



Nahorbari Joint Forest Management Committee

Doomdooma Division, Tinsukia

MICRO-PLAN

(2016-17 to 2025-26)

Approved
(Balesing Bay)
Divisional Forest Officer
Doomdooma Division
Tinsukia

Prepared by Nahorbari JFMC

Assisted by

Assam Forest Department

&

COMPELO

(IIE&RGVN)



List of Acronyms

Acronym	Full Form
ACF	Assistant Conservator of Forests
AfD	<i>Agence France de Développement</i>
APFBC	Assam Project on Forest & Biodiversity Conservation
APL	Above Poverty Line
BPL	Below Poverty Line
CCF	Chief Conservator of Forests
CF	Conservator of Forests
COMPELO	Consulting Service for Micro Planning Enhancing Livelihood Opportunities
DCF	Deputy Conservator of Forests
DFO	Divisional Forest Officer
EDC	Eco-Development Committee
EPA	Entry Point Activity
FCA	Forest (conservation) Act, 1980
FD	Forest Department
FRA	Forest Rights' Act
FV	Forest Village
FYP	Five Year Plan
GHG	Green House Gases
GoI	Government of India

GP	GaonPanchayat
Ha	Hectare
IEC	Information Education & Communication
IIE	Indian Institute of Entrepreneurship
JFMC	Joint Forest Management Committee
MDR	Major District Roads
MGNREGS	Mahatma Gandhi National Rural Employment Guarantee Scheme
MoEFCC	Ministry of Environment, Forests & Climate Change
NTFP	Non Timber Forest Produce
OBC	Other Backward Classes
ODR	Other District Roads
PA	Protected Area
PCCF	Principal Chief Conservator of Forests
PHC	Primary Health Center
PMU	Project Monitoring Unit
PRA	Participatory Rural Appraisal
REDD+	Reducing Emission from Deforestation and Forest Degradation Plus
RGVN	Rashtriya Gramin Vikas Nidhi
RO	Range Officer
Sc	Scheduled Caste
SDG	Sustainable Development Goals
SLF	Sustainable Livelihood Framework

Spp	Species
ST	Scheduled Tribe
SWOT	Strength Weakness Opportunity & Threat
TV	Taungya Village
TV	Television
WLS	Wildlife Sanctuary
WPA	Wildlife (Protection) Act, 1972
WPC	Working Plan Circle

Glossary of Vernacular Name of Trees, Shrubs, Herbs and Other Plants

Trees

Sl.No.	Local Name	Scientific Name
1.	Amari	<i>Amoora wallichii</i>
2.	Hollong	<i>Dipterocarpus macrocarpa</i>
3.	Sam	<i>Artocarpus chaplasha</i>
4.	Jutuli	<i>Altingia exulsa</i>
5.	Titasopa	<i>Michelia champaka</i>
6.	Hollock	<i>Terminalia myriocarpa</i>
7.	Sopa	<i>Michelia spp.</i>
8.	Simul	<i>Bombax ceiba</i>
9.	Ajhar	<i>Lagerstroenia flos-reginae</i>
10.	Nahor	<i>Mesua ferrea</i>
11.	Jamuk	<i>Eugenia kurzii</i>
12.	Bhumura	<i>Terminalia belerica</i>
13.	Ou-tenga	<i>Dillena indica</i>

Shrubs

Sl	Local Name	Scientific Name
1.	Sorat	<i>Laportea crenulata</i>
2.	Kaupat	<i>Phrynium species</i>

3.	Tora	<i>Alpinea allughus</i>
4.	Patidoi	<i>Clinogyne dichotoma</i>
5.	Dighloti	<i>Litsea salicifolia</i>
6.	Dhopattita	<i>Clerodendron hastatom</i>

Cane& Bamboo

<u>Sl.No</u>	<u>Local Name</u>	<u>Scientific Name</u>
1.	<u>Raidang</u>	<i>Calamus flagellum</i>
2.	<u>Haukabet</u>	<i>Calamus latifolius</i>
3.	<u>Kako</u>	<i>Dendrocalamus hamiltonii</i>
4.	<u>Bojal</u>	<i>Pseudostachym polymorphum</i>
5.	<u>Dolou</u>	<i>Teinostachym polymorphum</i>

Climbers

<u>Sl.No</u>	<u>Local Name</u>	<u>Scientific Name</u>
1.	<u>Kochai-lota</u>	<i>Acacia pennata</i>
2.	<u>Lota-dimoru</u>	<i>Ficus scandens</i>
3.	<u>Pani-lota</u>	<i>Vitis latifolia</i>
4.	<u>Pani-leteku</u>	<i>Vitis pedata</i>

NAHORBARI JOINT FOREST MANAGEMENT COMMITTEE
DOOMDOOMA FOREST DIVISION

Micro-Plan
(2016-17 to 2026-27)

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Approved.
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Dt. 03/06/2017
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Doomdooma Division
Doomdooma

**NAHORBARI JOINT FOREST MANAGEMENT COMMITTEE
DOOMDOOMA FOREST DIVISION**

**Micro-Plan
(2016-17 to 2026-27)**

PART-I

1. Introduction

1.1 About the Project

The vision of the Assam Project on Forest and Biodiversity Conservation (APFBC) is ‘to enable sustainable forest and biodiversity conservation and management in Assam through multi-scale integrative planning and involvement of forest dependent communities in target areas and giving fillip to their livelihood activities through sustainable use of forest and 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’.

The above project is being mainly funded by the *Agence France de Développement* (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.

1.2 Micro-Planning & Livelihood Development

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

A consortium comprising of Indian Institute of Entrepreneurship (IIE) Guwahati and *Rashtriya Gramin Vikas Nidhi* (RGVN) has been formed to implement (*inter-alia*) the micro-planning and livelihood development under the above project. The above consortium has been titled as ‘Consulting Service for Micro Planning Enhancing Livelihood Opportunities’ - COMPELO in short.

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

1.3 Micro-Plan for the Nahorbari JFMC

This document gives the Micro-Plan for the Nahorbari JFMC which is located in the Tinsukia district of Assam. The JFMC falls under the jurisdiction of the Doomdooma Forest Division. The profile of the community is given in the next section.

2 General Description of the Area

2.1 General Description

Doomdooma Forest Division which was created by transferring some of the reserved forests from Digboi and Dibrugarh Divisions vide Govt. of Assam's Notification No. for. 287/66/110, dt. 9.11.1973 was a part of erstwhile Lakhimpur Forest Division with head quarter at Dibrugarh till its re-organization in the year 1973. The boundaries of the Doomdooma Division was consolidated vide Notification No.for.287/66/118, dt. 18.4.1974. The Doomdooma Forest Division was further reorganized in order to declare Dibru Reserve Forest as a Wildlife Sanctuary in 1986 and subsequently transferred the Reserve Forest to the newly created Tinsukia Wildlife Division in the year 1989. In the year 2001 another two Reserve Forests namely Padumoni Reserve Forest and Bherjan Reserve Forest were transferred to Tinsukia Wildlife Division. Further, an area of 2406.96 ha of Jeypore Reserve Forest was notified as a part of Dehing Patkai Wildlife Sanctuary in 2004. The total area covered by all the reserve forests is about 351.46 sq. km. Sixteen out of twenty reserve forests are situated on the southern side of the division i.e. towards south of the Lohit and Brahmaputra rivers. Sadiya Station (North Block), Kundil Kalia and Deopani RF's form the interstate boundary between Assam and Arunachal Pradesh.

The Doomdooma Division has its origin from erstwhile Lakhimpur Division which owing to its increasing revenue and pressure of work was divided gradually into several territorial divisions for administrative convenience. The first to come out were Digboi and Dibrugarh divisions and then the reorganization into Digboi, Dibrugarh and Doomdooma Divisions. The main emphasis after creation of these divisions was on plywood timber and development of plywood industries. The Doomdooma Division was mainly earmarked for raising Hollong as well as other miscellaneous plywood plantations

2.2 Location

Doomdooma Division comprises of 20 Reserved Forests situated within the geographical limits of North Latitudes 27^o 20' and 28^o 00' and East Longitudes 95^o 15' and 96^o 00' and lying within the Civil district of Tinsukia. The division is surrounded by Arunachal Pradesh towards North and Eastern sides, Digboi Division towards southern side and Lakhimpur and Dibrugarh Divisions towards western side.

2.3 Soil

The soil formation, for the most part, is of alluvium formation. The alluvial deposits of the Brahmaputra River is characterized by the shallow surface layer of silty loam not exceeding about 3 ft in depth and of gray colour with subsoil of coarse sand. The alluvial deposit of the Dehing River is characterized by its coarse nature reddish colour and sandy clay. The soil is of considerable depth. The soil of the Brahmaputra alluvial is acidic, the pH value being 5.5.

2.4 Water

The rivers are fast flowing that carry huge volume of boulder, sand, clay and debris of eroded materials, roots and trunks of tree etc. The turbid rivers turn bluish during winter and provide shelter to large flock of migratory birds. The rivers harbours fishes like Mahseer, Rohu, Bahu etc. The Brahmaputra River is an excellent habitat of Gangetic Dolphin (Hihu),

2.5 Climate

The Division falls under high humid zone. High humidity and rain fall are the characterized feature of the forests in this Division. The hottest months are May, June, July and August and the coldest months are December and January. The rainfall is distributed more or less throughout the year. The bulk of precipitation takes place during the period of May to September

2.6 The Ecosystem and Biodiversity

The forest of this division harbours significant levels of bio-diversity and is rich in wildlife including migratory birds. Varieties of migratory birds visit during winter season in the water bodies located along the river Brahmaputra. The Dangori & Doomdooma Reserved Forests are known world-wide as the habitat for Deoanh "White-winged Wood Duck" one of the endangered avifauna and is declared as the "State bird of Assam". Leopard is very common over this tract. There are some resident leopards in the big tea-gardens that are situated near the Reserved Forests. Among the other mammals, elephant is commonly sighted particularly in Kakojan & Buridehing R.F. throughout the year. Hollock gibbon is commonly seen in Kakojan, Hollogaon, Dangori, Doomdooma and Tarani R.F.

Based on the floristic composition, the division can broadly be classified into two types. The term commonly used in working plans for the two type are Hollong Nahor forests and miscellaneous forests. The Hollong-Nahor forests are characterized by large tall evergreen trees forming the bulk of the main canopy projecting above the general level and a large number of species forming an intimate mixture. Climbers, epiphytes, Palms and Canes are generally present. The miscellaneous forests consisting mainly of deciduous types with evergreen patches occur on the lower flat lands of

the Brahmaputra alluvium as well as on the Dehing alluvium. Forests are composed of Ajhar, Nahor, Jamuk, Hingori, Morhal, Bhumura, Dhopattita, Dighloti, Cochbhedeli, Bonposola, Sorat, Patidoi, Koupat, Lajaibet, Jatibet etc.

2.7 Concern for Biodiversity Conservation

Illegal grazing: Illegal grazing in the forest by cattle from the nearby villages cause damage to the young plantations and regeneration areas to some extent.

Storms and Flood: Storms are fairly common during the pre-monsoon period which cause certain amount of damage to the standing crop by breaking off the tops and uprooting the trees. Floods are responsible for damage to tree crop along the river banks and low lying areas.

Fire: Forest fire also causes severe damage to the forests and wildlife.

Encroachment: Encroachment in the forest is the major threat to the forest of Doomdooma division, Assam. The forest area of the division under encroachment (from tea gardens, habitation, cultivation etc.) is 141.08 sq. km. which is 45.64% of the total Reserve Forest area (309.01).

Oil exploration, coal mining, illegal felling, mining of minor minerals, erosion, bypass, population expansion by forest villagers are also major threat factors.

3. Village Socio-Economic Profile and JFMC Profile

3.1 Key Information

Nahorbari is a Revenue village and is located in Tinsukia District. The JFMC was registered on 20/01/2014 (Appendix III as per the registration certificate) with the office of the Conservator of Forests, Eastern Assam Circle. This village is located near the Sadiya Station (North Bank) Reserve Forest.

Table-A: Key Information of the JFMC

Name of the JFMC	Nahorbari
Name of the Gram Panchayat / VCDC	Santipur GP
Revenue Circle	Sadiya
District	Tinsukia
Forest Division	Doomduma forest division
Forest Range	Sadiya
Forest Beat	Ghukmara (non functioning)
Year Formed	2014
Registration no.	JFMC/DOOMDOOMA/8/2014
Description of Boundary of JFMC	As below North: Sadiya station RF(North Bank) South: Hahkhati Borgorah village West: Toribari village East: Hillghat torani village

Source: JFMC Records & Discussions during PRA Exercise in May 2017

3.2 Brief Details of the Executive Committee

The brief details of Executive Committee & General Body of the JFMC are contained in the table, which is given below.(**Appendix IV**- Signed list, **APPENDIX V**- Group photo of the JFMC members)

Table-B: Brief Details of Executive Committee

Name	Age	Guardian's Name	Educational Qualification	Phone No.	Designation
Umesh Chetri	35	Lt. Ratna Bdr	Middle	9954232770	President
Lokheswor Baruah	59	Lt. Lambudhor Baruah	HSLC	9854013459	Member Secretary
Prembahudur Chetri	26	Lt. Hari bdr	High	8011180359	Treasurer
Gobinda Chetri	52	Lt. Jagat Bdr	Primary		Member
Tek Bahadur Chetri	36	Lt. Shiva prashad	Primary	8473076855	Member
Monmaya Bhandari	43	Lt. Arjun	Primary		Member
Indra Bahadur Chetri	35	Lt. Bir Bdr	Middle		Member
Janak lal Sharma	25	Lt. Kapilamoni	H.S.	8134828258	Member
Meherman Limbu	27	Lt. Nar Bdr	Primary	8135052025	Member
Puspalal Timsina	35	Lt. Umakanta	High	9435434893	Member
Karna Bdr Chetri	37	Lt. Bhakta Bdr	primary		Member

Source: JFMC Records

3.3 Households & Population Composition

The village has 400 households, **of which 200 households were surveyed.** According to the household survey, 189 are BPL (Below Poverty Line) households.

