





BARENGABARI ECO DEVELOPMENT COMMITTEE MANAS TIGER PROJECT BANSBARI FOREST RANGE

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

Prepared by Barengabari Eco Development Committee

Assisted by
Assam Forest Department
&
COMPELO
(IIE, RGVN and CML)

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Approved.

Field Director Manns Tiger Project Barpeta Ruad Assam List of Acronyms

Acronym	Full Form	
APFBC	Assam Project on Forest and Biodiversity Conservation	
AFD	Agence France de Développement	
BPL	Below Poverty Line	
BTC	Bodoland Territorial Council	
COMPELO	Consortium for Micro Planning and Enhancing Livelihood Opportunities	
EPA	Entry Point Activities	
GIS	Geographical Information System	
На	Hectare	
не	Indian Institute of Entrepreneurship	
EDC	Eco Development Committee	
Kg	Kilogram	
Km	Kilometre	
Manas NP	Manas National Park	
Manas TP	Manas Tiger Project	
NGO	Non-Governmental Organization	
NTFP	Non Timber Forest Product	
PDS	Public Distribution System	
PRA	Participatory Rural Appraisal	
Rs.	Indian Rupees	
SHG	Self Help Group	
CDC	Village Council Development Committee	

BARENGABARI ECO DEVELOPMENT COMMITTEE FIELD DIRECTOR, MANAS TIGER PROJECT

Fleid Director Manas Tiger Project Barpela Road, Assam

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

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l. Introduction

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 cofunding 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.

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, *Rashtriya Gramin Vikas Nidhi* (RGVN) and Centre for Microfinance and Livelihood (CML) has been formed to implement (*interalia*) the micro-planning and livelihood development under the above project. The above consortium has been titled as 'Consortium for Micro Planning and Enhancing Livelihood Opportunities' - COMPELO in short.

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.

Micro-Plan for the Barengabari EDC

This document gives the Micro-Plan for the Barengabari EDC, which is located in the Baksa district of Assam. The EDC falls under the jurisdiction of the Field Director, Manas Tiger Project and Bansbari Forest Range. The profile of the community is given in the next section.

The present micro-plan has been prepared by members of the community, including both male and female members. This document has emerged as an outcome of a Participatory Rural Appraisal (PRA) process undertaken by the community and personnel of Indian Institute of Entrepreneurship (IIE) Guwahati in July 2016. The micro-plan has been compiled by IIE based on the project guidelines. The document has been discussed and finalized for adoption in July 2016.

2. Village Socio-Economic Profile

Location	The Barengabari Eco Development Committee has been formed to cover the existing community dwelling in Barengabari village. The area covered by the above EDC falls within the Bansbari VCDC, within the jurisdiction of Field Director, Manas Tiger Project of BAKSA district of Assam. Appendix-1 gives the Village Map.	
Key Information	The key information of the EDC is furnished below.	
	Table-A: K	ey Information of the EDC
	Name of the EDC	Barengabari
	Habitation	Barengabari
	Name of Revenue Village	Barengabari
	Name of the Gram Panchayat / VCDC	Bansbari
	Revenue Circle	Jalah
	District	Baksa
	Forest Division	Field Director, Manas Tiger Project
	Forest Range	Bansbari
	Forest Beat	Barengabari
	Year Formed	2013
	Description of Boundary of EDC	GPS Coordinates(Centre Point) N 26°39'31.6'
	or EDC	E 91°01'43.1'
		North: Manas National Park
		South: Bahbari village
		West: Beki river
		East: Madlijhora Kahibari Village
	Source: EDC Records & Discu	ssions during PRA Exercise in June 2016
	Additional details are given at	Table-1 of Record-I. (Given at Annexure)
Brief Details of the	The brief details of Executive	e Committee & General Body of the EDC are
Executive	contained in the table, which is given below.	
Committee & General Body		
	Name of President	Tikendra Kalita
	Name of Secretary	Haripad Medhi, Fr-I
	Name of Treasurer	Tikendra Kalita
	Registration Number	MTP/EDC/01, Dated 10 th April 2016
	No. of Members in	Male: 11
	Executive Committee	Female: 04
	No. of Members in the General Body	One member from each household
	Source: EDC Records	
Households & Population Structure	<u>o</u>	ds, of which 80 % households are BPL (Below e number of female headed households is 8.

	The 444 1 and 14' and 1570 Out of the 444 11 and 111 af 200 92 and GC 71
	The total population is 1570. Out of the total household of 200, 82 are SC, 71 are ST, 43 are OBC and 4 households are of General Category
	Table-2 and 2.1 of Record-I may be referred for further details in the above regard.
	From this, it is inferred that: (1) The average number of persons in a household is 8. (2) The sex ratio is 962 females per 1000 males in the village.
Education & Skills Development	Over 41% of the population is reported to be literate. Most of the community members have received school level education. On the other hand, relatively fewer households have college educated members.
	Livelihood skills are usually acquired under various settings – formal & informal. In the EDC area, informal means for skills development is the traditional norm. People have traditional skills in the following areas: (a) Horticulture (b) Farming (c) Livestock rearing (d) Handloom
	Government has been active in promoting formal skills development programmes in the country as well as in the state. The village has not reported receipt of benefits of any such programme has been carried out in the habitation or in nearby areas.
Soil	The soil is deep alluvial Himalayan wash. This type of soil can support different kinds of crops, as the soil is reported to be fertile on the whole.
	The fast flowing Manas river on entering the plains from the steep hills loses its speed and as a result deposits enormous quantities of boulders, stones, sand, silt and other debris that are carried down by the water and this leads to the formation of alluvial terraces, comprising deep layers of rocks and sands deposits.
Water	The Manas River flows through the west of the Park, where it splits into two separate rivers, the Beki and Bholkaduba, to join the River Brahmaputra some 64 km further south. These and five small rivers running through the Reserve carry enormous amounts of silt and rock from the foothills as a result of heavy rainfall, steep gradients and friable bedrock upstream.
	Over the limestone and sandstone bedrock, boulders and gravels of the Bhabar savanna area to the north, flood waters have formed shifting channels and swamps and a soil of porous alluvial river terraces of coarse detritus under layers of sandy loam and humus where the water table is very low. The Terai grasslands in the south consist of deep deposits of fine alluvium with underlying pans where the water table lies very near the surface, making it potentially useful farmland. The Manas basin in the west of the Park is frequently flooded during the monsoon but never for very long due to the sloping relief. Drowning of wildlife is negligible as animals are able to take refuge on islands of high ground.
Climate: Temperature & Rainfall	The climate of the EDC is moist tropical with an annual rainfall between 3000 mm to 4000 mm.

