

**NAHORANI DHEMAGARH JOINT FOREST MANAGEMENT COMMITTEE (JFMC)**

**Harmoti Range, Lakhimpur Forest Division**

**NORTHERN ASSAM CIRCLE**

**MICRO-PLAN**

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

**Prepared by Nahorani Dhemagarh Joint Forest Management Committee**

**assisted by  
Assam Forest Department**

**&  
COMPELO  
(IIE & RGVN)**

**June - 2017**

*Approved*  
*[Signature]*  
**Divisional Forest Officer  
Lakhimpur Division**

## List of Acronyms

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

**NAHORANI DHEMAGARH JOINT FOREST MANAGEMENT COMMITTEE**  
**Harmoti Range, Lakhimpur Forest Division**

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

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## 1. Introduction

<p><b>About the Project</b></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><b>Micro-Planning &amp; Livelihood Development</b></p>	<p>In order to promote livelihood activities through market potential based value addition; the present project intends to take up activities like entrepreneurship promotion, product processing value addition and marketing under this project. This has become necessary on account of the pressures on existing forest resources due to the growth of population. There is a need to explore value addition to the existing forest and biodiversity products and services, based on the market potential. In addition, non-forest based livelihoods need to be explored and the capacities of the community members need to be built-up through skills development initiatives.</p> <p>A consortium comprising of Indian Institute of Entrepreneurship (IIE) Guwahati and <i>Rashtriya Gramin Vikas Nidhi</i> (RGVN) has been formed to implement (<i>inter-alia</i>) the micro-planning and livelihood development under the above project. The above consortium has been titled as ‘Consortium for Micro Planning and Enhancing Livelihood Opportunities’ - COMPELO in short.</p> <p>As per project guidelines, this micro-plan includes <b>‘various operations of village and forest development ... livelihood support of forest dependent members and keeping sustainable forest management as the broad objective’</b>. It includes both forest development and livelihood development.</p>
<p><b>Micro-Plan for the Nahorani Dhemagarh JFMC</b></p>	<p>This document gives the Micro-Plan for the Nahorani Dhemagarh JFMC, which is located in the Lakhimpur district of Assam. The JFMC falls under the Ranga Reserve Forest of the Northern Assam Forest Circle. The villagers belong to the Assamese and Nepali Community. The Ranga Reserve comprised of mostly medium size trees with few large trees. Shrubs, Lianas, Climbers, Orchids and ferns grow Copiously. At the fringe bamboos and canes occupy the space.</p> <p>The present micro-plan has been prepared by members of the community, including both male and female members. This document has emerged as an outcome of a Participatory Rural Appraisal (PRA) process undertaken by the community and personnel of Indian Institute of Entrepreneurship (IIE) Guwahati in March 2017. The micro-plan has been compiled by IIE based on the project guidelines. The document has been discussed and finalized for adoption in April 2017.</p>

## 2. Village Socio-Economic Profiles

<b>Location</b>	<p>The Nahorani Dhemagarh Joint Forest Management Committee (JFMC) has been formed to cover the existing community dwelling in Nahorani Dhemagarh village located on the fringe of the Ranga Reserve Forest, of Harmoti range Sub-Division. The area covered by the above JFMC falls within Noaboicha Revenue Circle of Lakhimpur District of Assam.</p> <p><b>Appendix-1</b> Gives the Village Map.</p>																				
<b>Key Information</b>	<p>The key information of the JFMC is furnished below.</p> <p><b>Table-A: Key Information of the JFMC</b></p> <table border="1" data-bbox="467 618 1399 1205"> <tr> <td><b>Name of the JFMC</b></td> <td>Nahorani Dhemagarh</td> </tr> <tr> <td><b>Habitation</b></td> <td>Nahorani Dhemagarh</td> </tr> <tr> <td><b>Name of the Gram Panchayat / VCDC</b></td> <td>Phulbari GP</td> </tr> <tr> <td><b>Revenue Circle</b></td> <td>Noaboicha</td> </tr> <tr> <td><b>District</b></td> <td>Lakhimpur</td> </tr> <tr> <td><b>Forest Division</b></td> <td>Lakhimpur</td> </tr> <tr> <td><b>Forest Range</b></td> <td>Harmoti</td> </tr> <tr> <td><b>Forest Beat</b></td> <td>Phulbari</td> </tr> <tr> <td><b>Year Formed</b></td> <td>2005-2006</td> </tr> <tr> <td><b>Description of Boundary of JFMC</b></td> <td>As below North: Ranga RF South: No-2 Dhemagarh Village West: No-1 Dhemagarh village (or sonowal Gaon) East: Ranga Reserve &amp; Rajgarali village</td> </tr> </table> <p><b>Source:</b> JFMC Records &amp; Discussions during PRA Exercise in March 2017 Additional details are given at <b>Table-1</b> of Record-I (Given at Annexure)</p>	<b>Name of the JFMC</b>	Nahorani Dhemagarh	<b>Habitation</b>	Nahorani Dhemagarh	<b>Name of the Gram Panchayat / VCDC</b>	Phulbari GP	<b>Revenue Circle</b>	Noaboicha	<b>District</b>	Lakhimpur	<b>Forest Division</b>	Lakhimpur	<b>Forest Range</b>	Harmoti	<b>Forest Beat</b>	Phulbari	<b>Year Formed</b>	2005-2006	<b>Description of Boundary of JFMC</b>	As below North: Ranga RF South: No-2 Dhemagarh Village West: No-1 Dhemagarh village (or sonowal Gaon) East: Ranga Reserve & Rajgarali village
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<b>Brief Details of the Executive Committee &amp; General Body</b>	<p>The brief details of Executive Committee &amp; General Body of the JFMC are contained in the table, which is given below.</p> <p><b>Table-B: Brief Details of Executive Committee &amp; general Body</b></p> <table border="1" data-bbox="467 1373 1399 1619"> <tr> <td><b>Name of President</b></td> <td>Mr. Girindra Upadhyay</td> </tr> <tr> <td><b>Name of Secretary</b></td> <td>Mr. Kanak Ch Baruah</td> </tr> <tr> <td><b>Name of Treasurer</b></td> <td>Mr. Girindra Upadhyay</td> </tr> <tr> <td><b>No. of Members in Executive Committee</b></td> <td>Male: 14 Female: 1 <b>Total-15</b></td> </tr> <tr> <td><b>No. of Members in the General Body</b></td> <td>200 (Represented by one adult member of each household)</td> </tr> </table> <p><b>Source:</b> JFMC Records</p>	<b>Name of President</b>	Mr. Girindra Upadhyay	<b>Name of Secretary</b>	Mr. Kanak Ch Baruah	<b>Name of Treasurer</b>	Mr. Girindra Upadhyay	<b>No. of Members in Executive Committee</b>	Male: 14 Female: 1 <b>Total-15</b>	<b>No. of Members in the General Body</b>	200 (Represented by one adult member of each household)										
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<b>No. of Members in the General Body</b>	200 (Represented by one adult member of each household)																				
<b>Households &amp; Population Structure</b>	<p>The village has 200 households. During the PRA exercise we have not observed any Female Headed Households. The total population is 1010, of which 624 are males and 386 are female members and are of Nepali, Bodo, Sonowal and assamese Community.</p> <p><b>Table-2</b> of Record-I may be referred for further details in the above regard.</p> <p>From this, it is inferred that:</p> <ol style="list-style-type: none"> <li>(1) The average number of persons in a household is 5 (200 HHs).</li> <li>(2) The sex ratio is 241 females per 1000 males in the village which is 74% of the sex ratio of India.</li> </ol>																				

<b>Education &amp; Skills Development</b>	<p>Over 71% (200 HHs) of the population is reported to be literate. Most of the community members are reported to have received School level education. While the no of people receiving Graduate level and master Level Education are very Few. Livelihood skills are usually acquired under various settings – formal &amp; informal. A rural livelihood essentially consists of three major components namely; stores and resources, livelihood capabilities and claims and access. India has an Agrarian economy. In the JFMC area, informal means for skills development is in the traditional norm. People have skills in the following areas:</p> <ul style="list-style-type: none"> <li>(a) Tea Wage Earning.</li> <li>(b) Cane &amp; Bamboo.</li> <li>(c) Farming.</li> <li>(d) Handloom.</li> <li>(e) Tailoring.</li> </ul> <p>Government has been always active in promoting formal skills development programmes in the country as well as in the state. However, the village is yet to get any such programme which has been carried out in the habitation or in nearby areas.</p>
<b>Soil</b>	<p>The soil type of the project area includes:</p> <ul style="list-style-type: none"> <li>• Alluvial and fertile.</li> </ul> <p>This type of soil can support different kind of crops, as the soil is reported to be very fertile for which crops flourishes without use of any artificial manure and minimum use of labour can make it happen.</p>
<b>Water</b>	<p>The area does not have a river. The area lies in the Harmoti range of Lakhimpur district. The mighty river Brahmaputra touches the southern and south-eastern boundaries of the district. The area being covered as a part of the Subansiri Basin.</p>
<b>Climate: Temperature &amp; Rainfall</b>	<p>The maximum <b>temperature</b> during the summer is 40°C. The minimum temperature during the winter is 9°-15° C. The summers here have a good deal of rainfall, while the winters have very little. The annual <b>rainfall</b> is about 3200-3400 mm. About three-fourth of the rainfall usually occurs during the rainy season (June-September). The village has a high level of <b>humidity</b> (over 92%) during the summer season and low levels in the winter (Below 20%).</p>
<b>Forest &amp; Bio-diversity</b>	<p>The local forests have been broadly classified as a rain forest and densely vegetated. The main tree species are Hollong (the tallest tree of Assam and also the state tree), Amari, Dhuna, Ajar, Velkor, Bogipoma, Hilikha, Teak, Fire wood and many other medicinal plants. These type of forest have luxuriant growth of epiphytes and trees with fissured bark support magnificent Additional details in this regard are given at the '<b>Forest Development Plan</b>'.</p>
<b>Land Use Pattern</b>	<p><b>Appendix-2</b> 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"> <li>Paddy Field -42.28%</li> <li>Forest Degraded-10%</li> <li>Tree Clad Area-2.80%</li> <li>Road-3.08%</li> <li>Settlement Area-27.57%</li> <li>Fallow Land-14.53%</li> </ul>
<b>Land Holdings</b>	<p>The type of households as per land-holding is given at <b>Table-3</b> of Record-I. From the same, it is seen that:</p> <ul style="list-style-type: none"> <li>• 5% of the households are landless (11 HH)</li> <li>• 86% of the households are marginal farmers (172 HH)</li> <li>• 9% of the households belong to small Farmer (17HH)</li> </ul>