Table-C: Demographic Profile

Demography				
Category	No of Households	Male	Female	Total
Gen	10	22	28	50
OBC	176	556	469	1025
Min	2	5	4	9
Other	12	32	28	60
Total	200	615	529	1144

The total population of **200 surveyed households** is 1144 of which 615 are male and the rest are female members. The population includes 1025 OBC and 50 General 9 Minority and 60 others category.

From this, it is inferred that:

- (1) The average number of persons in a household is 6
- (2) The sex ratio is 860 females per1000 males in the village.

Table-D: Age Group Distribution

Age and Sex Distribution					
Age Class	< 5 years	5-18 years	18-45 years	45-60 years	>60 years
Male	35	171	284	80	45
Female	32	150	242	64	41
Total	67	321	526	144	86

3.4 Education & Skills Development

The education profile of the JFMC is given in Table E below.

Table-E : Education Profile

Age class	Primary	Middle	High school	HS	Graduate	Master	Illiterate
<25 years	94	160	103	12	3	0	7
>25 years	167	181	74	29	5	1	229
Total	261	341	177	41	8	1	236

Over 73% of the population is reported to be literate.

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

- (a) Agriculture
- (b) Cane & bamboo craft
- (c) Carpentry
- (d) Blacksmith

3.5 Land Use Pattern

The population is largely dependent on Agriculture and Livestock.

From the land-use pattern of the village, it is seen that the land-use in the village is as follows:

Crop Land: 13.60%

Tree Cover: 34.03%

Habitation: 47.61%

Water Bodies: 4.76%

3.6 Land Holding Pattern

From the type of households as per land-holding, it is seen that:

- 3.75% of the households are landless;

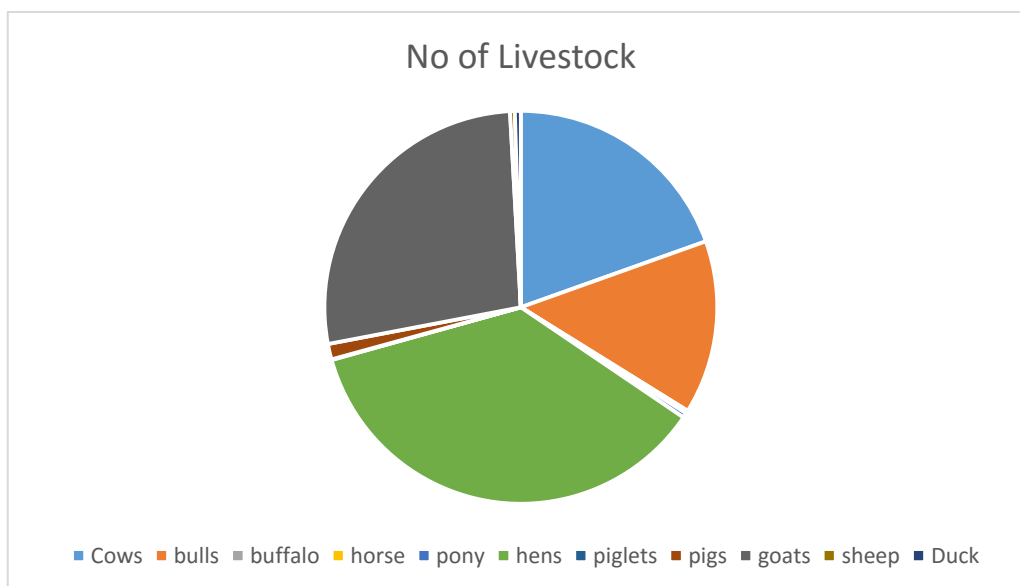
- 82% of the households are marginal farmers (less than 2 Ha); and
- 14.25% of the households are small farmers (2-10 Ha).

3.7 Livestock

The main types of livestock possessed by the households include:

Table: Livestock Details

Sl. No	Livestock	Number
1	Cows	398
2	Bulls	291
3	Duck	10
4	Hens	737
5	Piglets	1
6	Pigs	26
7	Buffalo	4
8	Horse	1
9	Pony	8
10	Goat	552
11	Sheep	8



3.8 Village Infrastructure & Communication Facilities

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 gives the present status of the village infrastructure.

Table-F: Physical Infrastructure

Sl. No	Point Infrastructure	Location inside village or Outside	Number (If applicable)	Approximate Distance from Village, if outside (m/Km)	Condition and status of present use
1	Bus stand	Outside	1	7km	Not so good
2	Primary Health Centre	Outside	1	12 km	Not so good
3	Primary School	Inside	2		Good
4	Middle School	Outside	2	7 km	Good
5	High School	Outside	2	13 km	Good
6	HS School	Outside	1	13 km	Good
7	College	Outside	1	12 km	Good
8	Post Office	Outside	1	7km	Good
9	Bank	Outside	3	7km	Good
10	Telephone	Used by all HH			
11	Anganwadi Centre	Inside	1		Not so good
12	Gram Panchayat Office	Outside	1	7 km	Not so good
13	Revenue Circle Office	Outside	1	13 1/2 km	Not so good
14	Police Outpost/ Thana	Outside	1	7 km	Not so good

15	Forest Beat Office	Outside	1	3km	Not functioning
16	Forest Range Office	Outside	1	12km	Good
17	Railway Station	Outside	Tinsukia	85 km	Good
18	Drinking Water Sources	Inside	Hand pump		Good
19	Community Hall	No	-	-	
20	House with Electricity	Inside	192		Not so good
21	Street Lighting	No	-		
22	No. of Tractors	Inside	4Nos.		
23	No. of Power Tillers	No	-		
24	Temple/ Church/ Mosque/ Namghar	Inside	3 Nos.		Good
25	District Head Quarter	Outside		85 km	
26	No. of Vehicles (Cars/ Trucks)	Inside	8Nos		
27	No. of JCB	No	-		
28	Nearest Market	Outside	Sadia	12km	

From the above table, the following have been noted with regard to village infrastructure:

Physical Infrastructure: The habitation is deprived of basic physical infrastructure like paved roads, water supply, etc.

Education & Health Facilities: There are minimal educational and health facilities. Public transport is not available, and the community members have to use bicycles to move around.

Govt. Offices: The government offices (such as Police station, Revenue office, Forest Beat office etc.) are located at a considerable distance, which gets amplified as the villagers do not have access to regular public transport from either the habitation or from nearby areas.

Financial Inclusion: Facilities for financial inclusion like bank and post office are located at a

considerable distance of 7 km from the habitation which hampers the overall efficiency.

3.9 Agriculture/Crops

Maximum numbers of households are involved in growing crops like Ahu paddy, mustard, vegetables, black gram, and corn.

The production and yield of these crops is given as follows:

- (a) Paddy: Production: 1000 Quintal; Yield: 15000 kg /ha
- (b) Mustard: Production: 150 Quintal; Yield: 450 kg/ha
- (c) Vegetables: Production: 360 Quintal; Yield: 5250 kg/ha
- (d) Black gram: Production: 152 Quintal; Yield: 1125kg/ha
- (e) Ginger: Production: 2220 Quintal; Yield: 4500 kg/ha
- (f) Corn: Production: 250 Quintal; Yield: 1125 kg/ha

3.10 Fodder Availability

The village depends on the nearby forest. The main sources of the fodder in the village are as follows:

- a) Local market
- b) Homestead areas

3.11 Markets

The main markets used by the community are as follows:

- (a) Grocery / PDS: Nahorbari JFMC
- (b) Weekly / Bi-weekly Market: : Santipur at 7 km away
- (c) Major Market: Santipur & Chapakhowa at 7km and 12km away

3.12 Water Resources

The main water resources with the water availability are as follows:

- (a) Tube well: 363 nos. (Water Availability: Perennial)
- (b) River/Stream: 2 nos. (Water Availability: Perennial)

3.13 Energy Consumption

The major sources of energy in the village have been listed below.

- (a) Fuel wood: Households Depending: 400 Nos. ; (Source: Forest)
- (b) Kerosene: Households Depending: 400 Nos. ; (Source: Other)
- (c) LPG: Households Depending: 158 Nos. ; (Source: Gas Agency)
- (d) Electricity: Households Depending: 192 Nos. ; (Source: Government)
- (e) Solar Power: Households Depending: 230 Nos. ; (Source: Agency)

3.14 Socio-economic status

Social set-up: The village is inhabited by Nepali community. They have a caste system. The society is not marked by social divisions. The observed position of women is not satisfactory.

Economic Condition: The economic position is not satisfactory. The main livelihood is agriculture. Most households earn Rs. 35,000 to Rs. 80,000 per annum.

Additional details are available in the next section.

4. Livelihood assets profile and vulnerability contexts

This section deals with the livelihood assets and their current status in the village. The vulnerability context has also been analysed in the section

4.1 Livelihood Assets Analysis

As per the sustainable livelihood framework (SLF) there are five most important livelihood assets i.e. Human capital, financial capital, social capital, natural capital and physical capital that are needed for livelihood enhancement in a village. The status of the five capitals have been analysed and are given below:

Human Capital

The human capital encompasses educational, occupational and skill potential of the community. With regard to Nahorbari, the literacy rate is 73% which denotes a rather high level of literates. Focusing on the skill profile of the community members, 51 men and 57 women in tailoring, 28 men in cane and bamboo crafts while 221 men in carpentry etc. These skills could be further enhanced with the application of specialised training to act as a source of income. As per profession, there are factory workers, daily wage earners, shopkeepers, farmers and others. The development of a community focuses on well-educated and skilled members who would add to the improvement of the existing economic conditions. Also, a high percentage of people under the working age group of 18-60 years would showcase a high potential of workforce and in the case of Nahorbari, it is 59%

Physical Capital

Physical capital denotes the presence of absence of physical infrastructure in the community which would add to the physical development of the area. In the said JFMC, in terms of educational facilities, other than 2 primary schools, there are no other institutions situated in the village. Educational facilities in the village would help improve the literacy rates of the population. The presence of unpaved roads in the villages makes day to day activities a difficult task for the people. Availability of basic amenities is a major element in the development of the village and hence it is important that attention be paid to the fulfilment of these amenities.

Natural Capital

The natural capital denotes the availability of a wide range of natural resources such as flora, fauna, fertile land, water bodies etc. With regard to Nahorbari, around 750 bighas of land can be claimed as fertile which would make it suitable for the cultivation of various types of crops. Among wild life, different animal species such as snakes, fox, moneys, elephants, rabbit etc. and bird like sparrows, doves, cranes, and other can be found. The village is located in the

fringes of the Sadia Station, North Bank Reserve Forest and has an abundance of Teak, Holong, Khaira, Gamari, Sishu, Bamboo. Betel nuts, Banana etc. Available space provides scope for gardening, poultry and animal rearing.

Social Capital

In terms of the social capital of the village, it denotes the religious, social and cultural life and institutions. There are 2 Namghars,, 1 Buddhist *Gumba* which constitutes the religious elements in the village. There is 1 Angadwadi centre (ICDS) in the village which looks after the pre natal care for women and post birth child care. It also acts as a play school for the children in the village. The panchayat helps in the fulfilment of administrative duties and the village headman helps in resolving social conflicts that arise. There are Mahila Samitis, Youth Clubs in the village which helps encourage a sense of social bonding among the community members. There are 17 SHGs in the village which are mainly involved in activities like savings and money lending for the members at lower interest rates. These could help improve the economic conditions in the village by taking up certain income generating activities.

Financial Capital

Financial capital of a village focuses on the availability of financial institutions and the awareness of the people with regard to the various advantages that the institutions can provide. In Nahorbari, the bank and post office are both located outside the village at a distance of 7km. There are a large number of people who have bank accounts in the village, but awareness on facilities such as micro finance, health/crop insurances is rather low. Hence it is important that awareness on financial literacy is generated among the community member since it would help improve the economic conditions.

4.2 Livelihood Asset Pentagon

Based on the analysis and assessment of the existing five livelihoods assets in the village a livelihood pentagon was studied. The livelihood pentagon is not balanced and gaps could be plugged by taking appropriate livelihood strategies and actions that are mentioned in the village development plan and livelihood development plan.

4.3 Vulnerability Context Analysis:

Various research studies have shown that even if there is a rich natural capital like forests or fertile agricultural land, the vulnerability and sudden shocks due to animal depredation, flooding or spread of epidemics have a direct negative impact on livelihoods and livelihood assets. With regard to Nahorbari, it faces hazards such as elephant (almost throughout the year) and leopard (from February to May) depredation which damage crops and property of the community members. Pest attacks during the months of April to August also tend to destroy

agricultural fields, while floods during July-September hamper the village. There are also diseases such as malaria which spreads during June to September and dysentery from April to September which affects the health of the people.

4.4 Seasonality:

The seasonality calendar has been prepared in consultation with the community. This calendar clearly shows the different cropping seasons as well the hazard profile of the JFMC area. The fertile land of the village allows for a number of different crops to be grown such as Ahu Paddy from March to July, while rabi crops like vegetables and mustard in September to January. Also pulses (black gram), maize and ginger are cultivated by the community.

As per the existing hazards in the village, it faces animal (elephant and leopard) depredation which damages the crops and property, while floods and pest attacks are also prevalent in the village.

<i>Months</i>	<i>Jan</i>	<i>Feb</i>	<i>Mar</i>	<i>Apr</i>	<i>May</i>	<i>June</i>	<i>July</i>	<i>Aug</i>	<i>Sep</i>	<i>Oct</i>	<i>Nov</i>	<i>Dec</i>	
<i>Crops</i>	<i>Ahu Paddy</i>												
	<i>Rabi Crops</i>								<i>Rabi crop (vegetables and mustard)</i>				
	<i>Pulses</i>									<i>Pulses (Black gram)</i>			
	<i>Maize</i>												
				<i>Ginger</i>									
<i>Hazards</i> <i>Diseases</i>	<i>Elephant Depredation</i>												
		<i>Leopard Depredation</i>											
				<i>Pest Attack</i>									
							<i>Floods</i>						
						<i>Malaria</i>							
				<i>Dysentery</i>									

5. Existing Plans and Programmes

This Chapter deals with certain essential linkages with other key planning and execution mechanisms and processes which have direct bearing upon micro planning. The topmost among these is the Working Plans which provide an overall umbrella for sustainable development and forestry and wildlife conservation in forest areas of the State. In wildlife areas, these plans are known as Management Plan, and in Tiger Reserves, as Tiger Conservation Plans. In addition, there are several plan scheme components such as the Tribal Sub Plan (TSP), and Scheduled Caste Component Plan (SCP) which also get implemented in forest villages through the Forest Department. There are several line departments providing health, education, power, irrigation and livelihood services. Often these departments also implement schemes in the forest villages.

