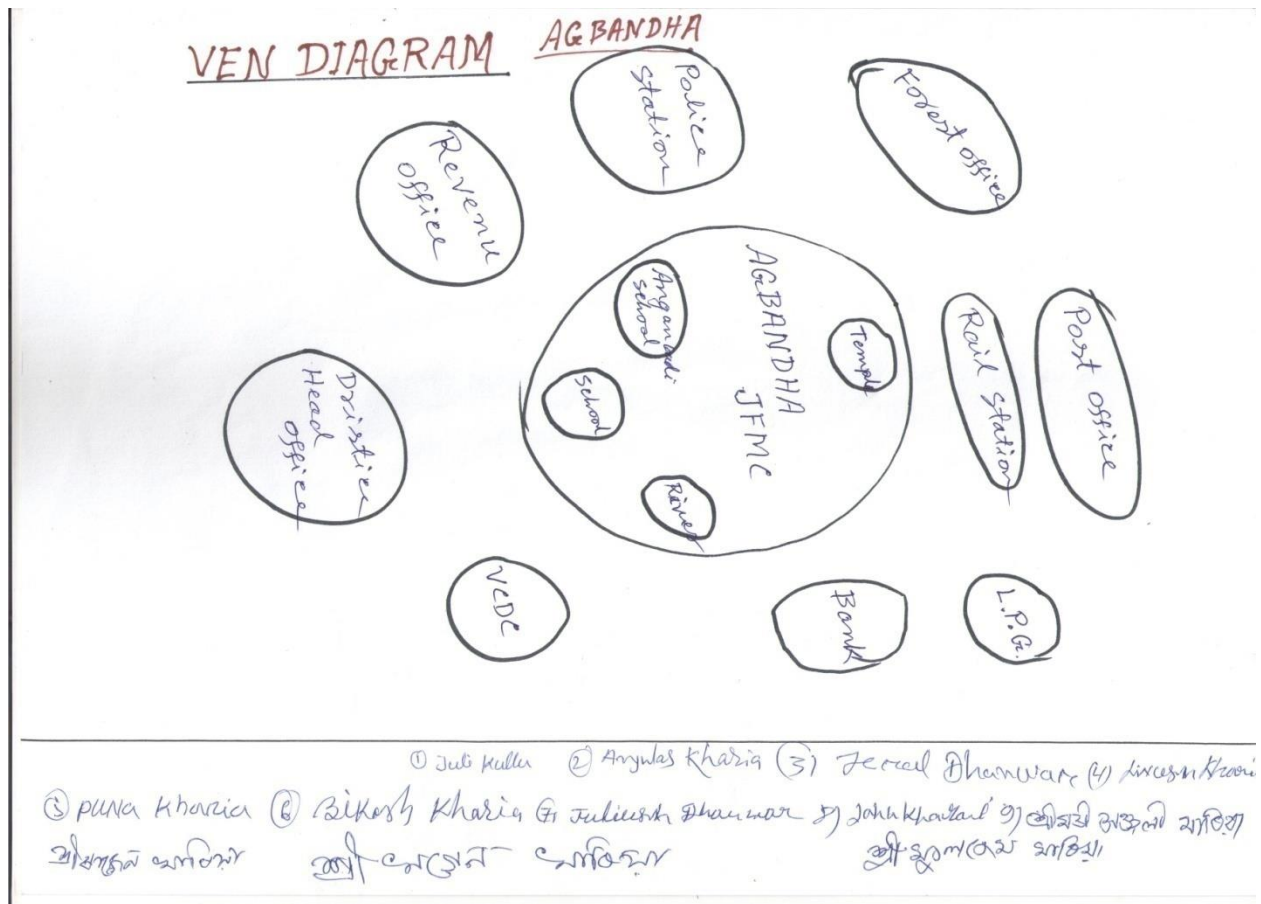
Wealth ranking was done with the help of the following information about the households

- Occupation/livelihood
- Land holding
- Types of living house
- Ownership of assets

As such it is found that about 50 % per cent people are poor, about 43% per cent are belonging to middle class and about 7% 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



Priority Ranking of Entry Point Activities

AGBANDHA JFMC (EPA)

EPA	Electricity (A)	Irrigation (B)	Veterinary (C)	Cane & Bamboo (D)	Road (E)	Fencing (F)	Remarks (G)	Preference (H)
Electricity (A)	X	A	A	A	A	A	5	1
Irrigation facility (B)		X	B	B	B	B	4	2
Veterinary (C)			X	C	C	C	3	3
Cane & Bamboo (D)				X	D	D	2	4
Road (E)					X	E	1	5
Fencing (F)						X	0	6