<b>Livestock</b>	<p>The total number of livestock in the village is 2470. The main types of livestock possessed by the households include:</p> <p>Cows: 200 Goats: 500 Poultry: 300 Bulls : 230 Duck: 200 Pigs :120</p> <p><b>Table-4</b> of Record-I may be referred to for the details in the above connection.</p>												
<b>Village Infrastructure &amp; Communication Facilities</b>	<p>In any community; the availability of basic infrastructure enables the development of sustainable livelihood options. The present condition of infrastructure in the village is not satisfactory. This is borne out by <b>Table-5</b> of <b>Record-I</b>, which gives the present status of the village infrastructure.</p> <p>From the above table, the following have been noted with regard to village infrastructure:</p> <p><b>Physical Infrastructure:</b> The habitation is Consist of basic physical infrastructure like Schools, paved roads, electricity, water supply, mobile network etc. Most of the Roads are Kuccha.</p> <p><b>Education &amp; Health Facilities:</b> There are minimal (least nos. of, if possible put nos.) educational institutions and the health facilities are not sufficient and located at a distance of 15 Km. Public transport is not available, and the community members have to use bicycles and motor cycles to move around.</p> <p><b>Govt. Offices:</b> Most of the government offices, such as Police station, Gram Panchayat office, Revenue office, Forest Beat office etc. are located at a distance of 5 to 15 km. at a considerable distance of 5-15km, which gets amplified as the villagers. The situation become worst as the villagers do not have access to regular public transport from either the habitation or from nearby areas.</p> <p><b>Financial Inclusion:</b> Financial service provider like banks, post office etc are located in Harmoti at a considerable distance of 5 km from the habitation. Still, the community members have opened accounts with banks and post office.</p>												
<b>Agricultural Crops</b>	<p>The details of the agricultural crops grown in the village is available at <b>Table-6</b> of Record-I.</p> <p>The above shows that the following are the main crops grown in the village.</p> <p><b>Kharif Crops:</b> Paddy(Aijong, Pankaj, Bao, Joha, Bora)</p> <p><b>Rabi Crops:</b> Mustard, Pea, Potato.</p> <p><b>Others:</b> Mango, Jackfruit, Cabbage, Brinjal, Chilli, Cauliflower, Tomato, Pumpkin, Gourd, Lemon etc.</p> <p>All the crops are rain fed.</p>												
<b>Crop Production Profile</b>	<p><b>Table-7</b> of Record-I may be referred to for the production and yield details of the crops grown in the village.</p> <p>The maximum numbers of households are involved in growing crops like rice and vegetables.</p> <p>The production and yield of these crops is given as follows:</p> <table data-bbox="512 1664 1326 1765"> <tr> <td>(a) Paddy : Production</td> <td>7560 Quintals</td> <td>Yield</td> <td>132.63 q /ha</td> </tr> <tr> <td>(b) Vegetable: Production</td> <td>155 Quintals</td> <td>Yield</td> <td>0.63 q/ha</td> </tr> <tr> <td>(c) Fruit Orchard: Production</td> <td>62 Quintals</td> <td>Yield</td> <td>0.96q/ha</td> </tr> </table>	(a) Paddy : Production	7560 Quintals	Yield	132.63 q /ha	(b) Vegetable: Production	155 Quintals	Yield	0.63 q/ha	(c) Fruit Orchard: Production	62 Quintals	Yield	0.96q/ha
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<b>Fodder Availability</b>	<p>The matter of fodder availability in the village is dealt with at <b>Table-8</b> of Record-I. The above shows that the main sources of fodder in the village are as follows:</p> <p>(a) Crop residue (b) Grazing in forest (c) Trees fodder</p>												

	(d) Green fodder (e) Grasses
<b>Markets</b>	<b>Table-9</b> of Record-I shows the location of the different markets from the village. The main markets used by the community are as follows: (a) Grocery / PDS: Within the Village. (b) Weekly / Bi-weekly Market: Doolahat at 7km away. (c) Major Market: Lakhimpur at 30 km away. (d) Fish Market : Doolahat at 7 Km
<b>Water Resources</b>	The water resources are tabulated at <b>Table-10</b> of Record-I. The main water resources with the water availability is as follows: (a) Pond (Water Availability: Perennial / Seasonal) (b) Tube well (Water Availability: Perennial / Seasonal) (c) Ring Well (Water Availability: Perennial / Seasonal)
<b>Energy Consumption</b>	<b>Table-11</b> of Record-I shows the major sources of energy in the village. The same have been listed below. (a) Fuel wood - Households Depending 200 Nos. Source: Forest (b) Kerosene - Households Depending: 35 Nos. Source: Open Market and PDS (c) LPG- Households Depending 50 Nos. Source: Govt
<b>Socio-economic status</b>	<b>Social set-up:</b> The village is inhabited by Assamese community and the inhabitants are classified as Schedule Tribe, OBC and General Category. The society is not marked by deep social divisions. The observed position of women is Comparatively less. <b>Economic Condition:</b> The economic condition of the villagers is not very decent. The main livelihoods are Farming, Daily wages, cane bamboo, handloom etc. Most households earn Rs. 60,000 to Rs. 80,000 per year. There is no migration in this JFMC area.
<b>Maps</b>	<b>Appendix-1</b> gives the following maps, based on PRA exercise: <ul style="list-style-type: none"> <li>• Village Map(with the names and particulars of members in PRA)</li> <li>• Village Social Map (with the names and particulars of members in PRA)</li> <li>• Village Resource Map(with the names and particulars of members in PRA)</li> </ul>



### 3. Livelihood Opportunity Analysis

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

- a) Livelihood assets
- b) Livelihood context
- c) Priority ranking on potential livelihood

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

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

### 4. Natural Capital

In Nahorani Dhemagarh JFMC under Harmoti Range , Ranga Reserve Forest, major natural capital are Hollong, Bogipoma, Hilikha, Teak, Fire wood and many other medicinal plants and there are about 20 Ponds and a stream name Balinadi.

Majority of the people are dependent on the forest for firewood, green fodder, timber etc. For farming purpose and for livestock rearing, the villagers use the river water.

(Refer table 10, 11, table 3 of FDP for further details)

### 5. Physical Capital

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

The village has 21 numbers of semi-pucca houses, 7 numbers of Pucca houses and the remaining houses are thatch. Among the various sources of energy consumption such as Biomass, kerosene, electricity, LPG and solar Power, villagers depend on the firewood and kerosene for household and other uses. Although, some of the household have LPG, but reliability is very less. (Refer to table 10, 11)

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

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

### 6. Social Capital

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

There are SHGS in the village. Moreover, the village has Four Community Namghar, Three Anganwadi Centres and four temples where social meetings of the villages are held.

## 7. Human Capital

71 per cent of total population of the JFMC are educated and 29 per cent are illiterate. (Refer to table 3.3)

## 8. Financial Capital

There is no government bank or lending institution available inside the JFMC area .However, villagers lend from informal lending groups, relative etc.723 numbers of people have bank account in commercial banks, but due to their poor economic position they face problems in maintaining their accounts on a regular basis are not aware of the benefits of financial inclusion. **Livelihood Context** Livelihood activities of the Nahorani Dhemagarh JFMC are identified on the basis of following criteria:

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

## 9. Priority Ranking Through PRA Exercise

9. Priority Ranking Through PRA Exercise

<b>PRA Exercise</b>	Team from IIE Guwahati carried out PRA exercise in Nahorani Dhemagarh village as follows: <b>Date:</b> 14 <sup>th</sup> March, 2017 <b>Location:</b> Middle English School, Nahorani Dhemagarh <b>Numbers Present:</b> 45 <b>In Presence of:</b> JFMC office bearers, Village Headman, community members, Forest Department personnel, etc.			
<b>Objective of PRA</b>	The objective was to study the existing household conditions and obtain other primary data about the community for developing the livelihood options and the forest development plan.			
<b>Tools Used &amp; Outcomes of the PRA</b>	Different tools were used and outcomes obtained. These include: Social Mapping Wealth Ranking Time Line review Seasonality of Livelihoods Venn Diagram Chapatti Diagram <b>Appendix-3</b> furnishes detailed information of the above.			
<b>Ranking</b>	Ranking exercise has been done for the following: ❖ Entry Point Activities (EPA) ❖ Livelihoods & Skills Development <b>Appendix-3</b> elaborates the above. From the same, it is stated that: Ranking of EPA (Refer page no. 37)			
	<b>Rank</b>	<b>Village EPA as ranked</b>	<b>Details (Appendix-3 has additional particulars)</b>	<b>Probable source of funding/dept.</b>
	1.	Community Hall	A new community Hall Should be renovated for Conducting Village and Social Meetings.	APFBC
	2.	Drinking water supply	The Village Should be facilitated with Proper Drinking water System	APFBC/NRDWP
	3.	Guide Bund	A Gaith Bund should be built from JFMC to Forest Plantation Area with a length of 60 m on the side of Balinadi stream.	MORD
	4.	Solar Fencing	A Solar Fencing should be built within the plantation area to reduce Elephant Depredation.	APFBC
	5.	Village Road	A village Road with earth filling of 2 Km should be constructed inside the JFMC area.	PMGSY/PWD/APFBC
	6.	Watch Tower	At least two watch tower within the JFMC.	APFBC
	7.	School/Public Infrastructure and others	A Library with Computer should be setup within the JFMC. and Providing furnitures,School bags for kids	APFBC

	<ul style="list-style-type: none"> <li>❖ An arrangement of working capital worth Rs.2 Lakh should be arranged from the EPA fund for promoting livelihood activities.</li> <li>❖ A low cost Community work shed cum JFMC office to be setup within the JFMC boundaries for setting up and commissioning of Tool kits/Equipment/Machineries.</li> </ul> <p><b>Ranking of Livelihoods &amp; Skills Development</b></p> <ol style="list-style-type: none"> <li>1. Tea Wage earning.</li> <li>2. Cane &amp; Bamboo.</li> <li>3. Farming.</li> <li>4. Handloom.</li> <li>5. Tailoring.</li> </ol>
<b>Livelihood opportunities</b>	<p>Livelihood Opportunities were identified as follows:</p> <p>Agriculture. Bee Keeping. Weaving. Skills Development Credit Facility</p> <p>Additional discussion about the above has been given below.</p>
<b>Agriculture &amp; Horticulture</b>	<p><b>Table-12</b> under Record-2 may be seen in this connection for opportunities in the areas of agriculture and horticulture.</p> <p>The main constraints are:</p> <ol style="list-style-type: none"> <li>(a) Very negligible use of fertilizers and pesticides, insecticides.</li> <li>(b) Lack of irrigation facilities</li> <li>(c) Lack of agricultural infrastructure, modern tools and equipment's viz, power tillers, tractors etc.</li> <li>(d) Non usages of high yielding seeds etc.</li> </ol> <p>The opportunities are:</p> <ol style="list-style-type: none"> <li>(a) Application of proper and controlled pesticides and insecticides.</li> <li>(b) Introduction of new and advance technology</li> <li>(c) Well-structured training programme.</li> </ol> <p>The villagers are inherited with the skill of cultivation. All they need is improvisation of their skill level.</p> <p>The suggested programmes are:</p> <ul style="list-style-type: none"> <li>• Tractor operation training</li> <li>• Agri.-skill development programme.</li> <li>• Training on insecticides, pesticides, hybrid cultivation etc.</li> </ul>
<b>Livestock</b>	<p><b>Table-13</b> Furnishes additional information about opportunities for livestock rearing.</p> <p>The main constraints are:</p> <ol style="list-style-type: none"> <li>(a) Unable to buy fodder from market due to poor financial condition.</li> <li>(b) Trees fodder and crop residue are available only for 3-6 months. Green fodder is also not available for the whole year.</li> <li>(c) No veterinary care clinic</li> <li>(d) Lack of knowledge about the proper rearing of live stock</li> </ol> <p>The opportunities are:</p> <ol style="list-style-type: none"> <li>(a) Higher income from livestock rearing.</li> <li>(b) Majority of the workforce is engaged in this activity.</li> </ol> <p>The suggested Skill Development Programme is:</p> <ol style="list-style-type: none"> <li>(a) Weaving.</li> <li>(b) Tailoring.</li> <li>(c) Electrician.</li> </ol>