After the promulgation of the Assam Joint (Peoples' Participation) Forestry Management Rules, 1998 in Assam, the joint forest management got initiated, and the JFMCs and EDC were constituted in 2002. Prior to this, some working plans had prescriptions for joint forest management or constituted JFM circles. However, the National Working Plan Code, 2014 gave the right impetus to the micro planning and has incorporated detailed guidelines to this effect. This Micro plan is based on the norms and guidelines as per the 2014 National Working Plan Code.

5.1 Linkage with Working Plan

The Doomdooma Division was created by transferring some of the reserved forests from Digboi and Dibrugarh Divisions. Division has its origin from erstwhile Lakhimpur Division which owing to its increasing revenue and pressure of works was divided gradually into several territorial divisions for administrative convenience. The total area covered by all the reserve forests is about 30,904.35 Hactares. Sixteen out of twenty reserve forests are situated on the southern side of the division i.e. towards south of the Lohit and Brahmaputra rivers. Sadiya Station (North Block), Kundil Kalia and Deopani RF's form the interstate boundary between Assam and Arunachal Pradesh.

It is based on working plan for the Doomdooma forest division, Assam for the period 2016-17 to 2026 – 2027. In order to attain the various objectives set for the purpose of this Working Plan, the following Working Circles are constituted: -

- i) Hollong Plantation Working Circle.
- ii) Rehabilitation and Energy Plantation Working Circle.
- iii) Wildlife Protection Working Circle.

- iv) Bamboo plantation and Protection Working Circle.
- v) Non Timber Forest Produce Working Circle.
- vi) Joint Forest Management and Eco Development Working Circle.
- vii) Eco-Tourism, EDC and Landscape Management Circle.

The various prescriptions which have been laid down for the above mentioned working circles are:

- a. Hollong Leaf Plates and Bowl Making from collecting fallen Hollong leaves, keeping the Hollong trees intact without illegally felling the Hollong trees.
- b. To have an integrated approach of utilizing the Hollong Plantation Working circle for multiple Products other than timber.
- c. In the areas with mature stands of miscellaneous crops, mother trees are to be identified which will be forming a plus seed supply coupe. No operation /felling is specified other than seed collection.
- d. In blank areas which are more open, sowing of the collected seeds is to be done to form a site nursery for Energy plantation.
- e. The seedlings/root shoot cuttings from the site nursery will be used to plant in the degraded areas or wind fallen areas of the Energy Working Circle.
- f. For Protection of Fauna, the following measures are to be immediately taken up-
 - **Creation of Sanctuary** by covering Hollougaon, Kukuramara and Kundil Kolia RFs and linking Hollougaon RF and Kukuramara RF by planting food species of the gibbons in the corridor to be named as Community Forests.
 - Mass awareness programmes and developing eco-tourism in these areas.
 - **By creating the Luit Sanctuary** over Brahmaputra River in between the Dibru-Saikhowa National Park and Arunachal Pradesh (Tengapani area) and also by prompting Arunachal Pradesh authority to declare a part of the Tengapani River as such. Further, the Dibong River also can be included in the Sanctuary for protecting the diverse flora and fauna of the river and along its bank.
 - **Creation of a Sanctuary** by covering few compartments of Doomdooma and the entire Dangori RF to save the few surviving White Winged Wood Duck.
 - By declaring Kakojan Reserve Forests as a part of the **Core Area of the Dehing Patkai National Park** which is in the pipeline.

g. A well designed training on Eco Tourism and Landscape Management for the local youth and exposure visits to the nature, wildlife, and historical areas is extremely important.

5.2 Forest Department Initiatives in the Past

5.3 Schemes of other Department

**NAHORBARI JOINT FOREST MANAGEMENT COMMITTEE
DOOMDOOMA FOREST DIVISION**

**Micro-Plan
(2016-17 to 2026-27)**

PART-II

6. Micro plan Objectives, SWOT and GAP Analysis

6.1 Micro plan Objectives

A village level Micro-Plan is a village development plan and forest development plan, which is need based and site specific, commensurate to available resources. As the unit of the plan is small, it is called a micro plan. The Micro plan tries to meet the twin objectives of:

- i. Enhancing livelihoods
- ii. Biodiversity conservation and maintaining the ecological balance

In India, micro-plans have become an integral part of the joint forest management approach adopted by the Government of India. In this context, a micro-plan is a simple document prepared with the active participation of the community members. The community (village) is the unit for such micro-planning. The document aims to link local forest based resources to local needs and programme objectives of the Forest Department. As per the JFM Guidelines of 2000, the Forest Officers and JFMC should prepare a micro plan after having detailed PRA exercise in the village. The micro-plans of the JFMC are to be incorporated into the working plans of the Forest Department.

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 the following Participatory Rural Appraisal (PRA) process undertaken by the community and personnel of Rashtriya GraminVikasNidhi (RGVN) in 7th May 2017. The various steps followed are enumerated briefly below:-

- a) Community meetings organized at the outset in May 2017 to discuss the objective of the project and obtaining their cooperation to gather the required information about the community and its contexts;
- b) Collection of the baseline data on the community and its contexts as per the available
- c) formats;
- d) Validation of collected information through community discussions held thereafter; and
- e) Preparing the outline of the Action Plan as per the community participation and feedback.
- f) The micro-plan has been compiled by RGVN based on the project guidelines. The document has been discussed and finalized for adoption in May 2017.

6.2 Need Assessment and GAP Analysis

Based on the resource assessment, capacity assessment, livelihoods assets mapping and vulnerability assessment through focused group discussions, PRA exercises, village level and household level survey, the need assessment, gap analysis and SWOT analysis was carried out. The action plan, livelihood, village development strategies and forestry development plan were conceptualized for the JFMC primarily based on this analysis.

Training Need Assessment:

- a. **Capacity building** of communities through regular awareness programmes on important development issues like Forests and Biodiversity, Sustainable development, climate change issues, Gender issues, Financial inclusion, importance of WATSAN, Soil and water conservation, Flood management should be carried out. A mechanism for the same is proposed in the action plan for village development.

- b. **Skill Development:** Conducting regular review of livelihood skills and providing specialized training on use of equipment and tools and processes and procedures for livelihood enhancement to be conducted on a regular basis as proposed in the action plan for livelihood development.

GAP Analysis

- Lack of physical infrastructure such as poor road conditions, medical and educational institutions
- Lack of awareness and knowledge with regard to creating market linkages
- Financial literacy among the community members is low
- Community has low educational and technical knowledge

6.3 SWOT Analysis

The SWOT analysis was carried out through participatory approach by involving both male and female members of the community.

Strengths

- i. Community belongs to homogenous Nepali ethnic group which enhances social bonding
- ii. Traditional knowledge and skill regarding practices such as goatery, piggery, bee keeping, poultry etc.
- iii. Presence of enthusiastic and hardworking youth in the village eager to work

towards the upliftment of their economic and social conditions

Weaknesses

- i. The community has low education level.
- ii. Poor road conditions leads to low communication and transportation
- iii. Lack of exposure with regard to employment and educational opportunities

Opportunities

- i. Potential for plantation cropping spices etc.
- ii. Processing industry of raw materials like Ginger, turmeric, Betelnut can be promoted
- iii. Young entrepreneur can be encouraged
- iv. Scope for diversification of products through proper skill development

Threats

- i. Floods
- ii. Animal depredation
- iii. Pest attacks
- iv. Exploitation of farmers by middle men

6.4 PRA Exercise

Appendix VI (A) to VI (D) gives the **PRA** maps

Team from RGVN Guwahati carried out PRA exercise in Nahorbari village as follows:

Date: 7th May 2017 .**Location:** Nahorbari LP school

Numbers Present: 59

In Presence of: Range Officer Lakheswar Baruah, Dhan Bhakta (Nahorbari village Head), President of the JFMC and other community members.

Awareness and orientation programme was conducted at village level before taking up the participatory mapping and transect walk. The main themes covered during awareness and orientation included the following:

- (a) Participatory Planning
- (b) Participatory tools & Methods
- (c) Importance of Micro planning and role of JFMC
- (d) Environmental issues
- (e) Climate change and Climate variation
- (f) Ecological balance and Ecosystem management (traditional and scientific)

- (g) Sustainable livelihood Framework
- (h) Livelihood Assets Pentagon and importance of social capital
- (i) Cluster formation & SHG , Financial inclusion
- (j) Marketing and Value addition
- (k) Development agenda and its relationship with environment and ecological balance
- (l) Gender Issues and gender equality

Observations: The communities actively participated during the discussions and PRA exercise. The following important points have emerged:

- People expressed that the JFMC have not been very active in the past due to lack of funds and projects
- There have been very few awareness and orientation programs in the JFMC in the past.
- They appreciated the importance of micro planning and were very supportive and cooperated during the micro planning process.
- While some NGOs have been visiting the JFMC they only collected data and information but did not take up any development activity.
- It was for the first time that Under the APBFC the NGO has come and interacted with the community and created awareness and proper orientation not only about the project but also on the development issues including environmental and ecological aspects to growth and development.
- The communities have good local wisdom and traditional knowledge regarding the environment, forestry and other livelihood issues like pest control, livestock management etc.
- They shared their concern over the climate variation and its ill effects on agriculture and health in the village. They are keen to learn more on the scientific facts about climate change issues.
- A sense of importance was observed among the people as they understood the important role they had towards reducing causes leading to climate variation by protecting the nearby forests and a sense of ownership seems to be gripping them boosting their self-esteem.

Community Need Assessment: Based on the PRA exercise, Focus group discussions, consultations with village community, JFMC members, forest staff and other stakeholders the Village Development plan and Livelihood development Plan was prepared for the JFMC. Through

the participatory approach the community Need Assessment was carried out. The people's needs can be categorized as follows:

1. Structural Needs:

The structural needs of the people have direct and indirect linkage with livelihood improvement. These include improvement of infrastructure like roads, school buildings, Health care infrastructure, drinking water supply system, water tanks, ring wells etc. Construction of toilets, community halls and training sheds, market sheds.

2. Non Structural needs:

The non-structural needs of the people include provision for skill training, provision of veterinary services, health care services, mobile doctors team, requirement of teachers for schools in the villages, capacity building through training and awareness on financial inclusion, SHG and cluster formation, provision for raw materials, village maintenance & development fund/ community fund for JFMC, Value addition of traditional products and marketing linkages. Exposure visits to best practice sites relating to joint forest management, community participatory project sites, artisans villages and participation in *Melas*, trade fairs etc.

These needs can be classified further into long term needs and short term needs. The details of the community's needs are given in the village development plan.

7. Village Development Plan

Considering the long term and short term needs for village development a village development plan was prepared in consultation with the community members as well as the JFMC members.

The measures planned by the community members for the village development are as follows:

- Overall improvement of physical infrastructure in the village such as road conditions, health care facilities, drinking water supply, and tube well, construction of toilets, community hall cum training centre etc.
- The linking road condition is very poor in the village. The approach road from Santipur- Sadia centre where market and service centre is located deteriorates during rainy season. There is demand of a bridge on this road, to improve the transport and communication in the village. Moreover, 4 culverts need to be constructed at Carbari Tiniali, Limbuchak Tiniali, School Tiniali and Reserve Tiniali to make movement easy for the community people.
- As Ginger and turmeric production is relatively high, hence processing and commercial production of these can create employment thereby strengthening the economy of the community.
- Service of electricity is very poor (4hr/day). Provision of solar lights will help the community members, especially in hazard prone areas inside the village.
- Provision of financial assistance to individual and group to establish various livelihood opportunities like livestock rearing. This would help in strengthen the village economy.

7.1 Ranking of EPA

For village development, the community proposes to take up a number of Entry Point Activities. The EPA includes infrastructure development and skill development and both are directly linked with other.

Rank	Village EPA as ranked	Details
1	Community hall shed with training and production centre. Along with JFMC office and store room. Facilitating with water, latrine(M&F)and generator at community	GPS Location :N-27D56'44.8' E-95D42'22.0" Details of Activity: 1) Community hall shed with two office room 40ft. X 20 ft. building. Budgeted Amount—6,00,000/- 2) Water, sanitation and electric in the hall. Budgeted Amount---1,50,000/-

Approved.

Boye
(Boye Secy Boy)
03-06-2017

Divisional Forest Officer
Doomdooma Division
Doomdooma

	land 2.5kotha near Nahorbari Karbari CUK L.P School.	3) Gril & colour. Budgeted Amount----50,000/- Sub Total -:8,00,000/-
2	Soler light at elephant hazard pron area in public place at 20 spot	GPS Location:-N-27D 56'43.6" E-095D422'19.0" Details of Activity:1)Soler light with stand Budgeted Amount ---- 2,00,000/- Sub Total: 2,00,000/-
3	Community goattery firm at near Umesh Chetry home at community land (Ram Chagalee Firm)	GPS Location :N-27°56'43.6' E-095d42'19.0" Details of Activity: 1)goat shed 20*40" Bugeted Amount:50,000/- 2)100 goats Budgeted Amount:1,50,000/- Sub Total—2,00,000/-
4	Tent house at proposed community hall store room	GPS Location: N-27D56'43.8" E-095D42'22" Details of Activity: 1)Generator. Budgeted Amount: 90,000/- 2)Tripal, Screen. Budgeted Amount: 50,000/- 3)Sound set. Budgeted Amount: 30,000/- 4)Carrier Van. Budgeted Amount: 5,50,000/- Sub Total : 7,20,000/-
5	Modern Agricutural Equipment -1) Power pump set 5HP 3 piece at proposed (2.5 kotha community hall)	GPS Location : n -27d56'44.8 E-095d42'22" Details of Activity: 1)3piece power pump set Budgeted Amount : 1,20,000/- SUB Total :1,20,000/-
6.	Culvert-(4) (at Karbari Tiniali, Limbu chuk Tiniali, School Tiniali, Resurve Tiniali)&Graveling	GPS Location: N-27D57'03.9" E-095D42'34.2" N-27D57'25.5" E-095D42'13.5" N- 27D56'13.5" E-095D42'17.2" N27D56'52.5" E095D42'07.6 Details of Activity: 1)Ree culvert 2)Road graveling at Nahorbari Karbari chawk to Forest link (1.5KM) Budgeted Amount : 8,00,000/- Sub TOTAL-8,00,000/-

Approved.