	Winter (December-February): It is characterized by cool weather and fog. The temperature remains 20°C + 5°C. January is the coldest month. Average total
	rainfall is 114 mm with relative humidity of 77% + 5. Pre-monsoon (March-May): It is a transitional period between relatively dry winter and hot summer and is characterized by a rapid rise in temperature. As the season advances, the amount and frequency of rainfall increases due to frequent thundershowers with hailstorms. Average total rainfall during the season is 518.70 mm. The season is marked progressively by a greater number of cloudy days. Average temperature and humidity in this season are 23 °C + 5°C and 70% + 5 respectively. Monsoon (June-September): It is the characteristic major rainy season of the year. The average monthly rainfall is 2860 mm. The average temperature during this season is 27.17°C with an average diurnal range of over 6°C. The humidity increases to 82% + 5. August is the hottest month. Retreating monsoon (October-November): Towards the end of September, the monsoon weaken with an abrupt retreat followed by fair weather. With the advancing of the season the temperature falls and moving mist and fog appears. The average temperature is 27°C + 2. The average monthly rainfall is 1400 mm and the rainy days become fewer. Relative humidity is 82% + 5.
Forest & Bio-	The main tree species are Ajar, Gamari, Titasapa, etc found in Manas National
diversity	park. Lemon trees are grown in abundant in this EDC village. Some other species such as Arecanut Tree, Jack Fruit, Bamboo, Mango, etc. are also grown in the village.
Land Use Pattern	Appendix-2 gives the land-use pattern of the village. From the same, it is seen that the land-use in the village is as follows:
	Crop Land: 31.28 % Habitation: 28.17 % Tea estate: 9.06% Cultivable wasteland: 3.10 %.
Land Holdings	The type of households as per land-holding is given at Table-3 of Record-I. From the same, it is seen that: • 100 % of the households are marginal farmers (less than 2 Ha)
Livestock	The total number of livestock in the village is 1046. The main types of livestock possessed by the households include:
	Cows: 300 Goats: 133 Pigs 53 Poultry: 560 Table-4 of Record-I may be referred to for the details in the above connection.
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 is borne out by Table-5 of Record-I, which gives the present status of the village infrastructure.
	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, electricity, water supply, mobile network 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, Gram Panchayat office, 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 from the habitation. Hence, the community members do not have bank accounts or postal savings accounts.
Agricultural Crops	The details of the agricultural crops grown in the village is available at Table-6 of Record-I.
	The above shows that the following are the main crops grown in the village. Kharif Crops: Sali, Yum Rabi Crops: Mustard
	Others: Lemon, Betel-nuts, Mango, Jackfruits, Pomelo
	Most crops are rain-fed
Crop Production Profile	Table-7 of Record-I may be referred to for the production and yield details of the crops grown in the village.
	The production and yield of these crops is given as follows:
	(a) Paddy: Production 336 Quintal Yield 18-19 Quintal /ha(b) Lemon: Production 19250 Quintal Yield 1375 Quintal/ha
Fodder Availability	The matter of fodder availability in the village is dealt with at Table-8 of Record-I. The table shows that the main sources of fodder in the village are as follows:
	(a) Crop residue (b) Household wastage
	(c) Green fodder
Markets	Table-9 of Record-I shows the location of the different markets from the village. The main markets used by the community are as follows: (a) Grocery / PDS: Inside the village (b) Weekly / Bi-weekly Market: : Bansbari at 4 km away (c) Major Market: : Bansbari at 4 km away
Water Resources	The water resources are tabulated at Table-10 of Record-I. The main water resources with the water availability is as follows:
	(a) River (Water Availability: Perennial / Seasonal) (b) Stream (Water Availability: Perennial / Seasonal) (a) Ring Wells (Water Availability: Perennial / Seasonal)
Energy	(b) Tube Wells (Water Availability: Perennial / Seasonal) Table-11 of Record-I shows the major sources of energy in the village. The
Consumption	same have been listed below. (a) Fuel wood: Households Depending: 200 Nos. Source: Market (b) Kerosene: Households Depending: 200 Nos. Source: Local market (c) LPG: Households Depending: 9 Nos. Source: Market

Socio-economic status	Social set-up: The village is inhabited by Assamese, Bodo, Bengali and Tea tribe (Adivashi) community and they are from General, OBC, ST and SC caste and belong to Hindu and Christian religion. The society is not marked by deep social divisions. The observed position of women is satisfactory. Economic Condition: The economic position is not satisfactory. The main livelihoods are Daily wages, Horticulture, Livestock rearing etc. Most households earn Rs. 18,000 to Rs. 35,000 per year.
	There is some migration of the youth and others for livelihoods. Additional details are available at the next section.
Maps	 Appendix-1 gives the following maps, based on PRA exercise: Village Map Village Social Map (with the names and particulars of members in PRA) Village Resource Map
Impact of wild life	Positive impacts
area	 Soil and water conservation Economic benefits from tourism Environmental improvement Negative impacts Human wild life conflict Cattle/crop residue Damage of property by wild animals

3. Livelihood Opportunity Analysis

PRA Exercise	Team from IIE Guwahati carried out PRA exercise in Barengabari village as follows:	
	Date: 6th July Location: Barengabari LP School Numbers Present: 70	
	In Presence of : EDC office bearers, Village Headman, community members, Forest Department personnel, etc.	
Objective of PRA	The objective was to study the existing household conditions and obtain other primary data about the community for developing the livelihood options and the forest development plan.	
Tools Used & Outcomes of the	Different tools were used and outcomes obtained. These include:	
PRA	Social Mapping	
	Wealth Ranking	
	Time Line review	
	Seasonality of Livelihoods	
	Venn Diagram	
	Appendix-3 furnishes detailed information of the above.	