<p><b>NTFP</b></p>	<p>The opportunities for NTFP are tabulated at <b>Table-14</b> under Record-2  The main constraints are:  (a) Lack of proper utilisation of NTFP due to inadequate knowledge.  (b) Lack of research on development of high yielding varieties, domestication etc.  (c) No technical know-how  (d) No processing units  (e) Lack of trained personnel and equipment  (f) Lack of facilities to fabricate equipment locally  The opportunities is:  (a) Availability of fertile fallow land  (b) A ready market for the finished products.  The suggested programme are:  (a)Plantation of Food plants.  (b)Medicinal Plant etc.</p>
<p><b>Specialized Skills</b></p>	<p>For skills development, the opportunities are tabulated at <b>Table-15</b> under Record2  The main constraints are:  (a) Lack of product diversification  (b) Lack of research on product quality  (c) Lack of TQM techniques.  The opportunities are:  (a) Providing good communication facility  (b) Training of the skill holder  (c) Financial assistance from govt.  The suggested programme are:  <ul style="list-style-type: none"> <li>• Training on Modern Tools and Equipment</li> <li>• Providing modern technology to the villagers</li> <li>• Skill Up gradation &amp; Training on New Product Development and Product Diversification</li> <li>• Setting up a raw material bank</li> <li>• Providing a bulk buy arrangement of the finished product with institutional buyers.</li> </ul> </p>
<p><b>Credit Facility</b></p>	<p><b>Table-16</b> under Record-2 discusses this aspect.  The main constraints with the reasons are:  (a) Financial exclusion  (b) Higher rate charged by the private money lender.  The opportunities are:  (a) Setting up modern financial institution  (b) Adequate awareness.  (c) To provide credit facilities for modern equipment (tractors etc.)  The suggested programme is:  (a) Setting up modern financial institution in the nearby areas.</p>
<p><b>Strategic Interventions</b></p>	<p>Summarizing the suggested programmes at above as strategic interventions for the Livelihood Development Plan:  1 <b>Agriculture &amp; Horticulture:</b> Tractor operation training, Agri-skill development programme ,Training on insecticides, pesticides, hybrid cultivation  2. <b>Livestock:</b> Cattle rearing, Goatery, Poultry, Piggery.  3.<b>NWFP :</b> Plantation of Food plants, Medicinal Plant etc  <b>4. Specialized Skills:</b> Training on Modern Tools and Equipment, Providing modern technology to the villagers, Skill Up gradation &amp; 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.  <b>5. Credit facility:</b> Organizing the community into forming SHG/JLG and link them with Financial service provider. Setting up modern financial institution in the nearby areas</p>

## 10. Livelihood Development Plan



	<p>institutional buyers.</p> <p><b>5. Credit facility:</b> Organizing the community into forming SHG/JLG and link them with Financial service provider. Setting up modern financial institution in the nearby areas</p>
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## 10. Livelihood Development Plan

<b>Income Generating Activities</b>	<p>The main income generating activities as planned at the village are:</p> <p><b>Farm Sector :</b></p> <ol style="list-style-type: none"> <li>1. Tea wage Earning.</li> <li>2. Farming</li> <li>3. Horticulture</li> </ol> <p><b>Non-Farm sector:</b></p> <ol style="list-style-type: none"> <li>1. Weaving</li> <li>2. Electrician</li> <li>3. Carpentry</li> <li>4. Tailoring</li> </ol>
<b>SHG Activities</b>	<p>SHGs of the village can plan the following activities:</p> <ol style="list-style-type: none"> <li>1. To create awareness.</li> <li>2. To organise and form group</li> <li>3. To involve the villagers in Livelihood Activities collectively.</li> </ol>
<b>Exposure Trips</b>	Two Exposure tips to Successful JFMC, within Assam and other States.
<b>Summary of Action Plan</b>	As attached in next page.
<b>Convergence</b>	<p>The planned initiatives may be converged with the following schemes of the Government of India:</p> <ol style="list-style-type: none"> <li>(a) National Rural Employment Guarantee Scheme - for rural employment</li> <li>(b) Rashtriya Krishi Vikas Yojana (RKVY) - for agricultural and allied development</li> <li>(c) Rashtriya Krishi Sinchay Yojana (RKSJ) - for irrigation, including watershed development</li> <li>(d) National Rural Livelihoods Mission</li> <li>(e) Skills Development schemes</li> <li>(f) Other schemes for rural development and livelihoods as found appropriate.</li> </ol> <p>The above convergence will yield synergies for the present plan, as well as help in sustaining the planned works in the post-project period.</p>

## 11. Forest Development Plan of Nahorani Dhemagarh JFMC

This Forest Development Plan has been prepared after a detailed PRA exercise at the village level as a part of the Micro-Plan of Nahorani Dhemagarh 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 Nahorani Dhemagarh JFMC:

- Forest areas assigned to the JFMC by the Forest Department; and
- 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 Nahorani Dhemagarh JFMC have been summarized below.

**Table-1: Conditions of the Forests of Nahorani Dhemagarh 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]
<b>(A) Assigned Forest</b>				
RF / PF Name: Ranga RF Beat: Phulbari Beat Compartment:	70 Ha	4 Km	Good Area: - 20Ha Degraded Area: 50 Ha	6-9m
<b>(B) Other Planted Area</b>				
Location: Type of Forest: Rain Forest VF / Other _____				
<b>TOTAL</b>	70Ha		<b>Good Area: 20 Ha Degraded Area:50Ha</b>	

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

It is seen that the Nahorani Dhemagarh JFMC has 70 Ha under its forests, of which 20 Ha is 'Good' and have 50ha 'Degraded' area.



## 1.2. Forest Soil Type

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

**Table-2: Forest Soil Type in JFMC**

Parameter	Status in Assigned Forests	Status in Other Planted Areas
Fertility Level	4.3 to 6.94% organic. The available N, P205 and K20 content of the Soil is comparatively more.	-
Soil Erosion Status	High	-
<b>Presence of:</b>		
(a) Silt	3%	-
(b) Mud-flat	37%	-
(c) Newly accreted land	Low	-
(d) Sand dune	60%	-

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

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

1. Entisol (32.3%)
2. Inceptisol (49.3%)
3. Alfisols (12.3%)
4. Ultisols (6.1%)

## 1.3. Existing Composition of Flora

In the forests of the Nahorani Dhemagarh 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 Nahorani Dhemagarh JFMC**

Parameter	Local Name(s)	Biological Name(s)
<b>Associates</b>	Kadam	<i>Neolamarckia cadamba</i>
	Garjan	<i>Dipterocarpus terbinatus</i>
<b>Shrubs</b>	Dhekia	<i>Diplazium esculentum</i>
	Jam Lakhuti	<i>Costus speciosus</i>
<b>Medicinal Plants</b>	Bhumura,	<i>Terminalia belerica</i>
	Hilikha	<i>Terminalia Chebula</i>

	Neem	<i>Azadirachta indica</i>
	Amlakhi	<i>Phyllanthus emblica</i>
<b>Produces</b>	Jori bet	<i>Calamus erectus</i>
	Jati bet	<i>Calamus tenuis</i>
	Raidang bet	<i>Calamus rotang</i>
	Chuli bet	<i>Calamus Flagellum</i>
	Lejai bet	<i>Calamus floribundus</i>
	Kako Bah	<i>D. hamiltonii</i>
	Pahari Jati Bah	<i>Oxytennera parvifolia</i>
	Dulu Bah	<i>Schizostachyum dulloa</i>
	Amlakhi	<i>Embllica officinalis</i>
	Halakh	<i>Terminalia myriocarpa</i>
	Hollong	<i>Dipterocarpus macrocarpus</i>
	Arjun	<i>Terminalia arjuna</i>
	Agar	<i>Aquillaria agallocha</i>

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

## 2. Other Inputs for the Forest Development Plan

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

### 2.1. Past Protection Measures of the JFMC

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

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

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

## 2.2. Domestic Requirements of Forest Produce

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

**Table-4 (A): Domestic Requirement of Forest Produce per Household of the Nahorani Dhemagarh JFMC**

Name of Forest Produce	Average Household Requirement		How met at Present	Source
	Frequency of Requirement	Approx. Qty(per Year)		
Firewood	Frequent	60-90 kg/yr		Forest
Timber for House	Once in a year	6-9 nos/yr		Forest
Small timber for Implements	-	-		-
Pole / Bamboo	Once in a month	20-40 bamboo /Year		Forest
Fodder from Forest	Frequent	60-80/yr		Forest
NTFP	Frequent	3-8 kg per yr		Forest

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

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

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

Name of Forest Produce	Community Requirement (Kg per annum) (*)	Remarks
Firewood	12000-18000 kg	Throughout the year
Timber for House	1200-1800 nos.	Throughout the year
Small Timber for Implements	-	-
Pole / Bamboo	4000-8000 bamboo	Throughout the year
Fodder from Forest	12000-16000 kg	Throughout the year
NTFP	600-1600 kg	Throughout the year

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

(\*) = Approx. Qty. of Average Household Requirement (from Table-4 (A) x 200 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 Nahorani Dhemagarh JFMC is given in the following table.

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

Name of Forest Produce	Collection for Marketing			Location of Collection
	Season / Months	No of Households Collecting	Average Qty. Collected (Kg)	
Firewood	-	-	-	-
Timber for House	-	-	-	-
Small timber for Implements	-	-	-	-
Bamboo	-	-	-	-
Pole	-	-	-	-
Fodder from Forest	-	-	-	-
NTFP	-	-	-	-
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 [Nahorani Dhemagarh JFMC]**

Name of Forest Produce	Surplus Marketed (Kg)	How marketed	Average Income per HH from sale of Forest Produce
Firewood	-	-	-
Timber for House	-	-	-
Small timber for Implements	-	-	-
Bamboo	-	-	-
Pole	-	-	-
Fodder from Forest	-	-	-
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 Nahorani Dhemagarh 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 Nahorani Dhemagarh 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	12000-18000 kg	-	12000-18000 kg
Timber for House	1200-1800 nos.	-	1200-1800 nos.
Small timber for Implements	-	-	-
Bamboo	4000-8000 bamboo	-	4000-8000 bamboo
Pole	12000-16000 kg	-	12000-16000 kg
Fodder from Forest	600-1600 kg	-	600-1600 kg
NTFP	12000-18000 kg	-	12000-18000 kg

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

## 3. Forest Protection Issues

### 3.1. Protection Problems

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

- **Table-7: Protection Problems of the Nahorani Dhemagarh JFMC**

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

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

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

(a) Grazing - Local Animals

(b) Grazing - Animals from Other Area

### 3.2. Reasons for Degradation of the Forest

In the Nahorani Dhemagarh 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.
- (d) Encroachment of forest.