(Bokaling Bgy)
03/06/2017

Divisional Forest Officer
Doomdooma Division
Doomdooma

8. Livelihood Development Plan

Effective PRA exercises and socio-economic surveys in the fringe and forest villages have been conducted with the help and support of JFMC members and RGVN in order to prepare microplan for the village. Various Income Generating Activities (IGA) were identified through focus group discussions and PRA. Some of the important income generating activities as identified by the communities include:- pisciculture, vegetable farming, poultry, dairy farming, apiculture, mushroom farming, decentralized nursery, tailoring, small crafts, jute crafts, bamboo crafts, candle making, incense stick making, pickle making, etc. Value addition to the products can be made by processing, grading packing/ bottling and labelling professionally. Inputs, equipment, raw materials required for the IGA were identified. A marketing platform, called Van Bazar, is proposed to be established to showcase and sell products from JFMCs.

8.1 Ranking

Ranking of Livelihood and Skill Development

- Tailoring
- Computer
- Electrician
- Integrated Farming
- Handicrafts

8.2 Livelihood Opportunities

Livelihood were identified as follows:

- Agriculture and Horticulture
- Livestock
- Skill Development
- Credit facilities
- NTFP

8.3 Agriculture & Horticulture

The main constraints are:

- (a) Soil is so sandy to capture water

- (b) Elephant Depredation damaging crops
- (c) Land is not allocated as Patta land.
- (d) Absence of modern agricultural equipment due to poor connectivity

The opportunities are:

- (a) Land is suitable for composite farming
- (b) Sufficient space available for farming

8.4 Livestock

The main constraints are:

- (a) Traditional methods of livestock rearing
- (b) Lack of proper knowledge regarding business opportunities of livestock rearing

The opportunities are:

- (a) Introduce modern scientific technique of livestock rearing.
- (b) The available land can be utilized for commercial piggery and poultry farming

8.5 NTFP

The main constraints are:

- (a) Poor availability of NTFP.
- (b) Lack of knowledge by community about NTFP utility

The opportunities are:

- (a) Fruits can be used for commercial processing and value addition
- (b) Awareness about conservation and judicial uses of NTFP
- (c) Boosting income generation

8.6 Specialized Skills

The main constraints are:

- (a) Community has low level of education and technical knowledge.
- (b) Market linkage is difficult from the village.
- (c) Lack of Financial Capital

The opportunities are:

- (a) Scope for development of tailoring
- (b) Human resource is energetic.
- (c) Skill development programmes in various trades like tailoring, piggery etc.

8.7 Credit Facility

Constraints:

- a) Poor access to bank loans
- b) Lack of knowledge about Micro finance institutions and government schemes

Opportunities:

- a) Motivation to form SHGs
- b) Awareness about Micro finance provision and institutions
- c) Coverage of government schemes for provision of loans

8.8 Strategic Interventions

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

1. Encourage SHGs to involve in composite farming of highbred Goattery, Poultry, and Ginger, betel nuts, Black pepper etc.
2. Provide skill training on tailoring, computer etc.
3. Giving life skill trainings including adult education, bank & ATM Use among the illiterate community members.
4. Create market linkage.
4. Working on Water-Sanitation & Hygiene (WASH)

8.9 Income Generating Activities

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

1. Farming
2. Tailoring
3. Animal and livestock rearing
4. Handicraft

8.10 SHG activities

SHGs of the village can plan the following activities:

1. SHG in Tailoring
2. SHG in Composite farming

8.11 Exposure Trips

The following exposure trips are planned:

1. Exposure trip to a Model EDC / JFMC to some of nodal members of community to outside.

2. Knowledge sharing trip by the common community members with in the neighbouring, district.

8.12 Convergence

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

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

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

9. Forest Development Plan of Nahorbari 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 **Nahorbari 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.

9.1 Status of the JFMC Forests

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

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

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

9.2 Forests & Their Conditions

The conditions of the forests of the **Nahorbari JFMC** have been summarized below.

Table-1: Conditions of the Forests of Nahorbari JFMC

Identification	Area of JFMC Forest (Ha)	Distance from Village (Km)	Condition of Forest [Good - Forest with crown density of 40% of more Else 'Degraded']	Frequency of Use by Community [2-3 m / 3-6 m / 6-9 m / Over 9 m]
(A) Assigned Forest				
Along the periphery Area	50 Ha	0Km	Good Area: - 26Ha Degraded Area: 14 Ha	3-6m
(B) Other Planted Area				
To be allotted as per	460Hact.		Good Area: - 322 Ha	

senction amount in due course of time	(NR345 hact. IP-115)		Degraded Area: 138 Ha	
TOTAL	510 Ha			

Source: Discussions with Forest Department personnel & Community members

It is seen that the **Nahorbari** JFMC has 510 Ha under its forests, of which 348 Ha is ‘Good’ and 162 Ha is ‘Degraded’.

9.3 Forest Soil Type

The forests of **Nahorbari** 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 Nahorbari JFMC

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

Source: Discussions with Forest Department personnel & Community members.

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

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

9.4 Existing Composition of Flora

In the forests of the **Nahorbari** 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 Nahorbari JFMC

Parameter	Local Name(s)	Biological Name(s)
Major Forest Species	Teak, Hollock, Urium	<i>Tectona grandis</i> Linn
Associates	Gamari	<i>Gmelina Arborea</i>
Shrubs	Dhekia	<i>Ferns</i>
	Micania	<i>Micania Micranthi</i>
Medicinal Plants	Arjun,	<i>Terminalia arjuna</i>
	Hilikha	<i>Terminalia Chebula</i>
	Neem	<i>Azadirachta indica</i>
	Amlakhi	<i>Phyllanthus emblica</i>
Produces		
Others, if any	Jori bet	<i>Calamus erectus</i>
	Jati bet	<i>Calamus tenuis</i>
	Amlakhi	<i>Emblica officinalis</i>
	Halakh	<i>Terminalia myriocarpa</i>
	Arjun	<i>Terminalia arjuna</i>
	Agar	<i>Aquillaria agallocha</i>

Source: Discussions with Forest Department personnel & Community members

9.5 Other Inputs for the Forest Development Plan

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

9.6 Past Protection Measures of the JFMC

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

- (a) Number of households involved: 400
- (b) Number of people involved: 400 (1 Person Per House hold)
- (c) Summary of the measures: Not available
- (d) Any formal mechanism: Not available

[Source: Discussions with Forest Department personnel & JFMC members]

9.7 Domestic Requirements of Forest Produce

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

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

Name of Forest Produce	Average Household Requirement		How met at Present	Source
	Frequency of Requirement	Approx. Qty		
Firewood	Frequent	60-75 kg	From nearby forest	Forest
Timber for House	Once in a year	2nos.		Forest

Small timber for Implements	-	-		-
Pole / Bamboo	Once in a month	2-3 bamboo / per month	-do-	Forest
Fodder from Forest	Frequent	5-6 kg per day	-do-	Forest
NTFP	Frequent	2-3 kg per day	-do-	Forest
Other _____	-	-		-

Source: Discussions with Forest Department personnel & Community members

There are 400 Nos. households in the **Nahorbari JFMC**. From the above table and this number of households, it is inferred that the total annual requirements of the **Nahorbari** village for forest products for own use is as follows:

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

Name of Forest Produce	Community Requirement (Kg per annum) (*)	Remarks
Firewood	220700	Throughout the year
Timber for House	232 nos.	Dec – Jan
Small Timber for Implements	-	-
Pole / Bamboo	930 bamboo	Dec – Jan
Fodder from Forest	240800	Throughout the year
NTFP	204000	Throughout the year
Other _____		

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

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

9.8 Collection & Marketing of Forest Produce by Villagers

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

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

Name of Forest Produce	Collection for Marketing			Location of Collection
	Season / Months	No of Households Collecting	Average Qty. Collected (Kg)	
Firewood	Throughout the year	400	8640	Forest
Timber for House	Dec – Jan	400	8 nos.	Forest
Small timber for Implements	-	-	-	-
Bamboo	Dec – Jan	400	32 nos.	Forest
Pole	-			
Fodder from Forest	Throughout the year	400	16 kg per day	Forest
NTFP	Throughout the year	400	18.22 kg per day	Forest
Other	-	-	-	-

Source: 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
[Nahorbari JFMC]

Name of Forest Produce	Surplus Marketed (Kg)	How marketed	Average Income per HH from sale of Forest Produce
Firewood	234000 kg/year	Local Market	1800-2100/month
Timber for House	-	-	-
Small timber for Implements	-	-	-
Bamboo	44-48 pc/month	Local Market	800-1250/month
Pole	-	-	-
Fodder from Forest	5840 kg/year	Local Market	900-1400/month
NTFP	6650 kg	-	-
Other	-	-	-

Source: Discussions with Forest Department personnel & Community members

9.9 Total Requirements of Forest Produce - Domestic Use & Marketing

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

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

9.10 Forest Protection Issues

9.10.1 Protection Problems

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

Table-6: Protection Problems of the Nahorbari JFMC

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

Source: 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
- (c) Illegal collection of timber and NTFP
- (d) Accidental fires

9.10.2 Reasons for Degradation of the Forest

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

- (a) No Scientific Plan

(b) Traditional Cultivation of Tribal People

(c) Extremist problem.

[Source: Discussions with Forest Department personnel & Community members]

9.10.3 Components of the Forest Development Plan

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

9.11 Protection Plan

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

Table-7: Protection Plan of the Nahorbari JFMC

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

Source: Discussions with Forest Department personnel & Community members

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

(a) Fencing

(b) Fire protection

9.12 Types of Operations Proposed

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

Table-8: Types of Operations Proposed in the Nahorbari JFMC

Treatment	Required (Yes/ No)	Responsibility of JFMC (Yes / No)	Month / Year when can be done	Extent of Area proposed for Treatment (Ha)
Restoration of Degraded Forests	Yes	Yes	June - July	200 Ha
Protection to Cut Stumps of Trees	Yes	Yes	All the Year	200 Ha
Watershed Treatment	Yes	Yes	All the Year	5 Ha
Water Reservoirs	Yes	Yes	All the Year	5 Ha
Grass and Silvi Pastoral activities	Yes	Yes	All the Year	-
Bamboo culture and earth piling	Yes	Yes	All the Year	R.F
Seed Sowing	Yes	Yes	All the Year	-
Root & Shoot Cutting & Plantation	Yes	Yes	All the Year	-
Cut Back & Coppice Treatment	Yes	Yes	All the Year	-
Stone wall fencing/live Hedge fencing	Yes	Yes	All the Year	200 Ha
Social Fencing	Yes	Yes	All the Year	200 Ha
Other Activities(Protection of	Yes	Yes	All the Year	R.F

Elephants)				
------------	--	--	--	--

Source: 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 **Nahorbari JFMC**:

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

9.13 Forest Improvement Plan - Advance Works & Creation

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

Table-9: Forest Improvement Planned in the Nahorbari JFMC

Treatment	Area in Ha under Plantation Module	Priority for Block Plantation	Species	Spacing (metre x metre)
Assisted Natural Regeneration (with plantation in gap)	20 Ha ANR by APFBC	-	Non Sal NTFP	2/2
Block Planting	-	-	-	-
Sowing of Neem, Amla, Mahua, Bahera (Medicinal Plants)	Nil	-	Medicinal Plants	-
Enrichment Plantation/ Sowing	-	-	-	-
Direct Plantation	-	-	-	-
Other	-	-	-	-
Total Area (in Ha.)	60 Ha	-	-	-

Source: Discussions with Forest Department personnel & Community members

9.14 Forest Improvement - Annual Targets

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

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

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

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

	1st Weeding; Replacement of dead/struggling saplings raised in the previous year	61600
2019-20*	Block Plantation 3m x 3m, 1111 plants/ha-during the season of April-June ; GPS marking of the area	596400
	2nd Weeding; Replacement of dead/struggling saplings raised in the previous year	73920
2020-21*	Block Plantation 3m x 3m, 1111 plants/ha-during the season of April-June ; GPS marking of the area	596400
	3rd Weeding	147840
2021-22*	4th Weeding; Replacement of dead/struggling saplings raised in the previous year	266112
2022-23*	5th Weeding; Replacement of dead/struggling saplings raised in the previous year	354816
2023-24*	6th Weeding; Replacement of dead/struggling saplings raised in the previous year	266112
2024-25*	7th Weeding	266112
2025-26*	8th Weeding	266112
Total Budgetary Requirement		3989424

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

Source: Discussions with Forest Department personnel & Community members

Name of Plantation : Block Plantation of Teak Mixed with Associates, Firewood and Bamboo

Plantation Period : 2016-17 to 2025-26 (10 Years)

Plantation Area : 100 ha

Spacing : 2m X 2 m-2500 plants per ha

No. of Plants to be Raised : 110000 (11000 approx. annually)

Number Blocks : 10 Numbers(10 ha each)

Species : Teak; Associates-Ajar, Khoroi, Khayer, Sissoo, Jia, Arjun, Ghora Neem, Bamboo(Jaati, Kako, Bholoka, Bijili), etc

Action Plan for Creation of Plantation		
Financial Year	Activities	Amount (in Rs.)
2016-17	Identification of suitable site for regeneration-examine possibilities of natural seed fall-determine intensity and nature of biotic interference-Area Not Less than 100 ha, Demarcation of land during the month of December-January, Partition of land in 4 blocks, Land development, Soil Working @ Rs 1000/ha	100000
2017-18*	Block Plantation 2m x 2m, 2500 plants/ha-during the season of April-June ; GPS marking of the area	262500
2018-19*	Block Plantation 2m x 2m, 2500 plants/ha-during the season of April-June; GPS marking of the area	262500
	1st Weeding; Replacement of dead/struggling saplings raised in the previous year	26950
2019-20*	Block Plantation 2m x 2m, 2500 plants/ha-during the season of April-June; GPS marking of the area	315000
	2nd Weeding; Replacement of dead/struggling saplings raised in the previous year	32340
2020-21*	Block Plantation 2m x 2m, 2500 plants/ha-during the season of April-June; GPS marking of the area	315000
	3rd Weeding	64680
2021-22*	4th Weeding; Replacement of dead/struggling saplings raised in the previous year	266112
2022-13*	5th Weeding; Replacement of dead/struggling saplings raised in the previous year	155232
2023-24*	6th Weeding; Replacement of dead/struggling saplings raised in the previous year	116424
2024-25*	7th Weeding	116424

2025-26*	8th Weeding	116424
Total Budgetary Requirement		2149586

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

9.15 Nursery Development Plan

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

- (a) JFMC Nurseries (incl. Departmental Nursery)
- (b) Other Nurseries - SHG & Private.