Ranking	Ranking exercise has been done	for the following:	
	 Livelihoods & Skills Development (discussed in the Chapter 4) Entry Point Activities (EPA) 		
	Ranking of EPA		
	Village EPA as ranked	Details	
	1. Electricity	(Appendix-3 has additional particulars) Solar light to each household	
	2. Market Shed	For selling the horticulture produce	
		they need market linkage	
	3. Veterinary clinic4. High School	Regular primary health care facility	
	4. High School	High school in the village or in the nearby areas	
	5. Weaving service centre	A center with training facilities which	
		link to mass consumption	
Livelihood	Livelihood Opportunities were i	dentified as follows:	
opportunities	A cui cultura C II cuti cultura		
	Agriculture & Horticulture Livestock		
	Eco-tourism		
	Skills Development		
	Credit Facility		
	Additional discussion about the	above has been given below.	
Agriculture & Horticulture	Table-12 Under Record-2 may be seen in this connection for opportunities in the areas of agriculture and horticulture.		
	The main constraints are:		
	(a) Lack of barrier for wild	animals.	
	(b) Lack of irrigation facilit		
	(c) Lack of agricultural infr (d) Non usage of high yield	astructure, modern tools and equipment's ing seeds etc.	
	The opportunities are:		
	(a) Application of HYV see	(a) Application of HYV seeds	
	(b) Provide irrigation facilit		
	(c) Organic farming increas	es productivity	
	The suggested programmes are:		
	(a) Tractor operation training	g	
	(b)Organic farming training		
	(c) Development of Fencin	g and solar lights.	
Livestock	Table-13 Furnishes additional in rearing.	nformation about opportunities for livestock	
	The main constraints are:		
	(a) Unable to buy fodder from	om market due to poor financial condition.	
	(b) Threat from wild anima	s which destroys most of the livestock.	

	(c) Lack of knowledge about the proper rearing of livestock.
	The opportunities are:
	(a) Higher income from livestock rearing.
	(b) Disease control
	(c) Increase the life span of cattle
	(d) Higher income from milk and milk products
	The suggested programme is:
	(a) Training on making different milk products
NTFP	All village is located adjacent to protected area, there is no scope for collecting
	NTFP
Specialized Skills	For skills development, the opportunities are tabulated at Table-15 under Record-2
	The main constraints are:
	(a) Lack of product diversification
	(b) Lack of research on product quality
	(c) Non availability of raw material
	(d) Use of traditional machineries
	The opportunities are:
	(a) Exploring new markets
	(b) Developing demand based products as per the
	needs The suggested programme are:
	(a) Training on Modern Tools and Equipment
	(b) Providing modern technology to the villagers
	(c) Skill Up gradation & Training on New Product Development and Product Diversification
	(d) Setting up a raw material bank
	(e) Providing a bulk buy arrangement of the finished product with
	institutional buyers.
Credit Facility	Table-16 under Record-2 discusses this aspect.
	The main constraints are:
	(a) Financial exclusion
	(b) Higher rate charged by the private money lender.
	(c) right fact charges by the private money lender.
	The opportunities are:
	(a) Setting up modern financial institution
	(b) Adequate awareness.
	(c) Credit at low rate of interest
	The suggested programme is:
	The suggested programme is: (a)Setting up modern financial institution in the nearby areas.
	(a) seeming up modern intuition in the hearty areas.

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Eco- tourism	The main constraints are
	(a) Infrastructure
	(b) Marketing
	(c) Lack of trained guide
	The opportunities are
	(a) Location near Manas NP
	(b) Increase in eco-tourism
	Suggested programmes are
	(a) Training in eco-tourism
Strategic Interventions	1. Agriculture & Horticulture: Organic farming, Tractor operation training, Agri-skill development programme, Training on HYV application, bio fencing
	2. Livestock: Piggery, Poultry
	3. Specialized Skills: Training on Modern Tools and Equipment, Providing modern technology to the villagers, Skill Up gradation & Training on New Product Development and Product Diversification, Setting up a raw material bank, providing a bulk buy arrangement of the finished product with institutional buyers.
	4. Credit facility: Setting up modern financial institution in the nearby areas.

4. Livelihood Development Plan

5 Forest Development Plan of Barengabari EDC

This Forest Development Plan has been prepared after a detailed PRA exercise at the village level as a part of the Micro-Plan of Barengabari EDC. 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 EDC; while meeting the consumption and livelihood needs of the community in a sustainable manner.

1. Status of the EDC Forests

The micro-plan takes into consideration the following categories of the EDC Forests of the Barengabari EDC

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

For the Barengabari EDC, the salient points of the forest soil type are summarized below:

- (a) Alluvial deposit
- (b) Fertile
- (c) Clay loam mixed with silt

1.1. Existing Composition of Flora

Livelihood opportunity Analysis	Framework of livelihood Opportunity Analysis has been done with the help of the following criteria: A) Livelihood assets B) Livelihood context C) Priority ranking on potential livelihood The livelihood situation of Barengabari EDC has been analyzed during the PRA exercise using sustainable livelihood framework of DFDI (Department of Funding for International Development). The existing livelihood situation of EDC is outlined in terms of — • Natural Capital • Physical Capital • Social Capital • Human Capital • Financial Capital
Natural Capital	The present EDC is under the jurisdiction of Field Director, Manas Tiger Project and the major river flows near the EDC is Beki River with two adjoining streams. However, of the two streams, one stream is flowing within the area of EDC. For farming purpose and for livestock rearing, the villagers use the stream water. Villagers use the ring well and hand pump for drinking water.
	They collect leafy vegetables from the forest along with some seasonal fruits. (Refer table 10, 11 of annexure 6, table 3 of FDP for further details)
Physical Capital	Majority of the households in the Barengabari EDC are involved in farming of lemon and Betel-nuts and are categorised as marginal farmers. (Detailed land holding pattern is described in the table 3/annexure 6.) All the houses of the EDC are made of thatch. Among the various sources of energy consumption such as Biomass, kerosene, electricity, LPG and candle, villagers depend on the firewood and kerosene for household and other uses. (refer to table 10,11 of annexure 6.) There is only LP school present within the EDC area along with 4 numbers of anganbadi center. No other education institutions are present. (refer to table 5 of annexure 6) In case of water sources, there are 18 ring wells and one stream in the EDC area which is the connecting stream of Beki River.
Social Capital	The villagers are not fully involved in the EDCs functioning due to lack of awareness on their roles, functions, and specific benefits they are going to receive. Four numbers of unregistered Mahila Samiti are there in the EDC. The village has no youth club and no community hall inside the EDC.
Human Capital	41 per cent of total population of the EDC are reported to be literate. Most of the people (about 28 per cent) have crossed the upper primary level education. However, people are less interested to continue their education post HSLC. Graduate people is nil till now (refer to table i/annexure 6)