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

## 4. Components of the Forest Development Plan

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

**Table-8: Protection Plan of the Nahorani Dhemagarh JFMC**

<b>Protection Work</b> [to be filled from Table 3.7 of Proforma-3 as applicable]	<b>Location in Forest Area</b>	<b>Quantification of the Measures</b> [Length, Area, Size etc.]	<b>Timing</b>	<b>Priority</b> [High / Medium / Low]
<b>1. Engagement of Watcher</b>	R.F	5 km,30 Ha	6am-6pm	Medium
<b>2. Fire Protection</b>	Within the Forest	-	Autumn/Winter	High
<b>3. Rotational Grazing</b>	R.F	-	Rainy Season	Medium
<b>4. Social Fencing</b>	Boundary	Along the Demarcation of the plantation area	Grazing Seasons	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 Nahorani Dhemagarh JFMC (with high / medium priority) are as follows:

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

## 4.2. Forest Improvement – Action Plan

### Action Plan for Block Plantation of Non Saal Mixed with Associates

Name of Plantation	: Block Plantation
Plantation Period	: 2016-17 to 2025-26 (10 Years)
Plantation Area	: 20 Ha
Spacing	: 3 x 3 m-1100plants per ha
No. of Plants to be Raised	: 22,000(5500 approx.annually)
Number Blocks	: 4Numbers(5ha each)
Species	: Non Saal; Associates Arjun, Seleng,Poma, Borpat,Udal,Hollock, Khokon, Jutuli, Amari, Bola etc.
Rates	: As Approved by APFBCS (to be increased by 20% every two years)

Action Plan for Creation of Plantation		
Financial Year	Activities	Amount (Rs.)
2016-17	<b>A. Advance Works:</b>	
	1. Site clearance including survey (GPS) of 1st plot of 5Ha @ 15 DLs/Ha @Rs.280/DL	21,000/-
	2. Raising of Site Nursery, 9 Dls/Ha @ Rs.280/Ha	12,600/-
	3. Providing fencing in vulnerable point @ Rs. 2000/ha	40,000/-
	<b>B. Creation &amp; Maintenance :</b>	
2017-18*	Creation of 5Ha Plantation (1 <sup>st</sup> Plot)during the period of <b>April-June</b> followed by 1st year maintenance viz 4 weedings and carrying out advance works in 2 <sup>nd</sup> plot of 5 Ha area for next year creation, 420 DLs @Rs.280/DL	1,17,600/-
2018-19*	Creation of 5 ha Plantation (2 <sup>nd</sup> Plot) during the period of <b>April-June</b> followed by 1st year maintenance viz 4 weedings and carrying out advance works in 3 <sup>rd</sup> plot of 5 ha area for next year creation, 420 DLs @Rs.280/DL	1,17,600/-
	2 <sup>nd</sup> year maintenance of 1 <sup>st</sup> plot of 5 ha viz 4 Weedings including replacement of dead/struggling saplings raised in the previous year, (2017-18)	42,000/-
2019-20*	Creation of 5 Ha Plantation (3 <sup>rd</sup> Plot) during the period of <b>April-June</b> followed by 1st year maintenance viz 4 weedings and carrying out advance works in 4 <sup>th</sup> plot of 5 Ha area for next year creation, 420 DLs @Rs.280/DL	1,17,600/-
	3 <sup>rd</sup> year maintenance of 1 <sup>st</sup> plot of 5 ha viz 4 Weedings including replacement of dead/struggling saplings raised in the year, 2017-18 & fire watching	42,000/-
	2 <sup>nd</sup> year maintenance of 2 <sup>nd</sup> plot of 5 ha viz 4 Weedings including replacement of dead/struggling saplings raised in the year, 2018-19	42,000/-
2020-21*	Creation of 5 Ha Plantation (4 <sup>th</sup> Plot) during the period of <b>April-June</b> followed by 1st year maintenance viz 4 weedings, 300 DLs @Rs.280/DL	84,000/-
	4 <sup>th</sup> year maintenance of 1 <sup>st</sup> plot of 5 ha viz 4 Weedings including replacement of dead/struggling saplings raised in the year, 2017-18 & fire watching	42,000/-
	3 <sup>rd</sup> year maintenance of 2 <sup>nd</sup> plot of 5 ha viz 4 Weedings including replacement of dead/struggling saplings raised in the year, 2018-19 & fire watching	42,000/-

	2 <sup>nd</sup> year maintenance of 3 <sup>rd</sup> plot of 5 ha viz 4 Weedings including replacement of dead/struggling saplings raised in the year, 2019-20	42,000/-
2021-22*	4 <sup>th</sup> year maintenance of 2 <sup>nd</sup> plot of 5 ha viz 4 Weedings including replacement of dead/struggling saplings raised in the year, 2018-19 & fire watching	42,000/-
	3 <sup>rd</sup> year maintenance of 3 <sup>rd</sup> plot of 5 ha viz 4 Weedings including replacement of dead/struggling saplings raised in the year, 2019-20 & fire watching	42,000/-
2022-23*	2 <sup>nd</sup> year maintenance of 4 <sup>th</sup> plot of 5 ha viz 4 Weedings including replacement of dead/struggling saplings raised in the year, 2020-21	42,000/-
	4 <sup>th</sup> year maintenance of 3 <sup>rd</sup> plot of 5 ha viz 4 Weedings including replacement of dead/struggling saplings raised in the year, 2019-20 & fire watching	42,000/-
	3 <sup>rd</sup> year maintenance of 4 <sup>th</sup> plot of 5 ha viz 4 Weedings including replacement of dead/struggling saplings raised in the year, 2020-21 & fire watching	42,000/-
	Silvicultural thinning of 5 ha.(1 <sup>st</sup> plot) plantation created in 2017-18, 10 Dls./ <a href="#">ha.@Rs.280/</a> DL.	14,000/-
2023-24*	4 <sup>th</sup> year maintenance of 4 <sup>th</sup> plot of 5 ha viz 4 Weedings including replacement of dead/struggling saplings raised in the year, 2019-20 & fire watching	42,000/-
	Silvicultural thinning of 5 ha.(2 <sup>nd</sup> plot) plantation created in 2018-19, 10 Dls./ <a href="#">ha.@Rs.280/</a> DL.	14,000/-
2024-5*	Silvicultural thinning of 5 ha.(3 <sup>rd</sup> plot) plantation created in 2019-20, 10 Dls./ <a href="#">ha.@Rs.280/-</a> per DL.	14,000/-
205-26*	Silvicultural thinning of 5 ha.(4 <sup>th</sup> plot) plantation created in 2020-21, 10 Dls./ <a href="#">ha.@Rs.280/</a> DL.	14,000/-
<b>Total Budgetary Requirement</b>		<b>10,70,400/-</b>

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

### **Action Plan for Block Plantation of Mixed Harwood Plantation - Associates, Firewood**

Name of Plantation : Block Plantation of Non Saal Mixed with Associates, Firewood and Bamboo  
Plantation Period : 2016-17 to 205-26 (10 Years)  
Plantation Area : 20 ha  
Spacing : 2m X 2 m-500 plants per ha  
No. of Plants to be Raised : 50,000 (12,500 approx. annually)  
Number Blocks : 4Numbers(5 ha each)  
Species : Non Saal; Associates- Cham, Gomari, Titasopa, Poma, Hollock, etc.Fuel wood – Ghora neem, Moj, Dhuna, Siris, Bola etc.

Action Plan for Creation of Plantation		
Financial Year	Activities	Amount (Rs.)
2016-17	<b>A. Advance Works:</b>	
	1.Site clearance including survey (GPS) of 1st plot of 5Ha @15 DLs/Ha @Rs.280/DL	21,000/-
	2.Raising of Site Nursery, 9 Dls/Ha @ Rs.280/Ha	12,600/-
	3.Providing fencing in vulnerable point @ Rs. 2000/ha	40,000/-
	<b>B. Creation &amp; Maintenance :</b>	



2017-18*	Creation of 5Ha Plantation (1 <sup>st</sup> Plot)during the period of <b>April-June</b> followed by 1st year maintenance viz 4 weedings and carrying out advance works in 2 <sup>nd</sup> plot of 5 Ha area for next year creation, 420 DLs @Rs.280/DL	1,17,600/-
2018-19*	Creation of 5 ha Plantation (2 <sup>nd</sup> Plot) during the period of <b>April-June</b> followed by 1st year maintenance viz. 4 weedings and carrying out advance works in 3 <sup>rd</sup> plot of 5 ha area for next year creation, 420 DLs @Rs.280/DL	1,17,600/-
	2 <sup>nd</sup> year maintenance of 1 <sup>st</sup> plot of 5 ha viz. 4 Weedings including replacement of dead/struggling saplings raised in the previous year, (2017-18)	42,000/-
2019-20*	Creation of 5 Ha Plantation (3 <sup>rd</sup> Plot) during the period of <b>April-June</b> followed by 1st year maintenance viz. 4 weedings and carrying out advance works in 4 <sup>th</sup> plot of 5 Ha area for next year creation, 420 DLs @Rs.280/DL	1,17,600/-
	3 <sup>rd</sup> year maintenance of 1 <sup>st</sup> plot of 5 ha viz. 4 Weedings including replacement of dead/struggling saplings raised in the year, 2017-18 & fire watching	42,000/-
	2 <sup>nd</sup> year maintenance of 2 <sup>nd</sup> plot of 5 ha viz. 4 Weedings including replacement of dead/struggling saplings raised in the year, 2018-19	42,000/-
2020-21*	Creation of 5 Ha Plantation (4 <sup>th</sup> Plot) during the period of <b>April-June</b> followed by 1st year maintenance viz 4 weedings, 300 DLs @Rs.280/DL	84,000/-
	4 <sup>th</sup> year maintenance of 1 <sup>st</sup> plot of 5 ha viz. 4 Weedings including replacement of dead/struggling saplings raised in the year, 2017-18 & fire watching	42,000/-
	3 <sup>rd</sup> year maintenance of 2 <sup>nd</sup> plot of 5 ha viz. 4 Weedings including replacement of dead/struggling saplings raised in the year, 2018-19 & fire watching	42,000/-
	2 <sup>nd</sup> year maintenance of 3 <sup>rd</sup> plot of 5 ha viz. 4 Weedings including replacement of dead/struggling saplings raised in the year, 2019-20	42,000/-
2021-22*	4 <sup>th</sup> year maintenance of 2 <sup>nd</sup> plot of 5 ha viz. 4 Weedings including replacement of dead/struggling saplings raised in the year, 2018-19 & fire watching	42,000/-
	3 <sup>rd</sup> year maintenance of 3 <sup>rd</sup> plot of 5 ha viz. 4 Weedings including replacement of dead/struggling saplings raised in the year, 2019-20 & fire watching	42,000/-
	2 <sup>nd</sup> year maintenance of 4 <sup>th</sup> plot of 5 ha viz. 4 Weedings including replacement of dead/struggling saplings raised in the year, 2020-21	42,000/-
	4 <sup>th</sup> year maintenance of 3 <sup>rd</sup> plot of 5 ha viz. 4 Weedings including replacement of dead/struggling saplings raised in the year, 2019-20 & fire watching	42,000/-
2022-23*	3 <sup>rd</sup> year maintenance of 4 <sup>th</sup> plot of 5 ha viz. 4 Weedings including replacement of dead/struggling saplings raised in the year, 2020-21 & fire watching	42,000/-
	Silvicultural thinning of 5 ha.(1 <sup>st</sup> plot) plantation created in 2017-18, 10 Dls./ <a href="#">ha.@Rs.280/</a> DL.	14,000/-
2023-24*	4 <sup>th</sup> year maintenance of 4 <sup>th</sup> plot of 5 ha viz. 4 Weedings including replacement of dead/struggling saplings raised in the year, 2019-20 & fire watching	42,000/-
	Silvicultural thinning of 5 ha.(2 <sup>nd</sup> plot) plantation created in 2018-19, 10 Dls./ <a href="#">ha.@Rs.280/</a> DL.	14,000/-
2024-5*	Silvicultural thinning of 5 ha.(3 <sup>rd</sup> plot) plantation created in 2019-20, 10 Dls./ <a href="#">ha.@Rs.280/-</a> per DL.	14,000/-
205-26*	Silvicultural thinning of 5 ha.(4 <sup>th</sup> plot) plantation created in 2020-21, 10 Dls./ <a href="#">ha.@Rs.280/</a> DL.	14,000/-
<b>Total Budgetray Requirement</b>		<b>10,70,400/-</b>

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

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

**Action Plan for Block Plantation of Non Timber Forest Produce**

Name of Plantation : NTFP PLANTATION  
 Plantation Period : 2016-17 to 205-26 (5Years)  
 Plantation Area : 10ha  
 Spacing : 2m X 2 m-500 plants per ha  
 No. of Plants to be Raised : 25,000  
 Number Blocks : 1 Number(10 ha)  
 Species : Amlokhi, Hilikha, Bhomora, Bohera, Mango, Guava, Neem, Arjun, Ashok, Nara singha, Bhatghila, Jolphai etc.