The details are given below.

JFMC Nurseries

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

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

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

Source: Discussions with Forest Department personnel & Community members

9.16 Maintenance Plan - 10 Years

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

(A) Timber Species, Gamera, Teak.

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

Year(s)	Treatment
1 st Year	Periodic weeding and removal of creepers Ring formation
2 nd Year	Removing of all dominating weeds affecting supply of

	sunlight Gap filling Training the plants for straight pole formation
3 rd Year	Removal of side branches
4 th Year	Pruning the nearby trees
5 th Year	Pruning the nearby trees
6 th Year	Gap plantation
7 th Year	Gap plantation
8 th Year	Gap plantation
9 th Year	Gap plantation
10 th Year	Removal of alternative row of teak

Source: Discussions with Forest Department personnel & Community members

(B) Bamboo

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

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

8 th Year	Removal of culms and trimming of criss-cross culms Light pruning to improve adequate sunlight and aeration
9 th Year	Removal of culms and trimming of criss-cross culms Light pruning to improve adequate sunlight and aeration
10 th Year	Removal of culms and trimming of criss-cross culms Light pruning to improve adequate sunlight and aeration

Source: Discussions with Forest Department personnel & Community members

(C) Fuel wood Plantation

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

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

Source: Discussions with Forest Department personnel & Community members

(D) NTFP / Medicinal Plantation

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

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

	Minimal pruning for removal of criss-crossing, overcrowding branches
9 th Year	Collection of fruits Minimal pruning for removal of criss-crossing, overcrowding branches
10 th Year	Collection of fruits Minimal pruning for removal of criss-crossing, overcrowding branches

Source: Discussions with Forest Department personnel & Community members

9.17 Miscellaneous Operations Plan

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

Table-13: Miscellaneous Operations in the Nahorbari JFMC

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

Source: Discussions with Forest Department personnel & Community members

Marketing Operations

For produce from the **Nahorbari** JFMC, the planned marketing operations are:

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

Expected Benefits

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

9.18 Expected Benefits Related to Wood & Grass

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

Item	Month	Year (Indicative)	Quantity
Firewood	12 month		165-175 Kg/month
Timber for House	-	-	-
Small timber for Implements	-	-	-
Bamboo	12 month	32-40 pc/ month	700 -1250 Kg/month
Pole	-	-	-
Fodder from Forest Trees & Grass	12 month	-	1600-2000 Kg/month

10. Implementation Strategies, Timelines and Budget

10.1 Roles and Responsibility Matrix

For the three sub plans namely Livelihood Development Plan, Village Development Plan and Forest Development Plan, a matrix of roles and responsibilities has been developed. The matrices have been shown below for each of the sub plans separately.

Livelihood Development Plan

Stakeholders	Planning	Manpower	Training	Funding	Production & Value Addition	Marketing	M&E
JFMC		✓			✓	✓	
NGO		✓			✓	✓	
Skilling Agencies		✓			✓		
Forest Deptt		✓				✓	
Line Deptt.		✓					

Village Development Plan

Stakeholders	JFMC	Forest Department	Line Departments	NGO	Training Institutions	Govt of India/Corp
Solar Power		✓	✓			✓
Solar/Hybrid Street Lights		✓	✓			✓
Sprinkler Irrigation		✓	✓		✓	✓
LPG		✓			✓	✓
Power Pumps		✓	✓			✓
Training Center		✓			✓	✓
Community Hall cum JFMC Office		✓	✓			
Roads		✓	✓			

WATSAN		✓	✓			✓
School		✓				
Health Infra		✓	✓		✓	✓
Organic farming/ vermicompost		✓	✓		✓	✓

Forest Development Plan

Stakeholders	JFMC	Forest Department	Line Departments	NGO	Training Institutions	District Admin
Forest Protection		✓				✓
Wildlife Protection		✓	✓		✓	
Habitat Improvement		✓	✓		✓	
Nursery Development		✓			✓	
Wetland Conservation		✓				✓
Man-Animal Conflict		✓				
Grazing Control		✓	✓			
Eco-Tourism		✓	✓			

10.2 Finance and Budget

The budget for the microplan has been prepared based on annual requirement of the three sub plans namely the Livelihood Plan, Village Development Plan and Forest Development Plan. The consolidated table is given below.

SI No.	Plan	Amount (Rupees)	Remarks
1.	Livelihood Development Plan		
2.	Village Development Plan		
3.	Forest Development Plan		
	TOTAL		

Livelihood Development Plan

SI No.	Item of Work	Amount (Rupees)	Remarks
1.	Skill Development & Training		
2.	Dairy Farming		
3.	Poultry/ Fishery/ Duckery		
4.	Computers	-	
5.	Trades and Callings	-	
6.	Handicrafts		
7.	Kits and Equipment	-	
8.	Value Addition & Certification	-	
9.	Packaging and Marketing	-	
10.	Exposure Visits		
11.	SHG/ JLG/ Cluster Formation & Credit	-	
	TOTAL		

Annual Village Development Plan:

SI No.	Item of Work	Amount	Remarks
1.	Solar Power		
2.	Solar/Hybrid Street Lights		
3.	Sprinkler Irrigation		
4.	LPG		
5.	Power Pumps		

6	Training Center		
7	Community Hall cum JFMC Office		
8	Roads		
9	WATSAN		
10	School		
11	Health Infra		
12	Organic farming/ vermi-compost		
	TOTAL		

Annual Forest Development Plan

Sl No.	Item of Work	Amount	Remarks
1.	0.25 Ha Nursery		As per CAMPA scheme for 10 years maintenance
2.	10 Ha Fuelwood Plantation Creation		For creation only
3.	Desiltation of water bodies		
4.	Anti Depredation Squad		
5.	Crop Insurance		
6.	Life Insurance		
7.	Cattle Insurance		
	TOTAL		

10.3 Action Plans and Strategies:s

Each of the **three** plans namely the Village Development Plan, Forest Development Plan and Livelihood Development Plan would require short term and long term action plans strategies in order to realize the prescriptions of the Microplan. Short term strategies should focus on activities to be taken up from 0-5 years, and long term plan should focus on activities to be taken up in 5-10 years of this Plan.

Livelihood Development Action Plan:

The livelihood action plan may be divided into three parts namely, skilling, production & marketing and value addition. The most immediate want of the population is skilling. The skilling requirements needs to be viewed at basic level and advanced level. Once the trades and skill requirements have been frozen, the basic skills should be imparted within a period of 1 year for all willing members of the village both men and women in a phased manner. During this period, some of the trainees could also start production. The most marketable outputs need to be channelized to the available markets in order to create the brand effect and assess the marketability of the production in terms of quality and value.

Village Development Action Plan:

The village development action plan may be divided into the short term plan and the long term. In the short term plan activities like Solar lighting, Providing LPG connections, construction of Community hall and training centre and water sanitation needs would be addressed. In the long term plan for the village the activities like construction of schools, health care facilities would be taken up. Providing improved tools and equipments for enhancing agriculture production along with water sprinklers, power pumps would be provided.

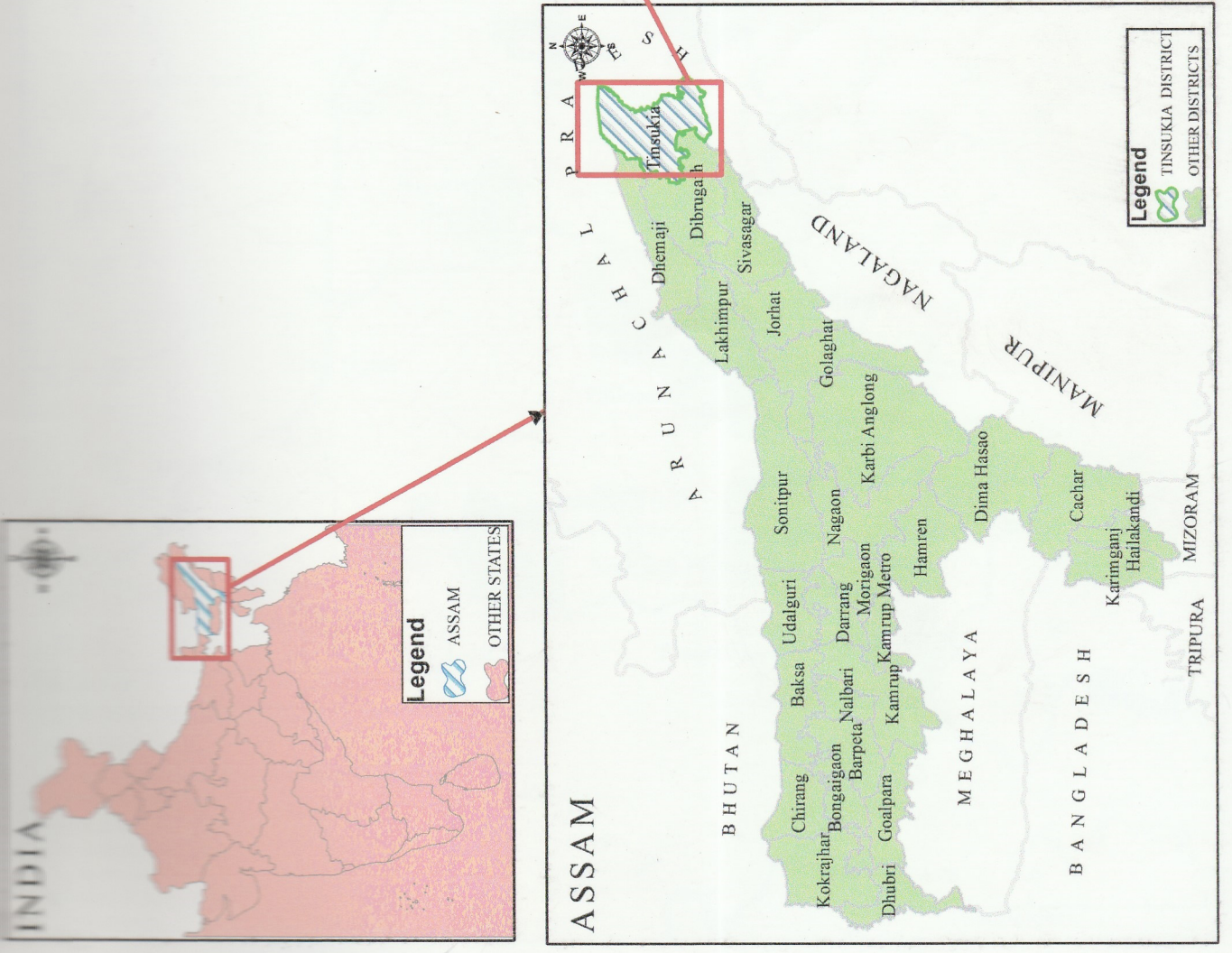
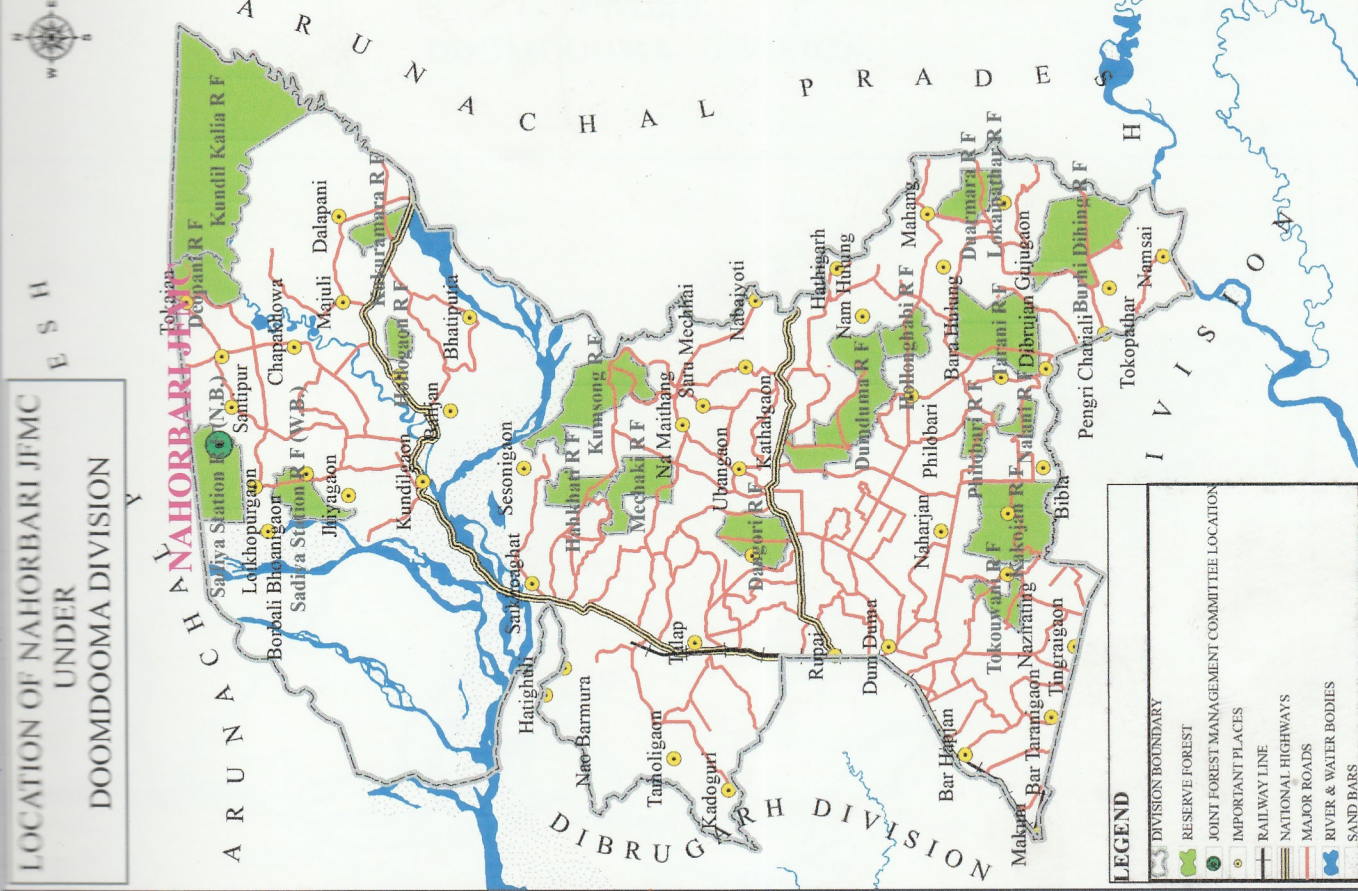
Forest Development Action Plan: The forest development action plan comprises of the short term action plan and the long term plan. The short term plan includes formation and strengthening of forest protection squads, Nursery development, desiltation of water bodies, formation of anti depredation squads, Tongi construction and firewood plantations. In the long term action plan activities like Plantation, Crop improvement and habitat improvement would be taken up.