Signature of Participants: ① Jule Kulu ② Anjula's Kharia ③ Jeral Phamwan ④ Jirun Kharia
 ⑤ Puna Kharia ⑥ Binkash Kharia ⑦ Juleish Phamwan ⑧ John Kharia ⑨ ଭିକ୍ଷା ବଞ୍ଜନୀ ଶାହା
 ସମସ୍ତଙ୍କର ସ୍ୱାକ୍ଷର ଉପସ୍ଥିତିରେ କରାଯାଇଛି

Annexure 3

Record I

Table 1: Basic data of the JFMC

Sl. No	Name of the JFMC	Date of Establishment	No. of Members in Executive Committee	Name of the President	Name of the Secretary
1	Agbandha	2015	11	Mrs. Julie Kullu	Mr. Padum Borpatra Gohain

Table 2: Demographic Status of the JFMC villages

Sl. No.	Name of village	Households (No.)	Population (No.)			Sex Ratio	Avg. HH size
			Total	Male	Female		
1	Khariabasti	61	266	131	135	946	5
2	Tengapotharbasti	55	275	147	128		4
	Total	116	541	278	263	946	4.5

Source: Field Survey Report

Caste Profile:

The caste profile of JFMC from the two villages in the area is:

Sl. No	Caste	Number of HHs	Percentage of HH
1	OBC	116	100

Table 3: Farmer category on the basis of land holding

SL.NO	NAME OF THE 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	Khariabasti	2	9	23	24	58
2	Tengapotharbasti	3	9	20	26	58
	Total	5	18	43	50	116

Table 4: Village level data on literacy

Level of Education	Agbandha JFMC		Total
	Male	Female	
Illiterate	77	92	169
I-IV	142	133	275
V-VII	40	35	75
VIII-X	17	3	20
XI-XII	0	0	0
Graduate	0	0	0
Post Graduate	0	0	0
Total	276	263	539

Sl. No.	Name of village	Households (No.)	Population (No.)			Total Literates	Literacy Rate (In %)
			Total	Age group (0 – 6 yrs)	Excluding Age group		
1	Khariabasti	61	266	62	204	372	68.76
2	Tengapothar Basti	55	275	46	229		

Source: Field survey

If we refer to **table 3**, we see that the literacy status of 1 No Khariabasti village which is 69.86% is better than all the other villages under the JFMC. Altogether, in the JFMC. Most of the population have attained education upto class IV.

Table 5: Village wise farmer category on the basis of land holding

Land Type	Total Households	Possession/Use (in %)	Average holding (in acre)
Homestead	112	96.55	0.65
Farm	62	53.44	1.749
Mortgage Land	1	5.17	0.33
Share-cropping	1	5.17	0.082

Table 6: Details on Cattle population of the JFMC

Type of livestock	Total number possessed	% of HH rearing it	Average herd size
Cow	77	149	1.96
Bull	70	190	2.79
Duck	46	266	6.48
Local Poultry	89	711	7.98
Pig	35	44	1.46
Goats	67	235	3.73

Table 7: JFMC Village Infrastructure

Sl. No	Infrastructure	Location	Distance from villages
1.	Electricity	-	-
2.	Gas connection	Margherita or Digboi	8-12 km
3.	Transport	Dehing Bazar	4 km
4.	PHC	Margherita	8 km
5.	LP School	Within the villages	-
6.	High School	Margheita	8 km
7.	Bank	Margherita	8 km
8.	Anganwadi Centre	Within the villages	-
9.	VCDC	Bhitor Powai	-
10.	Revenue Office	Margherita	8 km

11.	Police station	Margherita	8 km
12.	Forest Office	Agbandha Beat	2 km
13.	Post office	MakumKilla	4 km
14.	Bus facility	Margherita	8 km
15.	Railway Station	Margherita	8 km
16.	District head quarter	Tinsukia	40 km

Table 8: Details on agricultural crop/s

Crop Season	Rain Fed					Irrigation	
	Name of the Crop	Households cultivating (in %)	Avg. Area in cultivation (in acres)	Avg. harvest quantity (in kg)	Avg. investment (in INR)	Name of the crop	Area (in ha)
Kharif	Paddy (Sali)	62.9	-	174.1	4000	NA	NA
	Tea	8.62	-	237	4800	NA	NA

Table 9: Details on Fodder availability for livestock

Types	1-3month	3-6month	>6month
<i>Crop Residue</i>			
<i>Trees Fodder</i>			
<i>Grasses</i>			
<i>Green Fodder</i>			
<i>Grazing in Forest</i>			