Wage Rate- Rs.280/DL

Action Plan for Creation of Plantation		
Financial Year	Activities	Amount (Rs.)
	<b>A. Advance Works:</b>	
2016-17	1.Site clearance including survey (GPS) of 1st plot of 5Ha @15 DLs/Ha @Rs.280/DL	28,000/-
	2.Raising of Site Nursery, 9 Dls/Ha @ Rs.280/Ha	25,200/-
	3.Providing fencing in vulnerable point @ Rs.2000/Ha	20,000/-
	<b>B. Creation &amp; Maintenance :</b>	
2017-18*	Creation of 10Ha Plantation during the period of April-June;followed by 1 <sup>st</sup> year maintenance viz 4 weedings 60Dls/ha. @ Rs.280/DL.	1,68,000/-
2018-19*	2 <sup>nd</sup> year maintenance viz 4 weedings, replacement of dead/struggling saplings 30Dls/ha. @Rs.280/DL.	84,000/-
	3 <sup>rd</sup> Year maintenance viz 4 weedlings , replacement of dead /struggling <a href="#">saplings-20Dls/ha. @Rs.280/DL</a>	56,000/-
2020-21*	4 <sup>th</sup> year maintenance viz 2 Weedings including replacement of dead/struggling saplings pruning etc. -15 Dls /ha. @ Rs.280/DL	42,000/-
<b>Total Budgetray Requirement</b>		<b>4,23,200-</b>

**4.3. Nursery Development Plan**

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

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

The details are given below.

**JFMC Nurseries**

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

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

Location of Nursery	Species	Year of Development	Number of Seedlings	Remarks
RF	Non Saal; Arjun, Seleng,Poma, Borpat,Udal,Hollock, Khokon, Jutuli, Amari, Bola etc	2016-17	5500	Provide sapling for plantation to be under taken in the 2017-18
	Mixed Hardwood :Cham, Gomari, Bola,Dhuna, Titasopa, Poma, Hollock, etc.Fuel wood – Kadam Ghora neem, Moj, Siris, etc.		12,500	
	NTFP: Amlokhi, Hilikha, Bhomora, Bohera, Mango, Guava, Neem, Arjun, Ashok, Nara singha, Bhatghila, Jolphai etc.		25,000	
	Non Saal; Arjun, Seleng,Poma, Borpat,Udal,Hollock, Khokon, Jutuli, Amari, Bola etc	2017-18	5500	Provide sapling for plantation to be under taken in the 2018-19
	Mixed Hardwood :Cham, Gomari, Bola,Dhuna, Titasopa, Poma, Hollock, etc.Fuel wood – Kadam Ghora neem, Moj, Siris, etc.		12,500	
	NTFP: Amlokhi, Hilikha, Bhomora, Bohera, Mango, Guava, Neem, Arjun, Ashok, Nara singha, Bhatghila, Jolphai etc.		25,000	
	Non Saal; Arjun, Seleng,Poma, Borpat,Udal,Hollock, Khokon, Jutuli, Amari, Bola etc	2018-19	5500	Provide sapling for plantation to be under taken in the 2019-20
	Mixed Hardwood Cham, Gomari,		12,500	

Location of Nursery	Species	Year of Development	Number of Seedlings	Remarks
	Bola,Dhuna, Titasopa, Poma, Hollock, etc.Fuel wood – Kadam Ghora neem, Moj, Siris, etc.			
	NTFP: Amlokhi, Hilikha, Bhomora, Bohera, Mango, Guava, Neem, Arjun, Ashok, Nara singha, Bhatghila, Jolphai etc.		25,000	

**N.B. 35% extra will be raised each year in each category for vacancy fill up.**

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

#### **4.4. Maintenance Plan - 10 Years**

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

(A) Timber Species - Non Saal, Associates

**Table-12 (A): Maintenance Plan of Plantation in the Nahorani Dhemaghar JFMC**

Year(s)	Treatment
2016-17 to 205-26	As provided in Action Plan for Block Plantation of Timber, Non Saal Mixed with Associates
2016-17 to 205-26	As provided in Action Plan for Block Mixed Harwood Plantation - Firewood

**Source:** Discussions with Forest Department personnel & Community members.

(B) Fuel wood Plantation

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

Year(s)	Treatment
2016-17 to 205-26	As provided in Action Plan for Block Mixed Harwood Plantation – Firewood

**Source:** Discussions with Forest Department personnel & Community members

(C) NTFP / Medicinal Plantation

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

Year(s)	Treatment
2016-17 to 205-26	Action Plan for Block Plantation of Non Timber Forest Produce

**Source:** Discussions with Forest Department personnel & Community members

#### 4.5. Miscellaneous Operations Plan

The miscellaneous operations planned in the JFMC are given below.

**Table-13): Miscellaneous Operations in the Nahorani Dhemaghar JFMC**

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

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

#### 5. Expected Benefits

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

##### 5.1. Expected Benefits Related to Wood & Grass

The above has been tabulated below for the Nahorani Dhemaghar 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 Nahorani Dhemaghar JFMC**

Item	Month	Year (Indicative)	Quantity
Firewood	Throughout the year	2026-27 onwards	8000 Kg. (Approx)
Timber for House	Throughout the year	2040 Onwards	2000 Kg. (Approx)
Small timber for Implements	-	-	-
Pole	-	-	-
Fodder from Forest Trees & Grass	Throughout the year	2026-27 onwards	40000 Kg. (Approx)
NTFP	Throughout the year	2035 onwards	1000 Kg. (Approx)
Wages	Throughout the year	2016-17 onwards	5000 DLs (Approx)
Other	-	-	-

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

##### 5.2. Sharing Mechanisms

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

**Table-15: Sharing Mechanism for Nahorani Dhemaghar JFMC**

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

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

## List of Appendices

### Guwahati to Harmuti distance, location, road map and direction

Guwahati is located in **India** at the longitude of 91.75 and latitude of 26.19. Harmuti is located in **India** at the longitude of 93.86 and latitude of 27.12 .

### Distance between Guwahati and Harmuti

The total straight line distance between Guwahati and Harmuti is **351 KM** (kilometers) and 729.98 meters. The miles based distance from Guwahati to Harmuti is **145.2**miles. This is a straight line distance and so most of the time the actual travel distance between Guwahati and Harmuti may be higher or vary due to curvature of the road .

### Guwahati To Harmuti travel time

Guwahati is located around 233 KM away from Harmuti so if you travel at the consistant speed of 50 KM per hour you can reach Harmuti in 4.67 hours. Your Harmuti travel time may vary due to your bus speed, train speed or depending upon the vehicle you use.

### Guwahati to Harmuti Bus

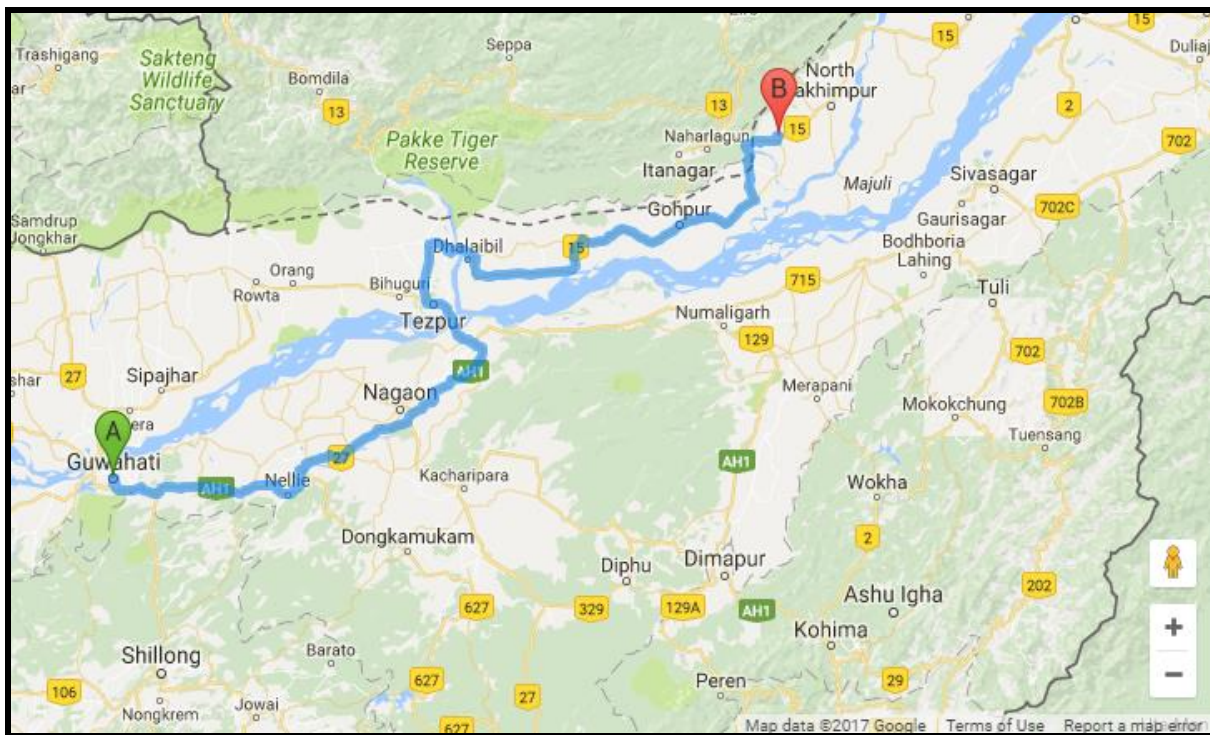
Bus timings from Guwahati to Harmuti is around **3.9 hours** when your bus maintains an average speed of sixty kilometer per hour over the course of your journey. The estimated travel time from Guwahati to Harmuti by bus may vary or it will take more time than the above mentioned time due to the road condition and differnt travel route. Travel time has been calculated based on crow fly distance so there may not be any road or bus connectivity also.