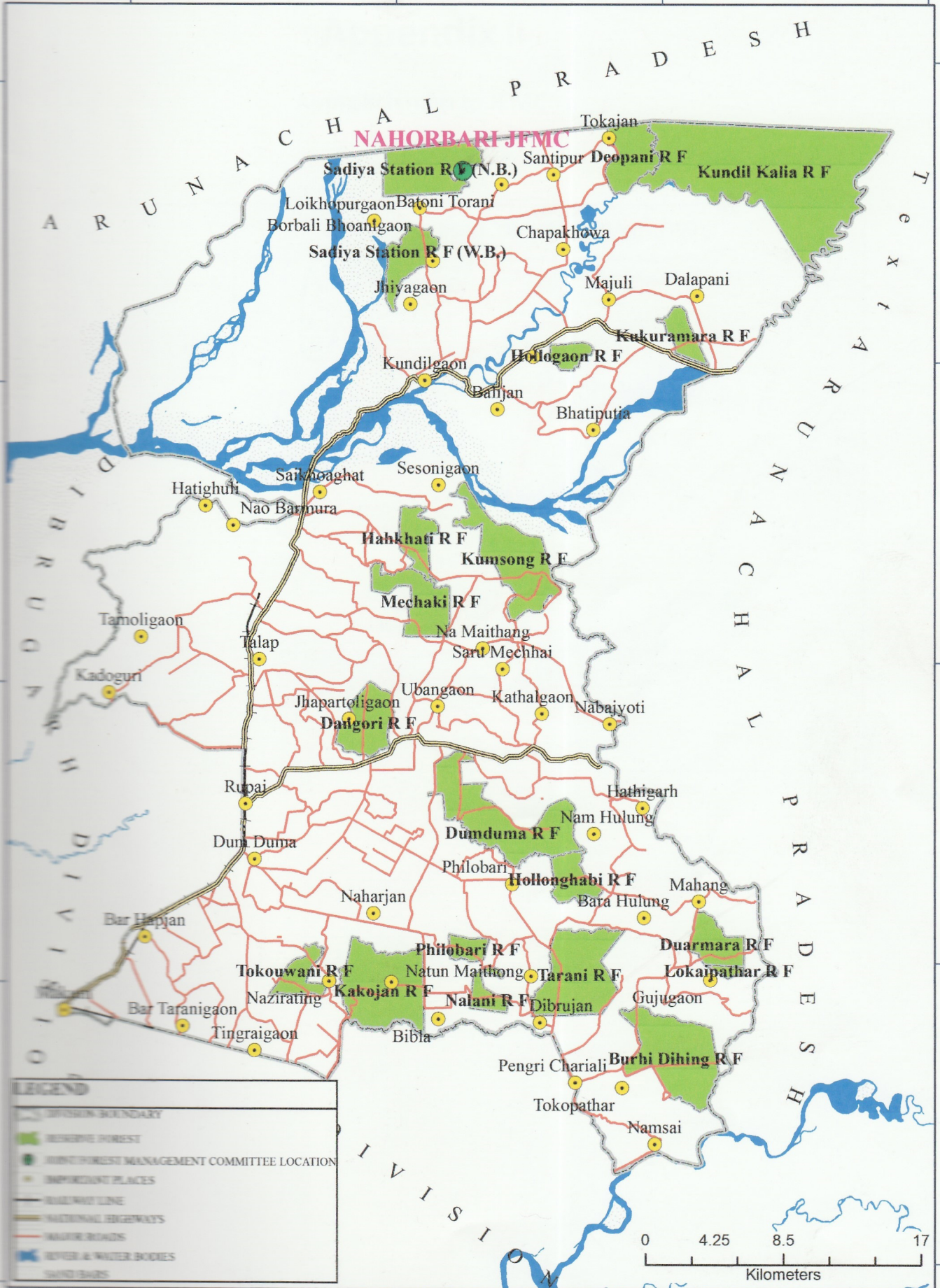
10.4 Institution Building, Networking and Partnership

JFMC: The JFMC to be upgraded both in terms of its infrastructure assets and in terms of acting as a resource center for village and forestry development. The proposed JFMC office along with the community hall in the entry point activity to be provided with modern equipment like computer/ TV and support equipment like generator etc. Building capacity of JFMC members through training programs on use of computers, maintaining and updating records/ accounts keeping and village level/ forestry data on a regular basis. The JFMC office to be upgraded as a resource center, an activity and training hub. Improving their networking skills and creating awareness regarding development schemes of other departments and modalities for partnership.

LIST OF APPENDIX

Appendix No.	Title
I(A)	Location Map of JFMC in India
I(B)	Location Map of Nahorbari JFMC
II	Approach map to JFMC
III(A)	JFMC Registration Certificate
III(B)	MoU/Resolution Certificate
IV	Executive Members of Nahorbari JFMC
V	Executive Members group Photo of Nahorbari JFMC
VI	List of members present during PRA & FGD(Signed list)
VII(A)	Community map of Nahorbari JFMC
VII(B)	Resource map of Nahorbari JFMC
VII(C)	Hazard map of Nahorbari JFMC
VII(D)	Venn Diagram
VIII	Entry point Activities
IX(A)	Training list of Nahorbari JFMC (Proposed)
X	Photographs
XI	GPS Coordinates





NAHORBARI JFMC

Sadiya Station R.F. (N.B.)

Sadiya Station R.F. (W.B.)

Hahkhati R.F.

Kumsong R.F.

Mechaki R.F.

Dalgori R.F.

Dumduma R.F.

Hollonghabi R.F.

Philobari R.F.

Kakojan R.F.

Tarani R.F.

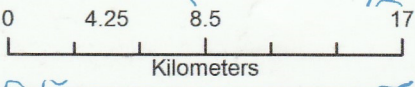
Duarmara R.F.

Lokaipathar R.F.

Burhi Dihing R.F.

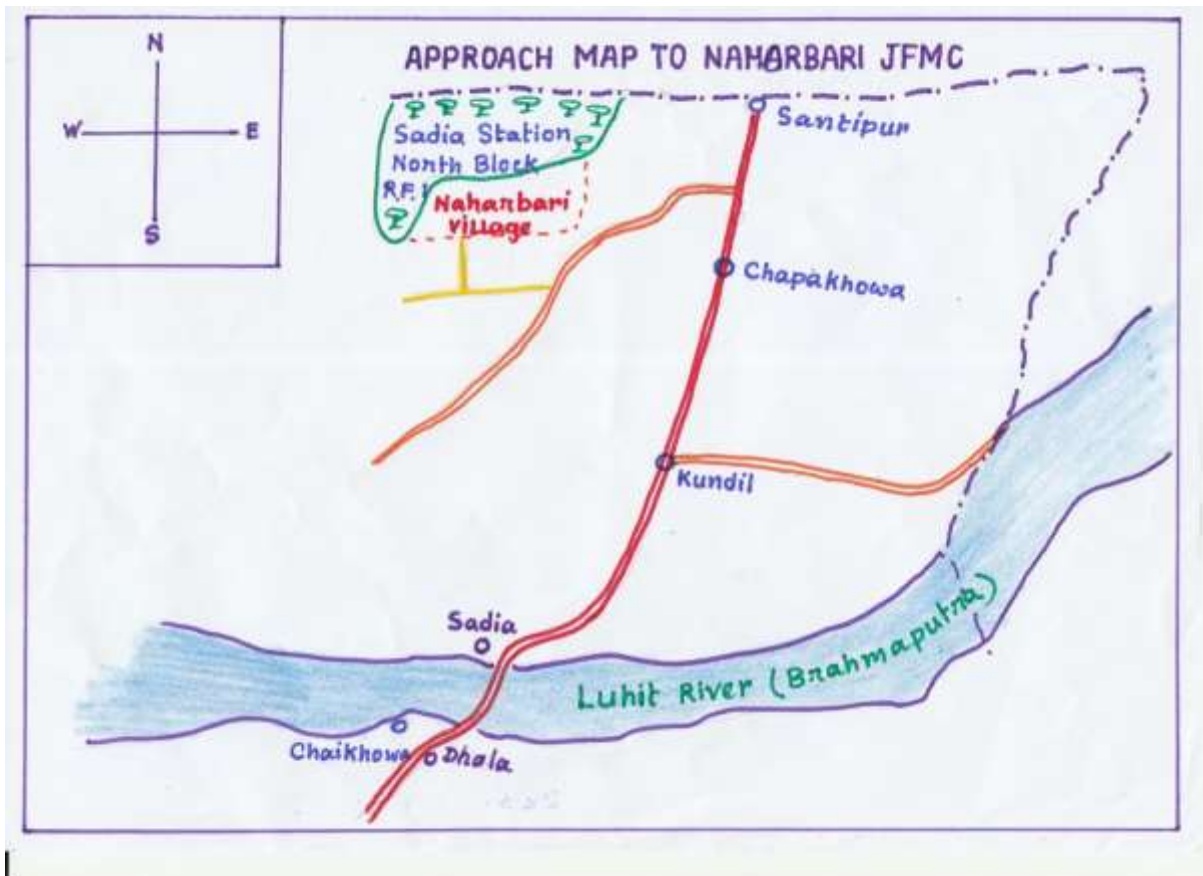
LEGEND

- DISTRICT BOUNDARY
- RESERVE FOREST
- JOINT FOREST MANAGEMENT COMMITTEE LOCATION
- IMPRESSIVE PLACES
- RAILWAY LINE
- NATIONAL HIGHWAYS
- MAJOR ROADS
- RIVER & WATER BODIES
- SAND BARS




Appendix II

Approach map to JFMC



Appendix III (A)

JFMC Registration Certificate


GOVT OF ASSAM
OFFICE OF THE CONSERVATOR OF FORESTS: EASTERN ASSAM CIRCLE:
JORHAT.

Registration No. 2 Date 20.1.2014

Certified that the *Nahorbari Joint Forest Management Committee* P.O. Chapakhowa, P.S. Sadiya under Sadiya Range within the Jurisdiction of Doomdooma Division in Tinsukia District is hereby registered in the office of the Conservator of Forests, Eastern Assam Circle, Jorhat.

The registration of the committee has been done to facilitate implementation of forestry related projects.


(S. Nayak) IFS
Chairperson, Doomdooma FDA
Cum
Conservator of Forests,
Eastern Assam Circle, Jorhat.

Memo No. FR.22/RegisNCSO/JFMC/Doomdooma/ERC Date: 20-1-2014

Copy to .

1. The CEO, Doomdooma FDA Cum Divisional Forest Officer, Doomdooma Division, for information and necessary action.
2. President/Member Secretary Joint Forest Management Committee for information and necessary action.

A copy of the Assam Joint (people's participation) Forestry Management Rules, 1998 is enclosed herewith for kind ready reference.

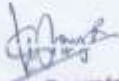

(S. Nayak) IFS
Chairperson, Doomdooma FDA
Cum
Conservator of Forests,
Eastern Assam Circle, Jorhat.

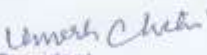
Appendix IV

Executive Members of Nahorbari JFMC

Executive Committee
Nahorbari JFMC

Sl.	Name	Age	Guardian's Name	Educational qualification	Phone No	Designation
1	Umesh Chetri	35	Lt. Ratna Bdr.	Middle	99542-32770	President
2	Lokeshwar Baruah	59	Lt. Lambudhar Baruah	HSLC	9854018459	Member Secretary
3	Prembahadur chetri	26	Lt. Hari Bdr.	High	8011180959	Treasurer
4	Gubinda chetri	52	Lt. Jagat Bdr.	Primary	-	Member
5	Tek Bahadur chetri	36	Lt. Siva Prasad	Primary	8473076855	u
6	Moumaya Bhandari	43	Lt. Arjun	Primary		u
7	Indra Bahadur chetri	35	Lt. Binbahadur	Middle		u
8	Janak Lal Sarma	25	Lt. Kapilmoni	H.S.	8134828258	u
9	Maherman Limbu	27	Lt. Nari Bhr.	Primary	8135052025	u
10	Rupa Lal Tinsina	35	Lt. Umakanta	High	9935439593	u
11	Karna Bdr. chetri	37	Lt. Bhakta Bdr.	Primary		u


Member Secretary
Nahorbari JFMC


President
Nahorbari JFMC

Appendix V

Executive Members group Photo of Nahorbari JFMC



Standing: 1. Lakheswar Baruah 2. Umesh Chetry 3. Prem Badadur Chetry 4.Gubinda Chetry 5. Monmaya Bhandari 6. Tek Bahadur Chetry 7. Indra Bahadur Chetry Sitting :8. Janak Lal Sarma 9. Meherman Limbu 10.Puspa Lal Tinsina 11.Karna Bahadur Chetry

Appendix VI

List of members present during PRA & FGD Signed list)

क्रमांक	नाम	ठिकाना	FGD/PRA	दूरध्वनि क्रमांक
21	श्री. क. लाल शर्मा	नामवाडी		715117
21	श्री. क. लाल शर्मा	नामवाडी		813554206
22	श्री. क. लाल शर्मा	नामवाडी		
23	श्री. क. लाल शर्मा	नामवाडी		
24	श्री. क. लाल शर्मा	नामवाडी		
25	श्री. क. लाल शर्मा	नामवाडी		
26	श्री. क. लाल शर्मा	नामवाडी		
27	श्री. क. लाल शर्मा	नामवाडी		
28	श्री. क. लाल शर्मा	नामवाडी		
29	श्री. क. लाल शर्मा	नामवाडी		
30	श्री. क. लाल शर्मा	नामवाडी		
31	श्री. क. लाल शर्मा	नामवाडी		
32	श्री. क. लाल शर्मा	नामवाडी		
33	श्री. क. लाल शर्मा	नामवाडी		
34	श्री. क. लाल शर्मा	नामवाडी		
35	श्री. क. लाल शर्मा	नामवाडी		
36	श्री. क. लाल शर्मा	नामवाडी		
37	श्री. क. लाल शर्मा	नामवाडी		
38	श्री. क. लाल शर्मा	नामवाडी		
39	श्री. क. लाल शर्मा	नामवाडी		
40	श्री. क. लाल शर्मा	नामवाडी		

Contd..