There is no government bank or lending institution available in the EDC area
or in the nearby areas. However, villagers lend from informal lending groups, relatives etc.
More than 70 per cent have bank account in commercial banks, but they are not aware of the benefits of financial inclusion
Livelihood activities of the Barengabari EDC are identifies on the basis of following criteria: a) Contribution of particular livelihood activity in the total income of the EDC b) Percentage involvement of income group in a particular livelihood activities. c) Priority ranking of the potential livelihood activities
 (a) Lemon and betel nuts farming, farming of paddy (b) Daily wage earning (c) Livestock rearing (d) Service (refer to table ii/annexure 6)
As observed from the household survey and PRA activity that all the households are involved in the above mentioned activities in some or other parts of the year. Primary livelihood: Lemon and betel nuts farming, farming of paddy Secondary livelihood: Daily wage labour, livestock rearing Some service sector employee are also there
Priority ranking of Livelihoods & Skills Development 1. Horticulture 2. Livestock rearing 3. Handloom 4. Tourist Guide
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 (RKSY) - for irrigation, including watershed development (d) National Rural Livelihoods Mission (e) Skills Development schemes (f) Other schemes for rural development and livelihoods as found appropriate. The above convergence will yield synergies for the present plan, as well as help in sustaining the planned works in the post-project period.

In the forests of the Barengabari EDC, 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 trees in EDC area

Parameter	Local Name(s)	Scientific Name(s)
Major Forest Species		
Associates	Gamari	Gmelina Arborea
	Arjun	Terminalia arjuna
	Acacia	Racosperma
	Tora	Angiosperm
	Sonaru	Cassia fistula
Shrubs	Dhekia	Ferns
Medicinal Plants	Arjun	Terminalia arjuna
	Hilikha	Terminalia Chebula
	Neem	Azadirachta indica
	Amlakhi	Phyllanthus emblica
Others, if any	Jati Bah	Bambusa Tulda
	Bhuluka Bah	Bambusa Balcooa
	Amlakhi	Emblica officinalis
	Bijuli Bah	Bambusa Pallida
	Arjun	Terminalia arjuna
	Sachi	Aquillaria agallocha

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

2. Other Inputs for the Forest Development Plan

The following sub-sections discuss the other inputs for the Forest Development Plan of the Barengabari EDC.

2.1. Past Protection Measures of the EDC

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

- (a) Number of households involved: 200
- (b) Number of people involved:200 (1 Person Per House hold)
- (c) Summary of the measures: Not available
- (d) Any formal mechanism: Not available

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

2.2. Domestic Requirements of Forest Produce

The dependency of the local community on forest produce for household requirements is very low as the village is located near the protected area.

Table-4 (A): Domestic Requirement of Forest Produce per Household of the Barengabari EDC

Name of Forest Produce	Average Household Requirement		How met at Present	Source
	Frequency of Requirement	Approx. Qty		
Firewood	Less Frequent	20-25 kg		Market, Forest
Timber for House	Once in a year	2-3 nos.		Market
Small timber for Implements	-	-		-
Pole / Bamboo	Once in a month	2-3 bamboo / per month		Market
Fodder from Forest	-	-		-
NTFP	-	-		-
Other	-	-		-

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

There are 200 households in the Barengabari EDC. From the above table and this number of households, it is inferred that the total annual requirements of the village for forest products for own use is as follows:

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

Name of Forest Produce	Community Requirement (Kg per annum) (*)	Remarks
Firewood	1,08,299	Throughout the year
Timber for House	270 nos.	Dec – Jan
Small Timber for Implements	-	-
Pole / Bamboo	120-200 nos.	Throughout the year
Fodder from Forest	NA	NA

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

2.3. Collection & Marketing of Forest Produce by Villagers

The community is not involved in the marketing of any kind of forest produce.

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

The total requirements of forest produce by the community members of the Barengabari EDC is very low.

Table-6: Total Requirements of Forest Produce by Villagers

Name of Forest Produce	Community Requirement (Kg per annum) From Table-4(B)	Surplus Marketed (Kg) From Table- 5(B)	Total Requirements (Kg)
Firewood	1,08,299	1	1,08,299
Timber for House	270 nos.	-	270 nos.
Small timber for Implements	-	-	-
Bamboo	120-200 nos.	-	120-200 nos

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

3. Forest Protection Issues

3.1. Protection Problems

The protection issues of the forests of Barengabari EDC have been summarized below.