### Bus fare from Guwahati to Harmuti

may be around Rs.350/-

### Guwahati To Harmuti road map

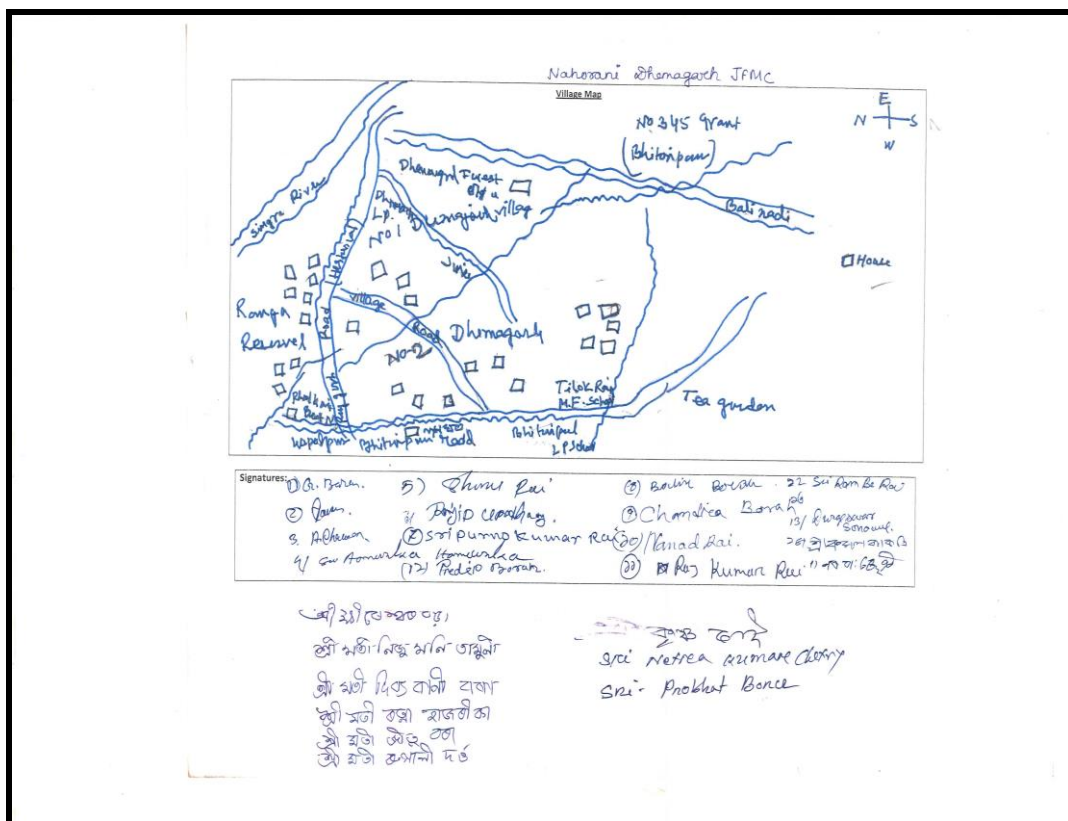
Guwahati is located nearly **west** side to Harmuti. The given west direction from Guwahati is only approximate. The given google map shows the direction in which the blue color line indicates road connectivity to Harmuti . In the travel map towards Harmuti you may find enroute hotels, tourist spots, picnic spots, petrol pumps and various religious places. The given google map is not comfortable to view all the places as per your expectation then to view street maps, local places see our detailed map here.



Source: Google Map

## Appendix 1

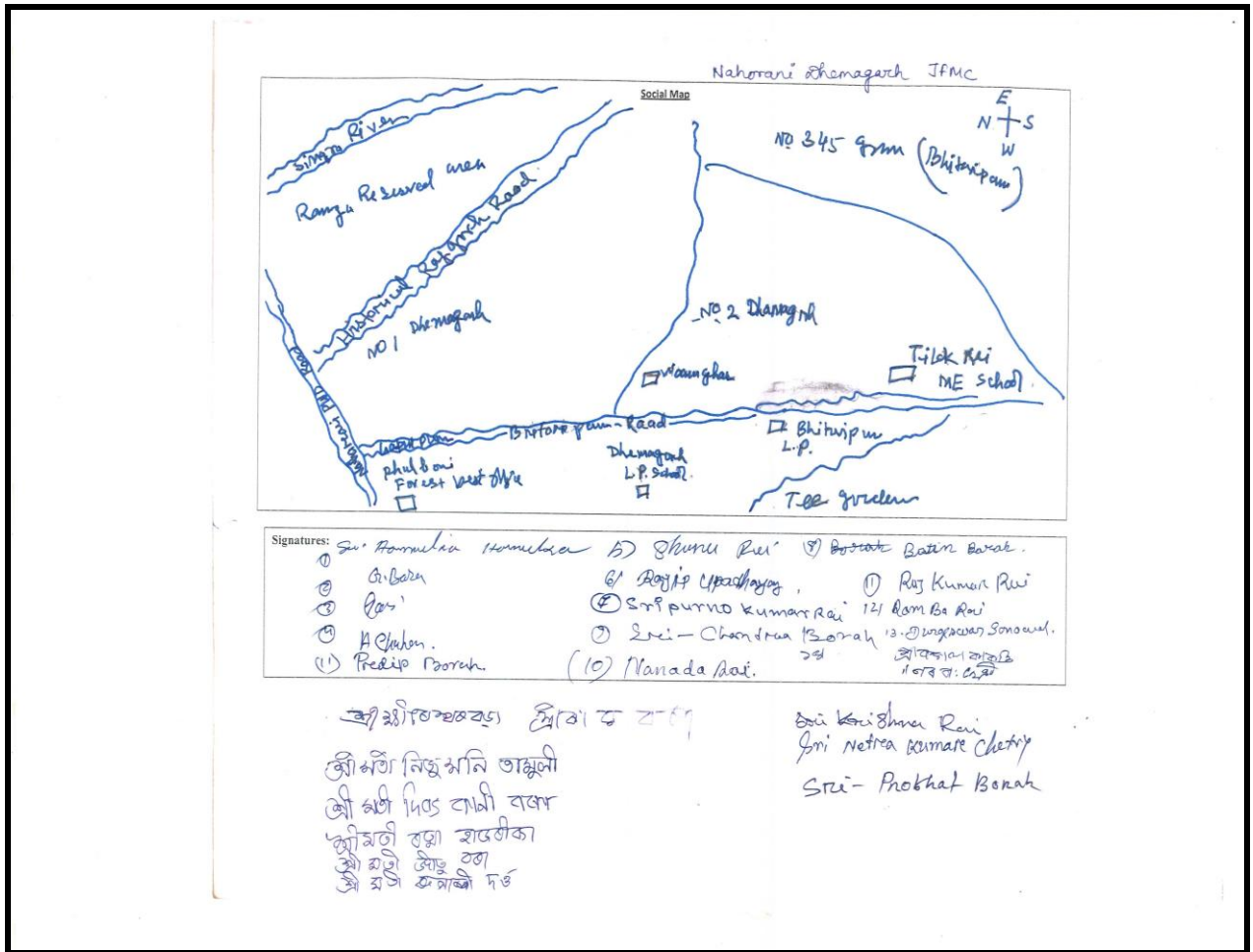
### 1. Village Map:



**Village Map Drawn By the Villagers**

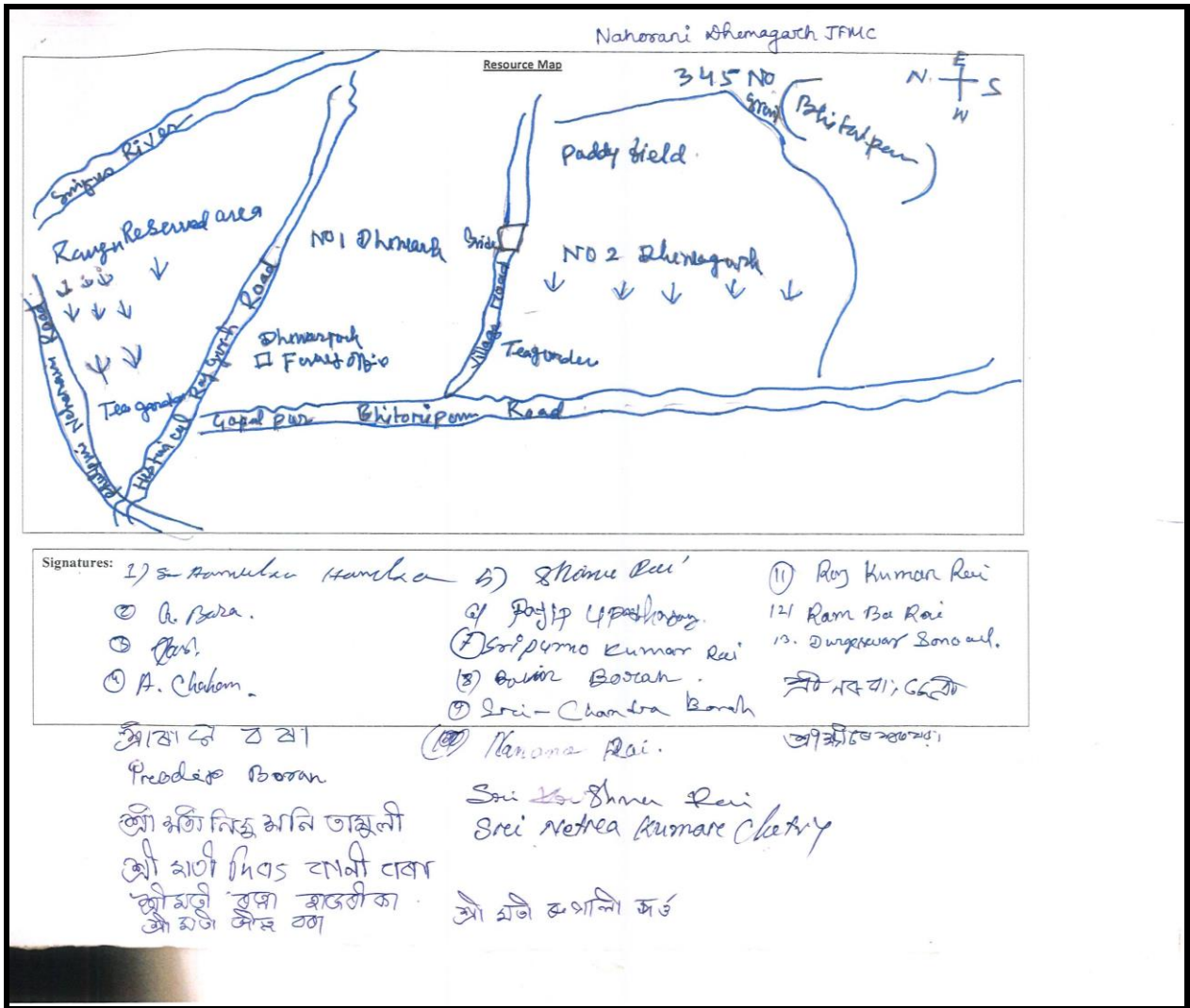


## 2. Social map



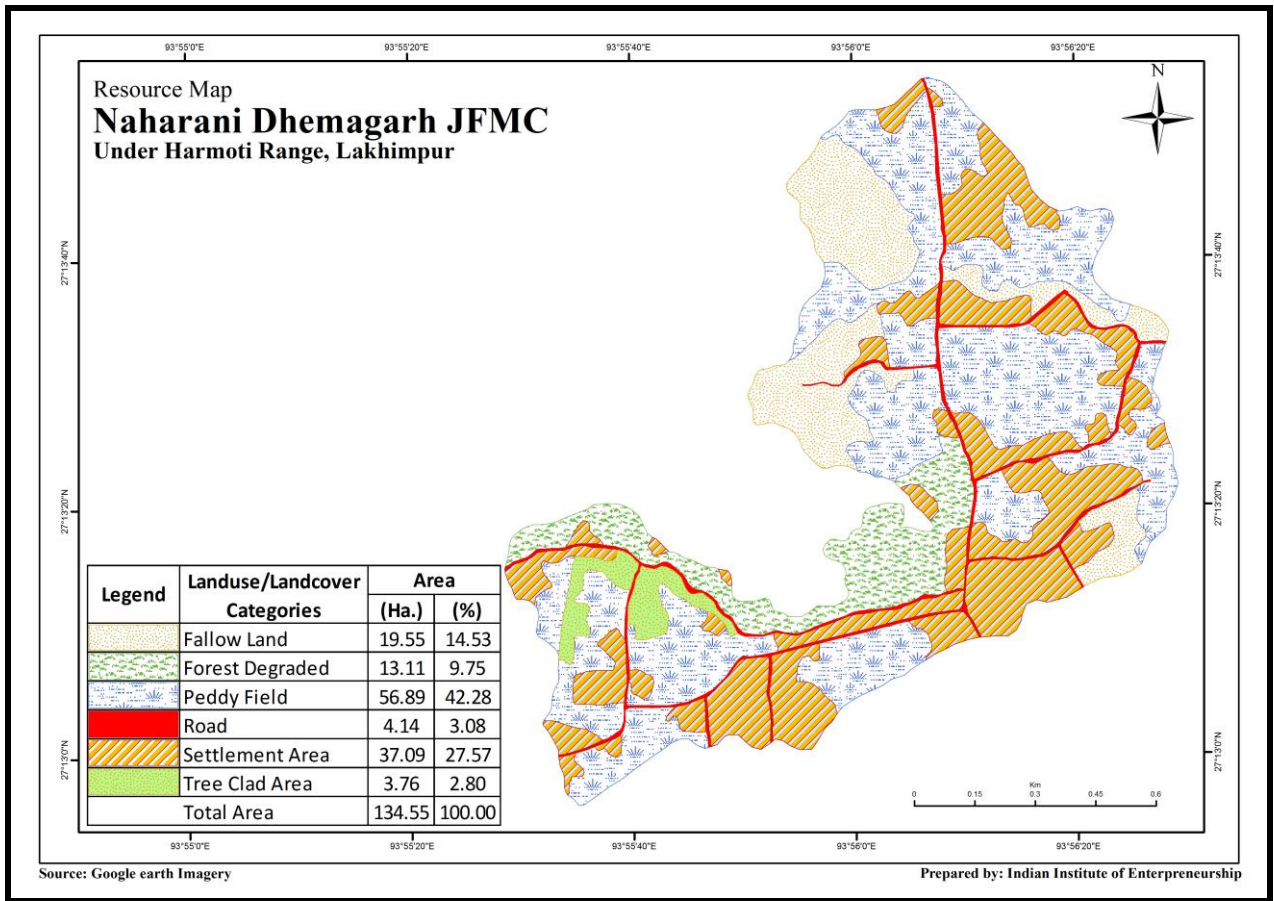
**Social Map Drawn By the Villagers**

3. Resource Map:



Resource Map Drawn By the Villagers

Land Use map of GIS



## Appendix 3

### PRA ACTIVITY

#### Location and Timing of Participatory Rural Appraisal:

Numbers of participants :	<b>55</b>
Time :	2:30 pm, 14 <sup>th</sup> March 2017
Venue :	Middle English School, Nahorani Dhemagarh

**Source: Field Survey**

**Table – 3.1 Brief Profile about the villages under Nahorani Dhemagarh JFMC**

Sl. No.	Name of the Village	No. of households	Population		
			Total	Male	Female
1	Nahorani Dhemagarh	200	1010	624	386
	<b>Total</b>	<b>200</b>	<b>1010</b>	<b>624</b>	<b>386</b>

**Source: Field Survey**

**Table – 3.2 Age Profile of Nahorani Dhemagarh JFMC**

Age Class	<5 years	5-18 years	18-45 years	45-60 years	>60 years
<b>Male</b>	200	173	90	143	18
<b>Female</b>	130	110	30	104	12
<b>Total</b>	<b>330</b>	<b>283</b>	<b>120</b>	<b>247</b>	<b>30</b>

**Source: Field Survey**

**Table – 3.3 Education Profile of Nahorani Dhemagarh JFMC**

Village Name	Illiterate	Up-to IV	V-VII	VIII-X	X-XII	Graduate	Masters
<b>Nahorani Dhemagarh</b>	293	225	186	139	107	50	10
<b>Total</b>	<b>293</b>	<b>225</b>	<b>186</b>	<b>139</b>	<b>107</b>	<b>50</b>	<b>10</b>

**Source: Field Survey**

**Table – 3.4 Income Distribution of Nahorani Dhemagarh JFMC**

<b>Income Category(in Rs) Yearly</b>	<b>No of HHs</b>
>5000 Rs	0
5,000-10,000	0
11,000-20,000	0
21,000-30,000	0
31,000-40,000	0
41,000-50,000	21
51,000-60,000	0
61,000-70,000	173
71,000-80,000	4
81,000-90,000	0
91,000-1,00,000	0
<1,00,000	2

*Source: Field Survey*

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

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

### 3.1 Social Mapping:

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

*Table 3.2: Information about the villages*

	Village →	Nahorani Dhemagarh
<b>Social information</b>	Total population	1010
	Male	624
	Female	386
	Total households	200
	Numbers of Pucca Houses	12
	No of thatch house	167
	Nos of semi pukka house	21
	Pond	20
	Community hall	1
	Tube Well	12
	Anganwadi Centre	1
	LP School	2
	ME School	1

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

#### Findings of social map:

- The participants of social mapping have identified all 200 households out of which 167 households are thatch house or Kuccha house. There is only 21 semi pukka houses and 12 Pucca houses. This shows that the people of the village is still deprived of the basic household schemes from the Government.
- From the observations it is learnt that there are one Community hall, Two LP Schools, One ME School, Three Anganwadi Centres, Ring Wells, Tube Wells, Electricity but is deprived of Good Road connectivity, Veterinary centre, Transport Facilities, Primary Health Centre etc.
- Main sources of water for the villagers is ring wells, ponds which is used by villagers for their day to day use. The water is available throughout the year.

- Provision of Education facility is not satisfactory in the villages as there are only two primary schools, one ME school available within the village. There are three Anganwadi centres in the village but there are no Health facilities within the JFMC.
- All of the people belong to the Assamese community and are of schedule tribe, OBC and are of General caste. The religion of all the villagers is Hindu.

### **Learnings:**

- Electricity is available inside the village of the Nahorani Dhemagarh JFMC. There are few LPG gas connections in the JFMC. The Household still dependent on forest and use firewood for their cooking purposes. They used to go to the forest for collecting the firewood which is still a concern for the forest department for degradation of the forest.
- The primary health centre along with bank, Bus facility, Forest Office is located at Nowboicha, Doolahat and Phulbari which is at 5-15 KM away from the JFMC. The villagers have to cover a long distance for their health check-up.
- There is one community hall available inside the JFMC but they use the Anganwadi centre and the LP School where various meetings are held. Major meeting are – Gram panchayat meeting, village head meetings, forest department meetings and other political meetings.
- The availability of fodder for domestic animals depends on the resource available in the forest area and the capacity of the household who can rear the livestock's. The Village of the JFMC are fully dependent on crop residue, trees fodder, grasses, and green fodder. Field residues are materials left in an agricultural field after the crop has been harvested. These residues include stalks and stubble (stems), leaves, and seed pods.
- There are some grazing field where villagers use for their cattle rearing. These fields are available for a maximum of six months. Seasonal grazing incorporates “grazing animals on a particular area allows the land that is not being grazed to rest and allow for new forage to grow.
- The villagers of the Nahorani Dhemagarh JFMC have to move Doolahat, a distance covered with 5 km, for their weekly marketing activity. Domestic materials, utensils, bangles, cloths and stationeries are sold in different stalls.

### **3.2 Wealth Ranking:**

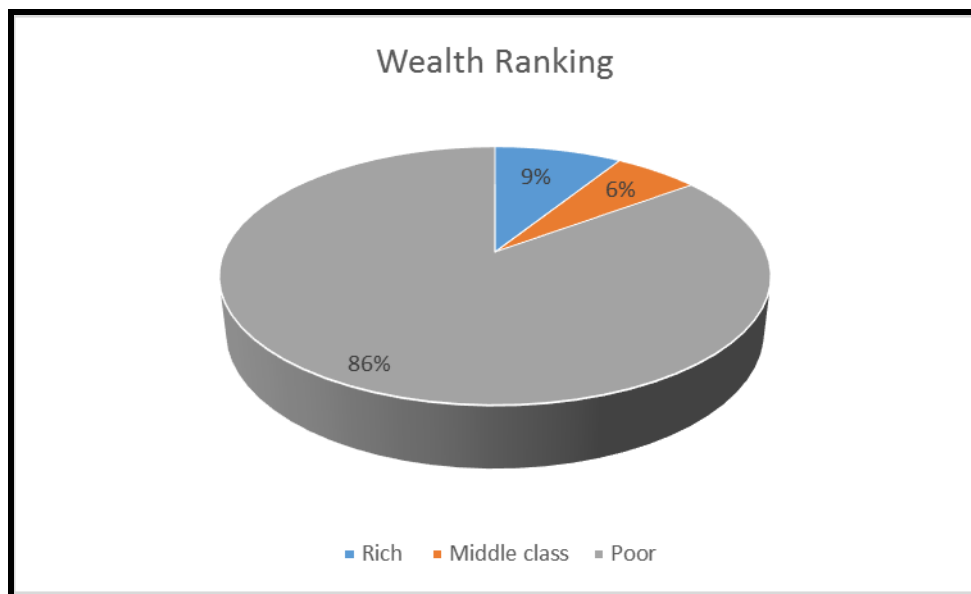
Wealth ranking, or well-being ranking, involves community members identifying and analysing the different wealth groups in a community. It enables evaluators to learn about the socioeconomic stratification of project beneficiaries and local people's definitions and indicators of wealth/well-being.

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

- a) Land holding
- b) Occupation

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

**Figure 3.1: Wealth Ranking**



**3.3 Timeline Review**

In order to know the past important cum historical events over time, the team has conducted the timeline analysis. The team members discussed about the local events to the village head, elderly persons and also to some young people to have an idea about how they dealt with those situations and what was the impact of those events on their lives as well as on the development of the village. Our time line illustrates the following events.

**Table 3.3: Timeline review**

	<b>Year</b>	<b>Event</b>	<b>Type</b>
Post-Independence	1987	A man Elephant conflict killed an Entire family of the village	Destructive
	1991	There was an attack of ULFA militant’s attack which included heavy bombarding and killed many people with severe damage to the village.	Destructive
20 <sup>th</sup> Century	2015	There was a huge discovery of archaeological findings in the village which contained Idols of Ahom kingdoms and of ancient Gods and Goddesses.	Constructive