- 21) Nitomola Chetty — 9954691893
- 22) Hema Chetty — 8011516916
- निवासा देवी — 7638849108
- 23) जीत देवी चेट्टी — 9954704795
- सुलभा पाटील — 8011514571 8011514571
- 25) Sarma Chetty — 8135953103
- 26) Sima Devi Chetty — 8473076855
- 27) Tara Devi Chetty — 7637969562
- 28) Rekha Chetty — 912708238
- 26) सुमना देवी —
- मिना दलिनाराजीकुल
सुमन सुमारी बीकुल
- 28) Miss Ambika Chetty — 9957832516
- 29) Miss Hima Devi Chetty — 9678835001
- 30) Miss Sumah Chetty — 7896062021
- 31) Miss Mina Chetty — 7896237162
- 32) Miss Phool Maya Tamang — 7896202403
- 33) Miss Sakita Tamang
- 24/MISS
- 35) Res Palal Jimrina 8011494242
- 34) Chandra bdr Chetty 8011490206

37/ Mina Tamang - 9435927027

38/ Radhika " 9196728699146

39/ Sabita "

40/ Badmyna chetry 2133024337

41/ Jameena chetry -

42/ Durga chetry 9678702961

43/ Hom Bdr "

44/ Binola Dahal

45) Sobha chetry ~~chetry~~

46 Aneta chetry

47 ~~2222222222~~

48/ Bolin Gogoi

49/ Lokusmita Pasmah P.O. Sadiya 0710517 9854013459

50/ Anjili Gopin Chapakhwa, Sadiya RGN 9707426647

51. Umeth Chetri (J.F.M.C President) 7/5/2017

52) Humna Devi Chetri



53) Anita Chetri



54) Tarca Devi Chetri



55) Sanjima Chetri

56) Sarita Chetri



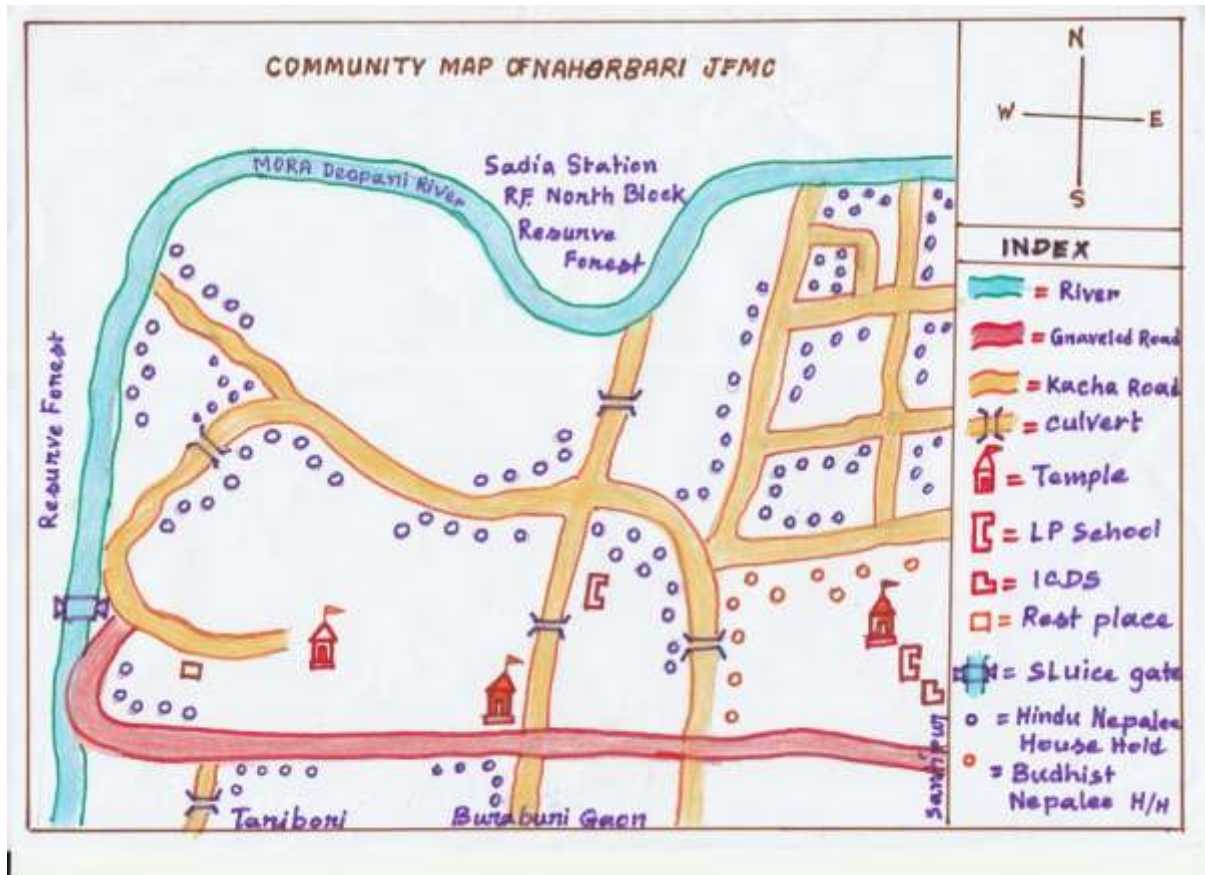
57) Hom B. Chetry

58) Hom Blakita Blattocha (N.B.G.B) 7.5.17

59) Jadan Dev Sarma

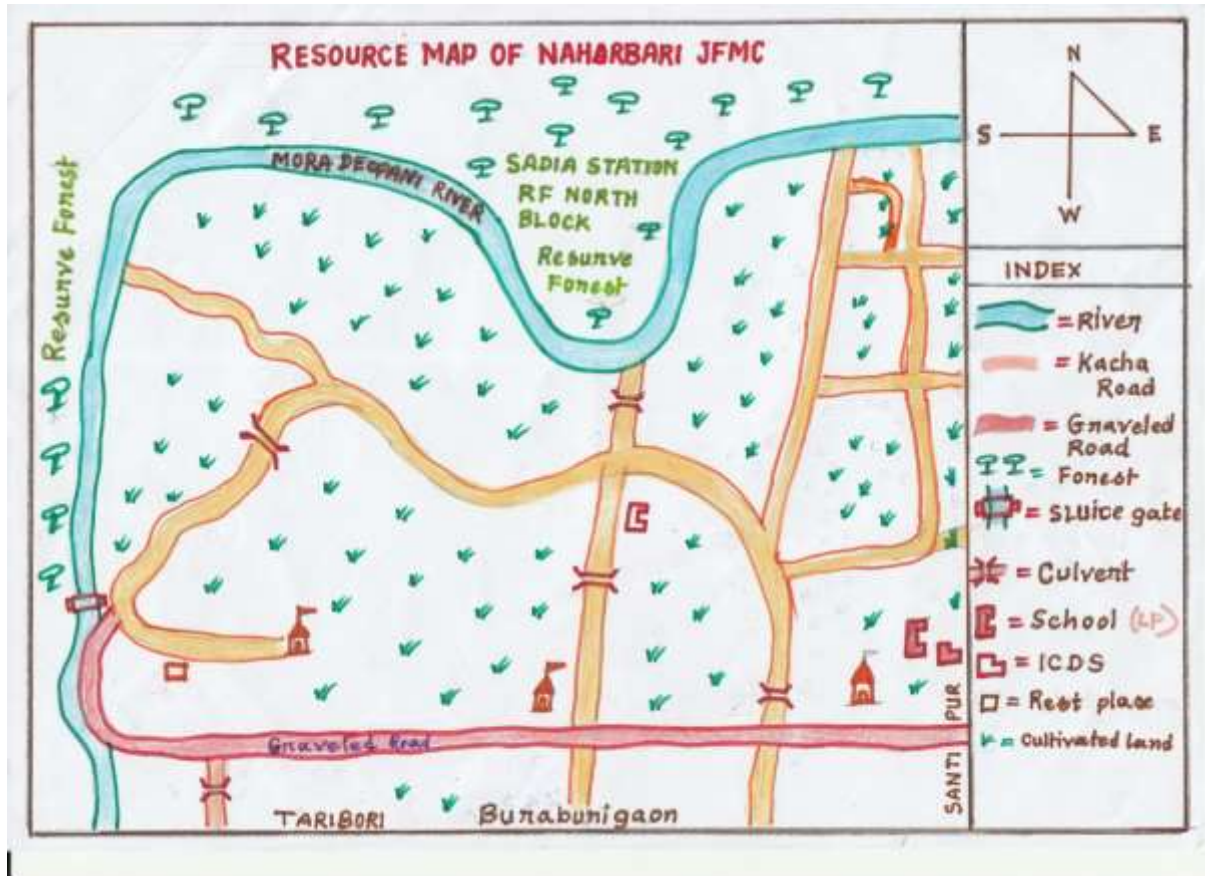
Appendix VII (A)

Community map of Nahorbari JFMC



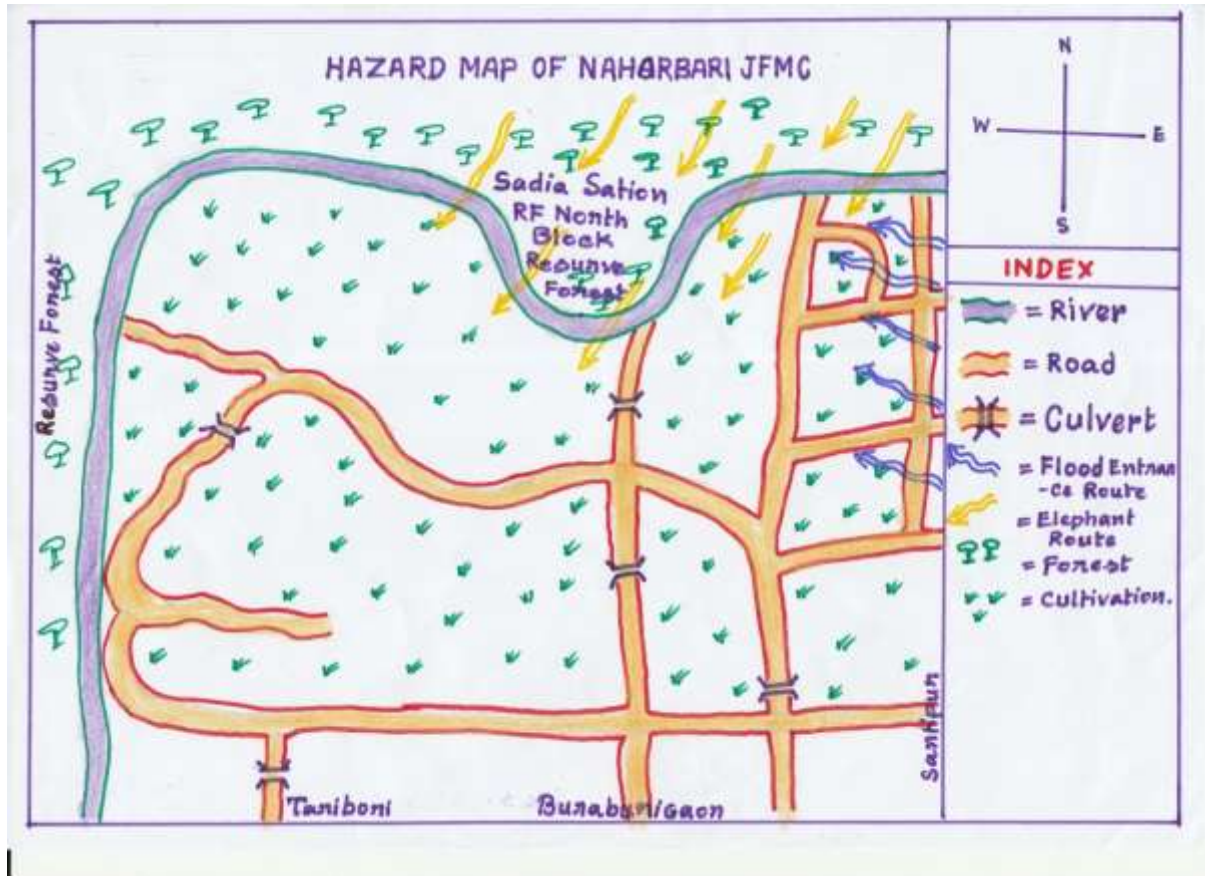
Appendix VII (B)