Table-7: Protection Problems of the Barengabari EDC

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	Yes	Yes
Smuggling of Timber	Yes	Yes
Accidental Fires	Yes	Yes
Encroachment of Forest Lands	Yes	Yes
Incident of Snake bites/life threats/risks while protecting forest	Yes	Yes
Theft of Medicinal Plants	Yes	Yes

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

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

- (a) Grazing Local Animals
- (b) Grazing Animals from Other Area

3.2. Reasons for Degradation of the Forest

In the Barengabari EDC, the reasons for degradation of forest are as follows:

- (a) No Scientific Plan
- (b) Traditional Cultivation

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

4. Components of the Forest Development Plan

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

4.1. Protection Plan

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

Table-8: Protection Plan of the Barengabari EDC

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]
Social Fencing	Boundary	Along the Demarcation of the Plantation Area	Grazing Season	High
Fire Protection	Within the Forest	-	Autumn- Winter	High

Source: Proforma-3, Table-3.7 / Discussions with Forest Department personnel & Community members

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

- (a) Social Fencing
- (b) Fire Protection

4.2. Types of Operations Proposed

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

Table-9: Types of Operations Proposed in the Barengabari EDC

Treatment	Required (Yes/ No)	Responsibility of EDC (Yes /	Month / Year when	Extent of Area
		No)	can be done	proposed for
				Treatment
				(Ha)
Restoration of Degraded Forests	No	No	No	No
Protection to Cut Stumps of Trees	No	No	No	No
Watershed Treatment	No	No	No	No
Water Reservoirs	No	No	No	No
Grass & Silvi-pasture	No	No	No	No

Treatment	Required (Yes/ No)	Responsibility of EDC (Yes / No)	Month / Year when can be done	Extent of Area proposed for Treatment (Ha)
Bamboo Plantation	No	No	No	No
Seed Sowing	Yes	Yes	June-July	
Root & Shoot Cutting & Plantation	Yes	Yes	June-July	
Cut Back & Coppice Treatment	No	No	No	No
Physical Fencing	Yes	Yes	November- February	50 ha
Social Fencing	Yes	Yes	June-July	100 ha
Other Activities	No	No	No	No

Source: Proforma-3, Table-3.9 / Discussions with Forest Department personnel & Community members

Thus, it is seen that the following are the treatment operations which have been proposed in the forest area of the Barengabari EDC

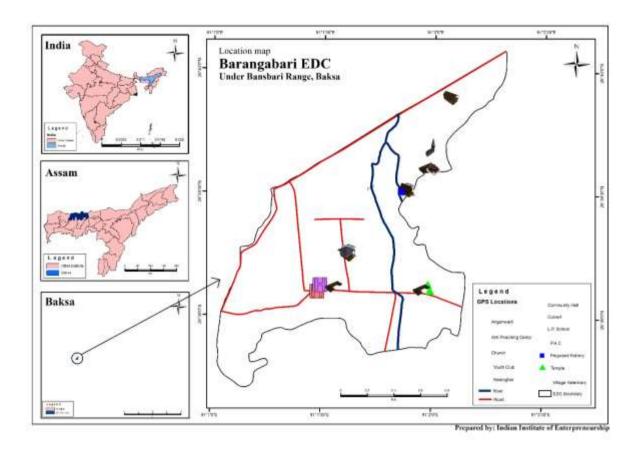
- (a) Seed Sowing
- (b) Root & Shoot Cutting & Plantation
- (c) Physical Fencing
- (d) Social Fencing