Table 10: Details on Market availability

For Purchase	Location	Distance from village if in other village (in km)
Grocery shop	Dehing Bazar	4kms
Weekly Market	Dehing Bazar	4kms
Major Market	Margherita & Digboi	8-12 km
Forest Corporation Sale Depot.	-	-
Tendu Patta PHAD	-	-
Fish Market	Dehing Bazar	4kms
Medicinal Plant collection Centre	-	-
Forest Corporation Medicinal Plant Collection Centre	-	-

Table 11: Water resource availability

Source of Water	Ownership households (in %)	Availability	Average depth of water source (in feet)	Purpose
Tube well	86.20	Perennial	N/A	Household use
Ring well	6	Perennial	NA	Household use
Pond	15.5	Perennial	NA	Household use and fish rearing

Table 12: Energy Consumption

Energy form	Availability in HHs	Source	Average monthly consumption of HHs	Purpose
Fuel Wood	113	Forest area	256.10 kgs	Household consumption
Kerosene	99	Local market	6.39 litres	Household consumption
LPG	13	Local gas agency	1	Household consumption

Record II

Livelihood Opportunities Analysis

Table 13: Bamboo Craft

Constraints	Reasons	Opportunities	Programme
Product quality and diversification	<ul style="list-style-type: none"> • Shortage of Highly skilled craftsmen • Use of Traditional tools and implements • * Lack of strategies for product diversification. 	<ul style="list-style-type: none"> • Good market potential • Scope for collaboration with established players • Established production cluster within the JFMC 	<ul style="list-style-type: none"> • Skill Up-gradation & Training on New Product Development and Product Diversification • Introduction of specialized tools and implements
Marketing potential	<ul style="list-style-type: none"> • No pricing policy • No linkage with the institutional buyers • No Product Diversification 	Exploring new markets	<ul style="list-style-type: none"> • Providing a bulk buy arrangement of the finished product with institutional buyers. • Establishment of the JFMC run training cum production centre. • Training on entrepreneurship and business
Credit facilities-Seed funding	<ul style="list-style-type: none"> • No linkage with the banks and other FIs • Unaware of the development schemes • Inadequate initial investment capacity • Lack of sound business orientation 	<ul style="list-style-type: none"> • Financial assistance by the Govt. or MFI players • Providing easy access to credit. 	<ul style="list-style-type: none"> • Financial Literacy is an important area of intervention along with entrepreneurship development programmes for emerging entrepreneurs in this sub-sector

Table 14: Integrated Backyard Kitchen Cultivation and Livestock Rearing

Constraints	Reasons	Opportunities	Programme
Lack of Agro and veterinary extension services	<ul style="list-style-type: none"> • Inadequate support services related to veterinary care • Inadequate support services related to agro-clinic • Lack of knowledge about scientific rearing of livestock and agricultural practices • Unawareness on the part of the villagers on the prospects of backyard kitchen gardening • Lack of irrigation facility • Availability of quality farm inputs and implements on time 	<ul style="list-style-type: none"> • Enhancing income from integrated practice • Availability of healthy breed of livestock and quality farm inputs • Promotion of organic vegetable production belt • Employment opportunity for the youth • Proper utilization of the homestead land • Increase in supplementary income • Replication of the model in the nearby areas as well 	<ul style="list-style-type: none"> • Training on para-veterinary professional • Setting up community own and run agro-vet are centre in the JFMC villages • Training on seasonal vegetable cultivation in the backyard homestead garden • Development of specialized PoP for the farmers
Marketing Potential	<ul style="list-style-type: none"> • Inadequate supply of marketable livestock • *Lack of proper roads to JFMC villages 	<ul style="list-style-type: none"> • Prospect of developing clusters for local poultry and goat and organic vegetable belt 	<ul style="list-style-type: none"> • Setting up of JFMC run Agro-vet care extension service centre • Vibrant and effective promotion on the benefits of consuming organic vegetables

Table 14: Credit Facility

Constraints	Reason	Opportunities	Programme
Rate of interest	Higher rates charged by the private money lender	Penetration of MFIs into the JFMC area	<ul style="list-style-type: none"> Financial literacy
Availability of loan	<ul style="list-style-type: none"> *Lack of proper documentation/proof on the part of the borrowers *Lesser interest shown by banks and other financial institutions 	<ul style="list-style-type: none"> Fostering the enterprise eco-system * Promotion of village level institutions 	<ul style="list-style-type: none"> Facilitating the bank linkage programme

NB;-Suggested to change the Committee of JFMC Per year for the smooth functioning the Activity in stipulated time period.

Approved

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