**Learning:**

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





**Table 3.4 Seasonal cropping pattern**

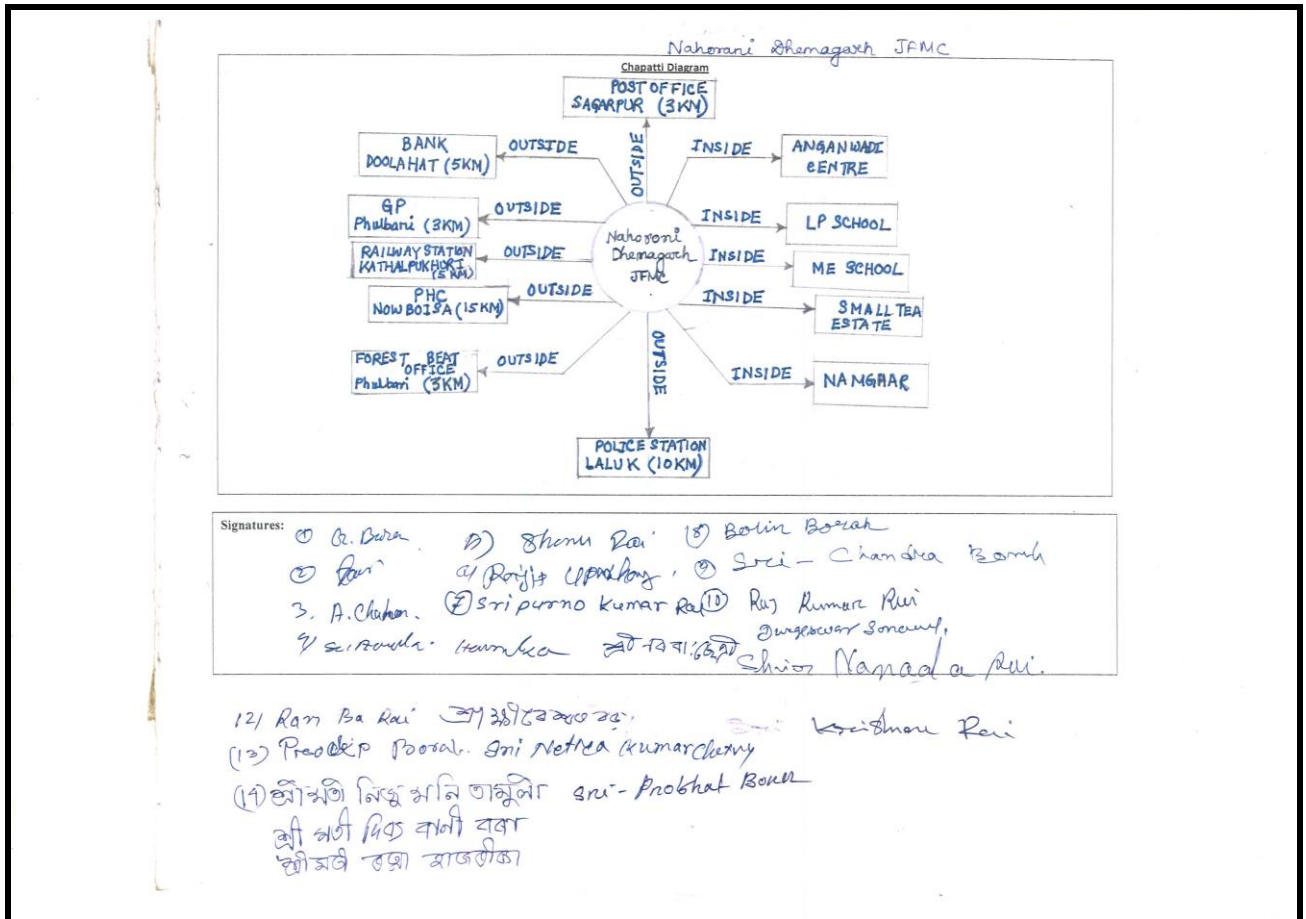
Categories	Time of Activity			
		Sowing	Harvesting	Plucking
Farming	Potato	Sept-oct		Jan
	Sweet Potato	August		Oct
	Bamboo	April	Through Out The Year	
	Sugarcane	March-April		Oct-Nov
	Gourd	September		April
	Betel Nut	Throughout the Year		
	Chilli	Throughout the year		
	Paddy	Throughout the year		
	Tea	Throughout the year		
	Non-Farming	Weaving	Throughout the year	
Cane & Bamboo				
Daily Wage Earning				
Tailoring				

**Learnings:**

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



### 3.6 Chapatti Diagram



**Chapatti Diagram Drawn By the Villagers**

**Priority Ranking- EPA and Livelihood**

**EPA activity:**

Nakharani Bahmagach JPMC

**Priority Ranking of Entry Point Activity**

Entry Point Activities	Community Hall	Drinking Water Supply	Guide Burd	Solar Fencing	Village Road	Watch Tower	School/Public Infrastructure and others							Marks	Rank
	A	B	C	D	E	F	G	H	I	J	K				
Community Hall	X	A	A	A	A	A								6	1
Drinking Water Supply	X	X	B	B	B	B								5	2
Guide Burd			X	C	C	C								4	3
Solar Fencing				X	D	D								3	4
Village Road					X	E								2	5
Watch Tower						X	F							1	6
School/Public Infrastructure and others							X							0	7

Signatures:

① G. Dara 4/ sui Bonala Hanreka ② Basu ⑦ Sri Purno Kumar Rai ③ Achalam 12/ Rom Ba Rai 12. Anandswar Sonowal. 13. श्रीमती सुषमा Sri Netra Kumari Chetty (16) श्रीमती निरु मणि ताम्बो	④ Shonu Rai ⑧ Rajip Uddin ⑤ Barin Barah. ⑥ Sri- Chandrea Barah ⑩ Shri Manoj Rai. ⑪ Raj Kumar Rai ⑫ श्रीमती मी: 6/AD ⑬ Pradip Barah. Sri Krishan Rai
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**Priority Ranking Of EPA by the Villagers**





PHOTOGRAPHS



*A Snap During Awareness*





*PRA Mapping with the Village People*



*A Snap after the Completion of PRA*



*A Group Photo with the Villagers*





*A Pic of the Archaeological Findings in the village*



*A Pic of the Archaeological Findings in the village*



LIST OF JFMC MEMBERS

RECORD 7 : MEMBERSHIP REGISTER

Nahorani Shimgarh - Lakshimpur - Harmutty

Name of JFMC Division Range

phalbari Forest Beat

Nahorani Shimgarh

Beat

JFMC Code

Sr. No.	Name	Father's / Husband's name	Age	Male / Female	Education	SC/ST / BC/OBC
1	Kanak Ch. Baruah (Wife)	Lt. Lilam Baruah	58 yrs	Male	B.com.	OBC
2	Shridhar Upadhyay	-	70 "	Male	B.A.	OBC
3	Jyoti Baruah	Lt. Shridhar Baruah	57 "	- do -	VI	MOBC
4	Sureswar Sonowal	-	52 "	Male	B.A.	S.T.
5	Anu Laloma	-	70 "	Male	VI	OBC

- 6. Jiten Baruah - Lt. Shridhar Baruah - 58 yrs - Male - H.S. - MOBC
- 7. Smt. Tripathi Bhuyan - Lt. Shridhar Bhuyan - 60 yrs - Female - H.S. - OBC
- 8. Laksmya Kakoti - Lt. Kamal Kakoti - 50 yrs - Female - - do -
- 9. Namita Rai - Lt. Gajra Rai - 45 yrs - Female - - do -
- 10. Pradip Baruah - Lt. Lilam Baruah - 52 yrs - Male - H.S. - do -
- 11. Khirewar Baruah - Lt. Kot Baruah - 65 yrs - Male - L.P. - do -
- 12. Nidhi Baruah - Lt. Jugan Baruah - 45 yrs - Male - VIII - OBC
- 13. Ananda Hazarika - Lt. Chiraman Hazarika - 50 yrs - Male - IX - OBC
- 14. Prabal Baruah - Lt. Shridhar Baruah - 41 yrs - Male - VIII - MOBC
- 15. Gurbali Baruah - Lt. Noga Baruah - 51 yrs - Male - VIII - MOBC

Secretary  
Nahorani Shimgarh J.F.M. Committee  
Date: 01/08/2023

97  
POST RANGE OFFICER  
HARMUTTY RANGE  
HARMUTTY

Secretary  
Nahorani Shimgarh  
J.F.M.C.  
Date: \_\_\_\_\_

Source: Range Office Harmoti

**Annexure 6 (Record I)**

**Table 1: Basic data of the village:**

*Table 1: Basic data of the JFMC*

Name of the JFMC	Date of establishment	No. of members in executive	Name of the president	Name of the member secretary	Money in VDF	Contribution per family /per person	Social fencing used Yes / No	Remarks on special attainment	Grading %of success by RFO
Nahorani Dhemagarh	2005-06	15	Girindra Upadhyay	Kanak Ch Baruah	No		Yes		80%

Source: JFMC Records

**Table 2: Village wise population data:**

*Table -2: Demographic status of the project villages*

Sl. No.	Name of village	Households (No.)	ST			Sex ratio (per 1000 male )	Avg. HH size
			Total	Male	Female		
1	Nahorani Dhemagarh	200	1010	624	386	241	5
<b>Total</b>		<b>200</b>	<b>1010</b>	<b>624</b>	<b>386</b>	<b>241</b>	<b>5</b>

Source: - Field survey report.

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

*Table3 Village wise farmer category on the basis of land holding*

Sl no	Name of the village	Type of famer according to land holding				
		Large farmer >10 ha.	small farmer 2-10 ha.	Marginal farmer (household) <2ha.	Land less (household)	total
1	Nahorani Dhemagarh	-	17	172	11	200
<b>Total</b>		<b>-</b>	<b>17</b>	<b>172</b>	<b>11</b>	<b>200</b>

Source: - Field survey report.

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

Sl no	Name of the village	cows	Poultry	Pig	Duck	Goats	Total
1	Nahorani Dhemagarh	200	300	120	200	500	1320
<b>Total</b>		<b>200</b>	<b>300</b>	<b>120</b>	<b>200</b>	<b>500</b>	<b>1320</b>

Source: - Field survey report.

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

Sl no	Infrastructure	Location	Distance from village
1	Electricity	Lakhimpur	30 km
2	Gas connection	Lakhimpur	30 km
3	Bus Facility	15 No NH	10 km
4	PHC	Nowboicha	15 km
5	LP school	Inside	0 km
6	ME school	Inside	1km
7	Post office	Sagarpur	3 km
8	Bank	Doolahat	5 Km
9	Anganawadi centre	Inside	0.5Km
10	Revenue Office	Harmoti	5 km
11	Police station	Laluk	10 km
12	Forest Office(Beat)	Phulbari	3 km
13	Railway Station	Kathalpukhuri	5 km
14	District head quarter	Lakhimpur	30 km

Source: - Field survey report.

**Table 6: Agricultural crops***Table 6 Agriculture Crops*

	Rain Fed		Irrigation	
	Name of the crop	Area (in ha.)	Name of the crop	Area (in hac)
<b>Kharif</b>	Sali,Aijong, Pankaj,joha,Bao	<b>56.89</b>	-	-
<b>Rabi</b>	Pea,Cabbage,Potato,Gourd Etc.	<b>150.31</b>	-	-
<b>Others</b>	<b>Fruits</b>	<b>64.01</b>	-	-

Source: - Field survey report.

**Table 7: Crop production profile of Nahorani Dhemagarh JFMC:***Table 7 Crop production profile of Nahorani Dhemagarh JFMC*

Type of crop	Total Production (approx) in quintals	No of household growing	Average production (quintal/ hac) approx
<b>Paddy</b>	7560	180	132.63
<b>Vegetables</b>	94.60	200	0.63
<b>Fruit</b>	62	241	0.96

Source: - Field survey report.

**Table 8: Fodder Availability (animal)***Table 8 fodder availability of the JFMC*

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

Source: - Field survey report.

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

For Purchase	Location	Distance from village if in other village (in km)
Grocery shop	Inside	0 km
Weekly Market	Doolahat	7 km
Major Market	Lakhimpur	30 km
Forest Corporation Sale Depot.	-	-
Tendu Patta PHAD	-	-
Fish Market	Doolahat	7 km

Source: - Field survey report.

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

Water source	Number	Availability of water	Uses
Tube well	12	Adequate	Drinking, Bathing, Irrigation, livestock rearing
Pond	20	Adequate	Drinking, Bathing, Irrigation, livestock rearing
Ring well	100	Adequate	Drinking, Bathing, Irrigation, livestock rearing

Source: - Field survey report.

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

Type of Fuel	Number of household depending	Number of months dependent	Sources (local, village, forest, other sources)	Major/ Secondary
Fuel wood	200	12	Forest	Major
Kerosene stove	28	4	Market	Secondary
LPG	50	4	Govt.	Secondary

Source: - Field survey report.

**RECORD: II**

**LIVELIHOOD OPPORTUNITY ANALYSIS**

**Table 12: Agriculture and Horticulture:**

*Table 12: showing the agricultural and horticultural status*

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

**Table 13: Livestock***Table 13 Livestock*

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

**Table 14: NWFP***Table 14 NWFP*

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



	<p>required resources</p> <ul style="list-style-type: none"> <li>• No technical know-how</li> </ul>		
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**Table 15: Specialised skill**

*Table 15: Specialised skills: Weaving*

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

**Table 16: Credit facility**

*Table 16 Credit facility*

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

*Q/N*  
 Divisional Forest Officer  
 Laknimsur Division