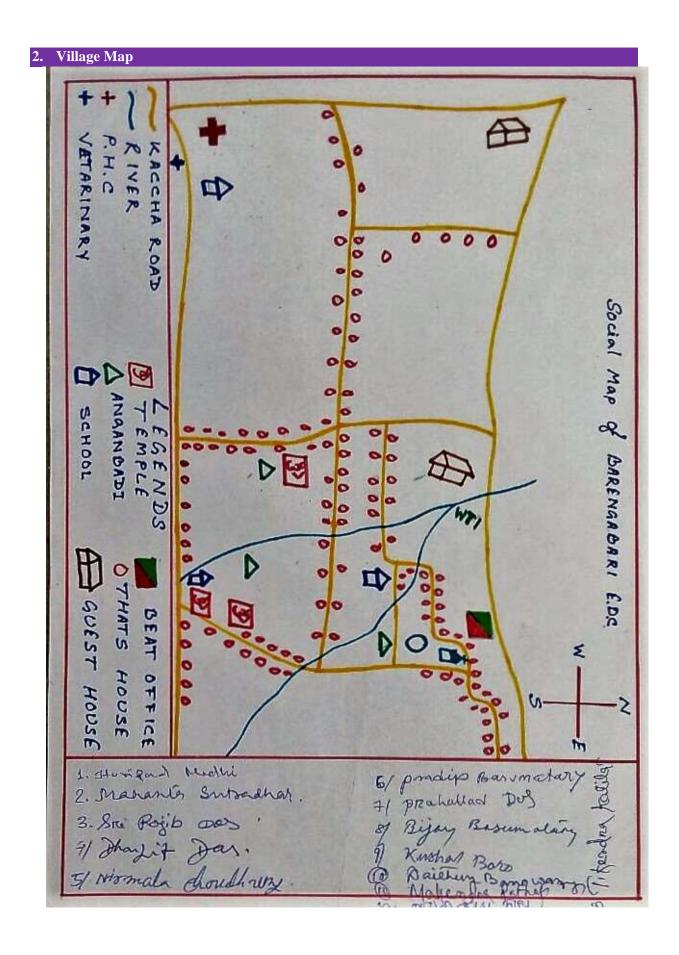
List of Appendices

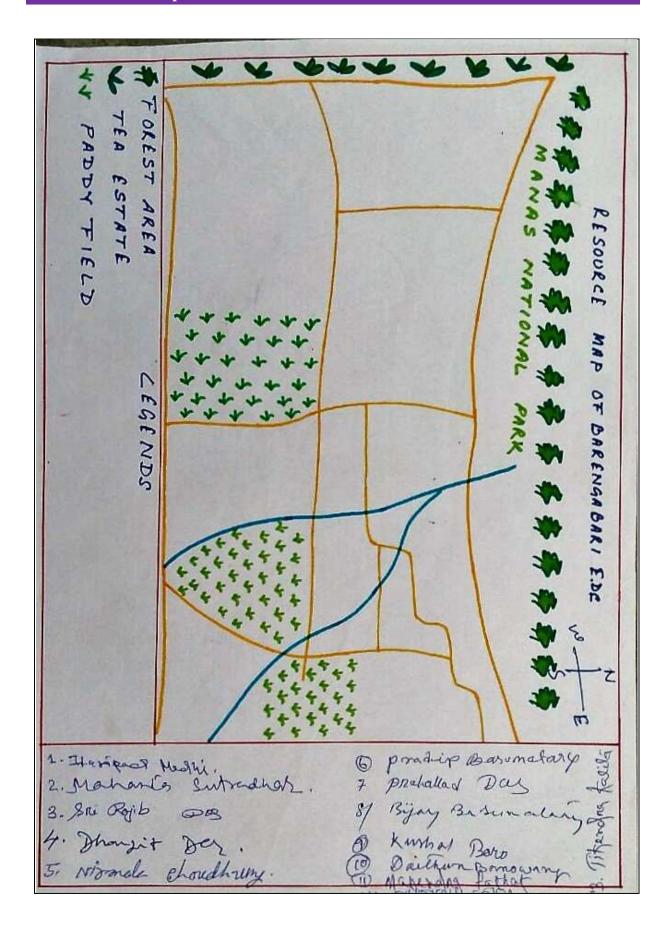
Appendix No	Heading	Page No
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	Village Social Map	21
	Village Resources Map	22
2	Land Use Map of Village (GIS)	23
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	Seasonality of Livelihoods	26
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Appendix 1

1. Location map

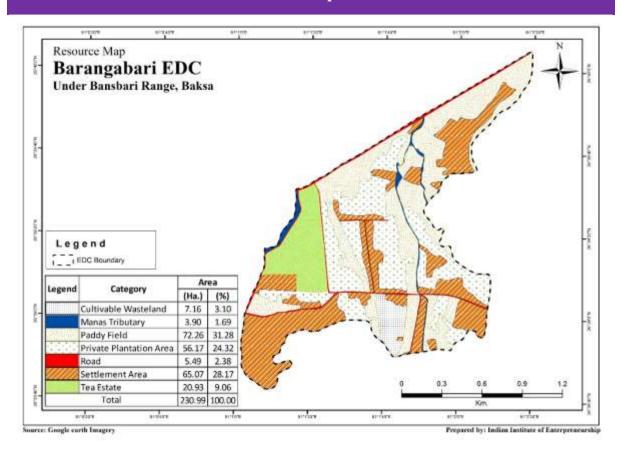






Appendix 2

Land Use map of GIS



Appendix 3

PRA ACTIVITY

Location and Timing of Participatory Rural Appraisal:

Name of the EDC	Barengabari
Numbers of participants	50-60
Time	6 th July, 2016
Venue	Barengabari LP School

Different PRA tools have been used under the exercise of PRA technique.

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

3.1 Social and Resource Mapping:

Social mapping is used to visualise the socio-economic aspects of the Barengabari village where the housing patterns of the households, the numbers of schools, social infrastructure, and religious beliefs among households. Awareness camp about the project was carried out beforehand. So people came collectively to participate in the PRA process. Simultaneously, transect walk has been done by one of the team member along with some villagers. The villagers are enthusiasms about the mapping process and they actively participated in the process.

Table 3.1: Information about the village

Social Information	Total households	200
	Numbers of Kaccha Houses	200
	Numbers of semi-Pucca Houses	0
Landmarks	Stream	1
	Temple	3
School(L.P)		2
	Anganbadi centre	4
	Primary Health centre	1
	Veterinary clinic	1

Source: PRA

Findings of social map:

- The participants of social mapping have identified 200 households all of which are thatch houses.
- Other than construction based division of the households, important places like temple, and school, one stream, four numbers of anganbadi centre, one primary health centre, one veterinary clinic are mapped.
- Water facility is not adequate in the village. There are one streams present where people availed water for agricultural activities, livestock rearing, household activities. On the other hand, for

drinking water purpose, people mainly make use of public well as well private well or hand pump.

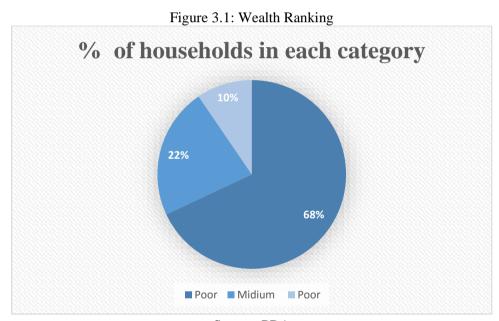
• Provision of Education facility up to school level is not satisfactory in the village. There is only one LP school present within the EDC area.

3.2 Wealth Ranking:

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

- a) Occupation/livelihood
- b) Land holding
- c) Ownership of assets

As such it is found that about 68 per cent people are poor, about 22 per cent are belonging to middle class and about 10 per cent are categorized to be rich. Poor people are mainly wage earners and mostly mortgage land for the paddy cultivation. Rich people cultivate paddy, vegetables for their own consumption as well as to sell in the market with good amount of land. Some of the people under rich category are the government employee. They also have televisions sets, two wheelers, radio etc. People in the middle class category are wage earners, cultivators, and business owner.



Source: PRA

3.3 Time Line Review:

Table 3.2: Timeline review

Year	Event	Type		
1972	LP School was established	Construction		
1988	Electricity connection	Construction		
1992	Destruction from wild animals	Environmental		
1885-1990	BTC Troubled	Political		
1885	First veterinary clinic	Construction		

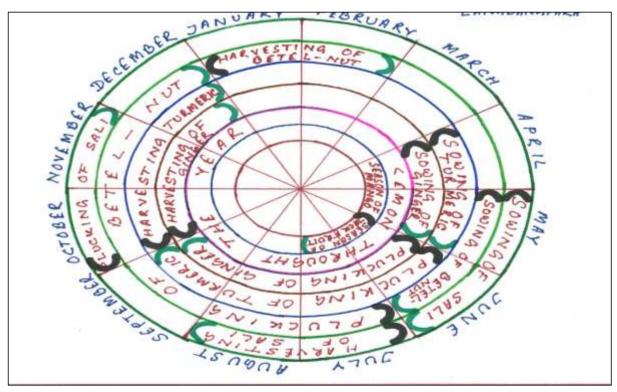
3.4 Seasonal Mapping of livelihood activities:

Table 3.3 Seasonal Pattern of Livelihood Activities

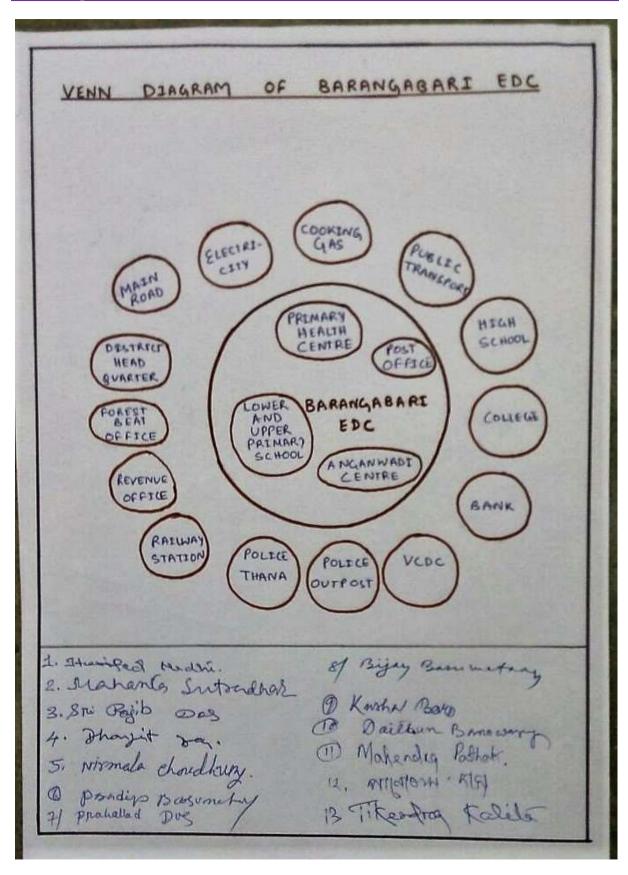
Categories		Time o	of Activity					
Farming		Sowing	Harvesting	Plucking				
	Paddy	May-June	July-Aug	Oct-Nov				
	Betel-Nut	June	July-Jan	Feb-March				
	Turmeric	April-May	Oct-Dec	June-Sep				
	Ginger	April-May	Oct-Dec	June-Sep				
	Lemon		Throughout the ye	ear				
Non-Farming	Weaving							
	Livestock							
	Rearing							
	Daily Wage							
	Earning		Throughout the ye	ear				
	Shop-keeper							
	Electrician							
	Masonry							

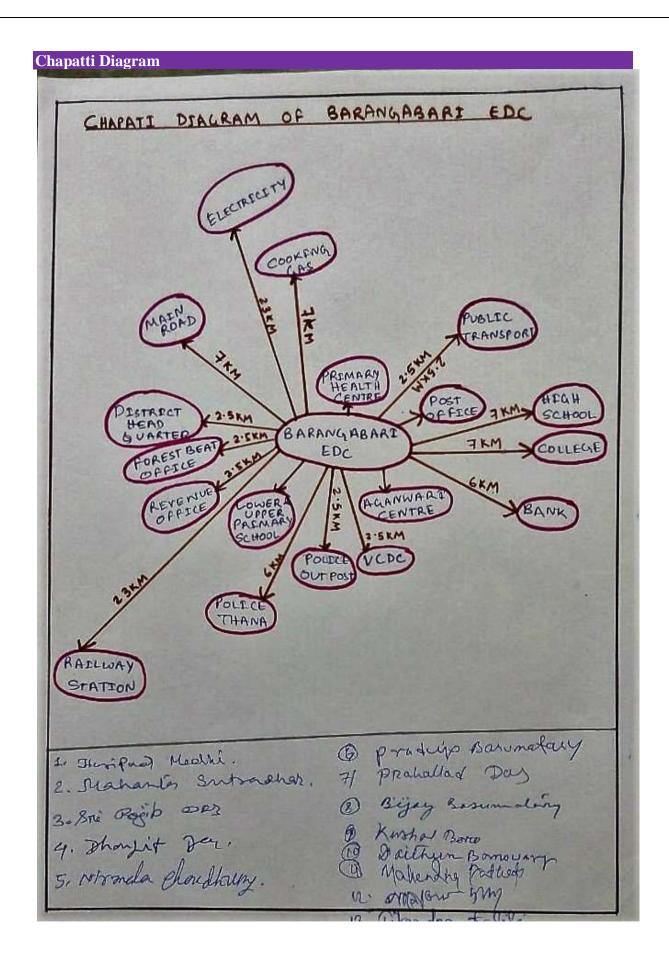
Source: PRA

Figure 3.2: Seasonal and livelihood map



Source: PRA





Priority Ranking- EPA and Priority Livelihood Activities

Barengakari EDC

Priority Ranking- EPA and Priority Livelihood Activities

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Livelihood Activities		> Horticulture	Weaving weaving	O Livestock rearing	D tailoring	Tourist Guide	T Masonry	O Carpentry	T Make-up artist	- Cane and bamboo	Marks	Rank
Horticulture	A	x	В	C	A	A	A	A	A	A	- 6	1
Weaving	В	x	x	В	В	В	В	G	H	В	5	3
Livestock rearing	С	×	×	×	D	C	С	С	c	С	6	1
Tailoring	D	x	x	×	x	E	D	G	D	D	4	5
Tourist Guide	Е	x	x	x	x	×	1	E	E	E	5	3
Masonry	F	x	×	x	×	x	X	G	H	F	1	9
Carpentry	G	x	x	x	x	x	×	x	G	1	4	5
Make-up artist	н	x	x	x	x	ж	x	×	×	н	3	7
Cane & Bamboo	1	x	x	x	x	x	×	×	x	×	2	8

1. Jamikad hadri. © pradip Basumalary
2. Mahanta Sutradhar. 21 prahollad Das
3. Sra Rojib Das 87 Bijay Basumany
4. Dhapit Dar. © Kushaf Reto
5. Normala shouldway. © Daithun Banowary
(1) Mahendra fathat.
12. FITTONE My.
13. Tikendra koeita