Resource map of Nahorbari JFMC



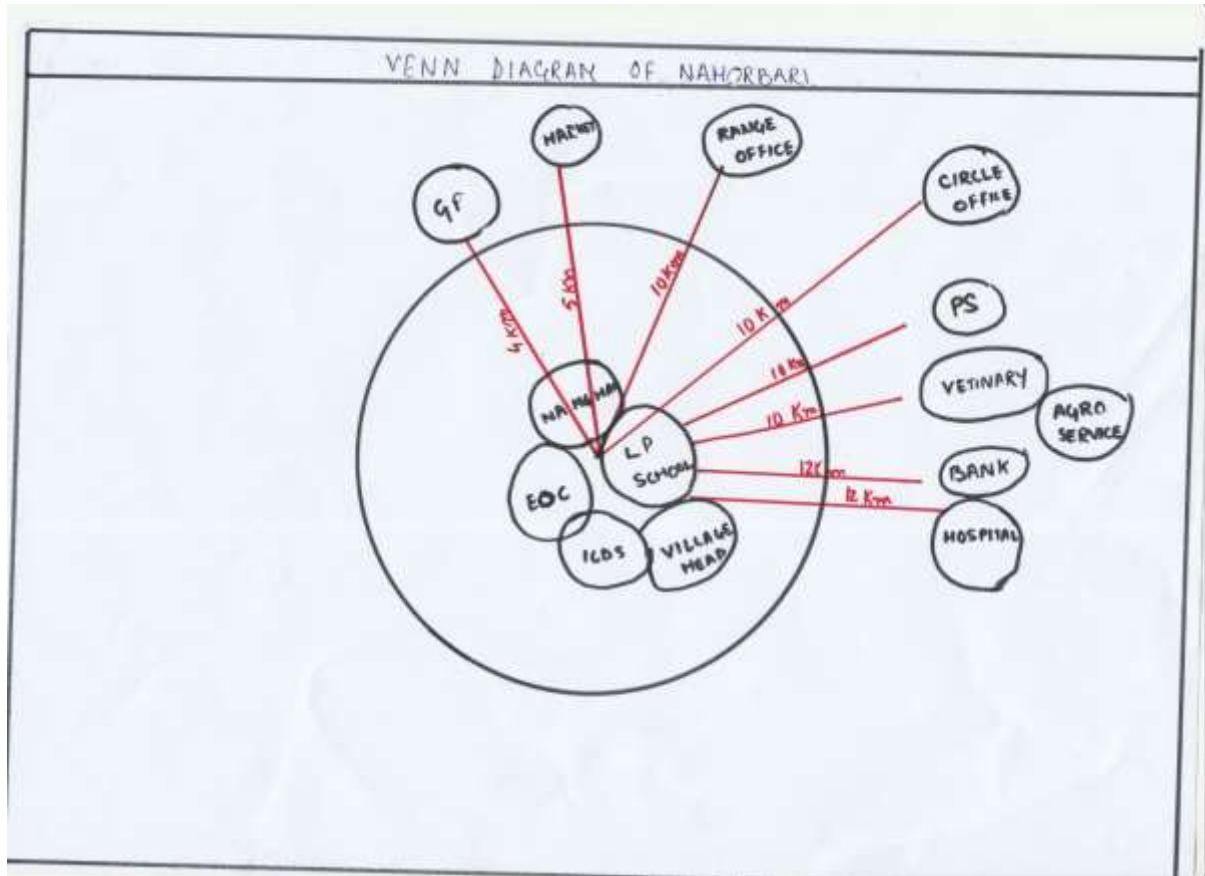
Appendix VII(C)

Hazard map of Nahorbari JFMC



Appendix VII (D)

Venn Diagram



Appendix VIII

Entry point Activities

NAHARBARI JFMC
Entry point Activity (EPA) List.

Rank	Name of activity with details of Land	G.P.S. Location	Details of Activity	Budgeted Amount
1	Community Hall Shed with training and production centre. Along with JFMC office, and store room. Facilitating with water, Latrine (M & F) and generator. at community land 2.5 Kotha Near - Naharbari Karbari Cuk L.P.S.	N-23° 56' 42.9" E-095° 42' 22.0"	① Community hall shed, with 1000 office room 40x20 building - ② water, sanitation and electric in the hall ③ girl's colour -	6,00,000/- 1,50,000/- 50,000/-
			sub total	8,00,000/-
2	Solar light at elephant hazard prone area in public place at 20 spot	N-23° 56' 43.6" E-095° 42' 29.0"	① Solar light with stand	2,00,000
			sub	2,00,000/-
3	Community Goatery firm - at Near Umesh Chetay Home at community land (Ram Chagalee firm)	N-23° 56' 43.6" E-095° 42' 19.0"	① Goat shed 20' x 40' ② 100 goat	50,000, 1,50,000,
				2,00,000/-
4	Tent House - at proposed community hall store room	N-23° 56' 44.3" E-095° 42' 22.7"	① Generator ② Tripal, Sargent ③ sound, set ④ carrier van	90,000/- 50,000/- 30,000/- 5,50,000/-
				7,20,000/-

[Signature]
Member Secretary
Naharbari JFMC
Sadiya

[Signature]
Sadiya - Range Forest Officer
Naharbari

Approved
[Signature]
Divisional Forest Officer
Doom Doom Division
Doom Doom

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President
Naharbari JFMC
Sadiya

Contd..

Naharbari JFMC
Entry point Activities. (E.P.A)

Rank	Name of Activities with details of Land ownership	G.P.S.	Details of Activity	Budgeted Amount
5	Modern Agricultural Equipments - ① power pumpset 5 HP 3 piece at proposed (2.5 katha) community hall	N=27°56'44" S E=095°42'22" E	① 3 piece power pump set	120,000/=
				120,000/=
6	Culvert - (4) (at, Karbari Tiniali, Limbu chuk Tiniali, School Tiniali, Resum Tiniali) & Graveling	N=27°57'03" S E=095°42'34" E N=27°57'25" S E=095°42'15" E N=27°56'48" S E=095°42'17" E N=27°56'52" S E=095°42'07" E	① Rec culvert ② Road graveling at Naharbari Karbari chawk to Forest Link. (1.5 km)	800,000/=
				8,00,000/=

[Signature]
Member Secretary
Naharbari JFMC
Sadiya

[Signature]
Range Officer
Sadiya Range Forest Office
Sadiya

Approved
[Signature]
Divisional Forest Officer
Doom Dooma Division
Doomdooma

[Signature]
President
Naharbari JFMC
Sadiya

Appendix IX (A)

Training list of Nahorbari JFMC (Proposed)

NAHAR BARI J.F.M.C							
Skill Development Training							
Sl. No.	NAME	FTH NAME	GENDER	AGE	Cust	Qualification	Training
1	Sri Tek Bahadur Chetri	" Shiv Prasad	M	36	OBC	VII	Handicraft
2	" Anand Bahadur Chetri	" Bih Bdr	M	37	OBC	XI	Nursery
3	" Dhan Bahadur Chetri	" Hom Bdr	M	25	OBC	VII	Carpentery
4	" Man Bahadur Chetri	" Gobinda Chetri	M	24	"	VII	Carpentery
5	" Sahanoor Munda	" Sukuram	M	25	"	VII	Nursery
6	" Naz Bahadur Chetri	" Hom Bdr	M	19	"	Midle	Masonry
7	" Sanuki Chetri	Lt Dal Bdr	"	32	"	Primary	Wiving
8	" Sagar Tamang	Lt. Khadka	"	30	"	Primary	Nursery
9	" Parash Chetri	" Ram Bdr	"	20	"	H.S.L.C	Electri
10	" Thal Bdr Chetri	" Ratna Bdr	"	23	"	Midle	Handicraft
11	" Arati Chetri	" Raj Bdr	F	17	"	midle	Kniting
12	" Ghanasyam Chetri	" Ratna Bdr	"	24	"	H.S	Homelectri
13	" Balaram Chetri	" Ganesh Bdr	"	40	"	Midle	Nursery
14	" Puspatal Tamina	" Umakanta	"	33	GEN	Midle	Carpentery
15	" Geeta devi Chetri	" Parasuram	F	20	OBC	Midle	Kniting
16	" Monot Thapa	" Ganesh Thapa	M	25	"	H.S	Computer
17	" Biki Thapa	" Kishora Bdr	M	22	"	H.S.L.C	Masonry
18	" Dambal Thapa	" Gokul Thapa	M	26	"	primary	Weaving
19	" Bir Bahadur Raj	Lt. Shiv Kumar	M	28	"	primary	Handicraft

Divisional Forest Officer
Doorn Doorn Division
Doorn Doorn

Amesh Chet
President
Nahorbari JFMC
Sadiya

Member Secretary
Nahorbari JFMC
Sadiya

Contd..

	NAME	FIH	GENDER	AGE	Cust	Qualification	Training
20	" Kamna Bahadur Chetri	Li. Bhakta Bdr	M	38	OBC	Primary	Nursery
21	" Purnima Bdr Chetri	Li. Bhakta Bdr	M	33	"	Primary	Nursery
22	" Janak Lal Sharma	" Kapilamoni	M	25	GEN	H-S	Electri
23	" Kalpana Chetri	" Rabra Bdr	F	20	OBC	H-S	Tailoring
24	" Januka Chetri	" Ajeem Chetri	F	16	OBC	Middle	Tailoring
25	" Hema devi Chetri	" Mon Bdr	F	20	OBC	Middle	Knitting
26	" Radha Tamang	" Mon Bdr Tamang	F	15	OBC	Middle	Knitting
27	" Mira Tamang	" Pratiman Tamang	F	18	OBC	Middle	Tailoring
28	" Chandea Bdr Chetri	Li. Rudra Bdr	M	40	OBC	Primary	Nursery
29	" Menoka Sharma	" Debi Prashant	F	41	OBC/GEN	Middle	Tailoring
30	" Hima devi Chetri	" Mon Bdr	F	25	OBC	Middle	Knitting
31	" Netra Bdr Chetri	" Debi Bdr	M	24	OBC	Middle	Handicraft
32	" Ambika Chetri	" Haru Bdr Chetri	F	20	OBC	Middle	Knitting
33	" Tara devi Chetri	" Arjun Chetri	F	15	OBC	Middle	Knitting
34	" Rupa devi Chetri	" Mon Maya Bdr Chetri	F	22	OBC	Middle	Tailoring
35	" Ful Maya Tamang	" Dhan Bdr Tamang	F	15	OBC	Middle	Tailoring
36	" Nirmala Chetri	" Dil Bdr Chetri	F	23	OBC	Middle	Tailoring
37	" Mira devi Chetri	" Krishna Bdr	F	18	OBC	Primary	Knitting
38	" Ambika Chetri	" Syam Bdr	F	20	OBC	Primary	Tailoring

Divisional Forest Officer
Doo, Ti Doo, Division
Doo, Doo, Doo

Umesh Chetri
President
Nahorbari JFMC
Sadiya

Member Secretary
Nahorbari JFMC
Sadiya

Sadpa Range, Nahorbari JFMC
Sadiya

Contd..

	NAME	FIH	GENDER	AGE	Cust	Qualification	Training	Remarks
40	"Dukmaya Rizal	"G. Bahaj	F	24	GEN	Midle	Knitting	
41	"Uma devi Chetri	"Ram Bah	F	20	OBC	H.S.L.C	Tailoring	
42	"Ambika Chetri	"Ser Bah	F	18	OBC	Midle	Tailoring	
43	"Nir maya Chetri	"Ram Bah	F	18	OBC	H.S.L.C	Knitting	
44	"Mima Thapa	"Ganesh Thapa	f	19	OBC	Midle	Knitting	
45	"Geeta devi Chetri	"Ram Bah	F	18	OBC	Midle	Tailoring	
46	"Rasna Chetri	"Prum Bah	f	19	OBC	Midle	Knitting	
47	"Sarita Chetri	"Gonda Bah	f	21	OBC	Primary	Tailoring	
48	"Chandra maya Chetri	"Senaki	f	23	OBC	Primary	Tailoring	
49	"Hima devi Chetri	"Tek Bah	P	26	OBC	Primary	Tailoring	
51	"Lalita Chetri	"Gonda Bah	f	16	OBC	H.S.L.C	Computer	
52	"Sabita Tamang	"Maasinq Tamang	P	16	OBC	Midle	Knitting	
53	"Khasang Tamang	"Maite Tamang	F	20	OBC	Midle	Knitting	
	"Kalpana Adhikari	"Nidhi Adhikari	P	18	GEN	H.S.L.C	Tailoring	

Umesh Chetri
President
Nahorani JFMC
2013

Member Secretary
Nahorani JFMC
Sadiya

[Signature]

Appendix X

Photographs



Community mapping



Focus group discussion with the community



An elderly woman grinding pulses with a traditional tool



Goatery of man



Man and women working in the field



Stock of Ginger cultivated by a woman

Appendix XI

GPS Coordinates

1. Karbari Tiniali	N-27°57'03.9" E-95°42'34.2"
2. Limbuchuk Tiniali	N-27°57'25.5" E-95°42'13.5"
3. School Tniali	N-27°56'48.7" E-95°42'17.2"



GOVT. OF ASSAM
DEPARTMENT OF ENVIRONMENT & FORESTS
OFFICE OF THE DIVISIONAL FOREST OFFICER,
DOOMDOOMA DIVISION :: DOOMDOOMA
E-mail : dfo.t.doomdooma@gmail.com

Letter No.:- GL-164/JFMC/2017/A-1097-98 Date:- 03.06.2017

To

The Project Director,
PMU, APFBC Society,
Aranya Bhawan, Guwahati-37

Sub :: Approval of Naharbari JFMC Microplan.

Sir,

With reference to the subject cited above, I have the honour to forward herewith the 4(four) Nos. copies of approved Microplan of Naharbari JFMC under Sadiya Range of Doomdooma Division after verifying carefully by the undersigned.

This is submitted for favour of your kind information and needful action.

Enclo :- As stated above.

Yours faithfully,

/
Divisional Forest Officer,
Doomdooma Division,
Doomdooma

Copy to the Conservator of Forests, Eastern Assam Circle, Jorhat for favour of his kind information.

/
Divisional Forest Officer,
Doomdooma Division,
Doomdooma

Memo No. GL-164/JFMC/2017/B-1863

Dated:- 03.06.2017

Copy to the Executive Director, RGVN, Rajgar Road, Guwahati-781003 for information and necessary action.

/
Divisional Forest Officer,
Doomdooma Division,
Doomdooma