Priority Ranking- Potential Livelihood activities in the EDC

Priority Rank	ing- I	otentis	I I I I I	libood	activ	Heart.	s elses	EDC		700-4	4	eari
Entry Point Activ		Electricity	Weaving training center	High School					Sanitation	Community Hall	Marks	Rank
		A	В	С	D	E	F	G	н	1		
Electricity	A	x	A	A	A	A	A	A	A	A	8	,
Weaving training center	В	x	x	С	D	E	В	В	В	В	4	3
High school	С	x	x	x	D	E	С	С	С	С	5.	-
Market shed	D	x	x	x	х	D	D	D	D	D	7	2
Veterinary Clinic	E	x	x	x	x	х	E	Е	Е	Е	6	3
Road connectivity	F	x	x	x	x	x	x	G	н	F	1	8
Drinking water	G	х	x	x	x	x	x	x	G	G	3	6
Sanitation	н	x	x	x	x	x	х	x	x	н	2	7
Community Hall	i	x	x	x	x	x	x	x	x	x	0	9

- 2. Mahants Sutradhar.

- 3. Sni Rojib Dos 4. Dhayit Day. 5. Momala choudhung.

- O prating Basumalary
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 Mohandra Pathak

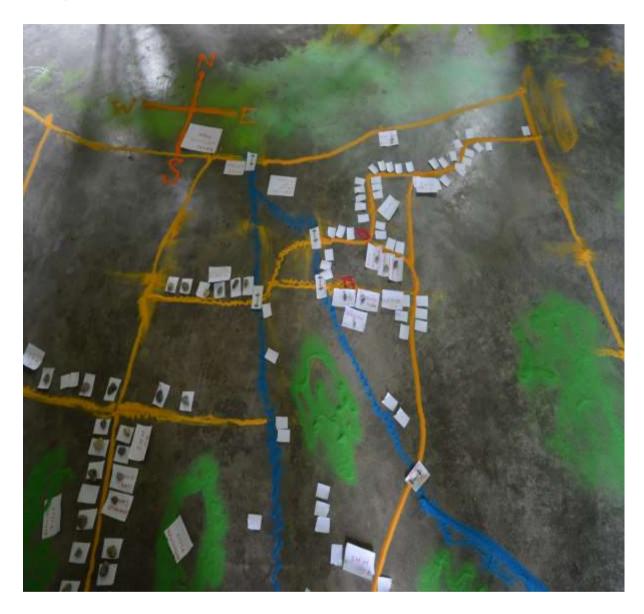
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 2. MINOVERT WINI

 3. TIKEDATER KOLILA

Photographs

During the PRA exercise







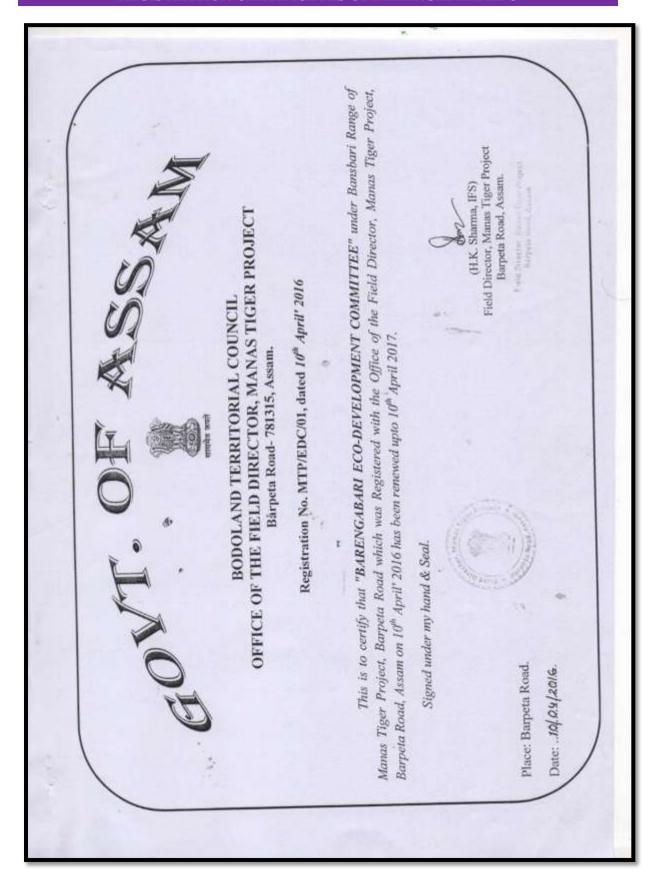
Annexure 5

LIST OF EDC EXECUTIVE MEMBERS

Name of EDC :- Barengabari EDC

Sl.	Name	Male/ Female	Category	Designation
No.				
1	Tikendra Kalita	M	General	President
2	Dhanjit Das	M	General	Member
3	Rajib Das	M	OBC	Member
4	Ghanashyam Das	M	OBC	Member
5	Dhaneswar Sutradhar	M	OBC	Member
6	Mahanta Sutradhar	M	OBC	Member
7	Monomati Sutradhar	F	OBC	Member
8	Nirmala Choudhury	F	General	Member
9	Suden Basumatary	F	ST	Member
10	Hariprad Medhi	M	SC	Member
				Secretary
11	Panaram Das	M	OBC	Member
12	Pradip Basumatary	M	ST	Member
13	Jaganlal Basumatary	M	ST	Member
14	Jawaharlal Basumatary	M	ST	Member
15	Bidita Das	F	OBC	Member

REGISTRATION CERTIFICATES OF BARENGABARI EDC



Annexure 6 (Record I)

Table 1: Basic data of the EDC:

Table 1: Basic data of the EDC

Sl no	Name of the EDC	Date of establishment	No. of members in executive	Name of the president	Name of the secretary	Name of Treasurer	Contribution per family /per person	Social fencing used	Yes / No	Remarks on special attainment	Grading %of success by RFO
1	Barengabari	2013	15	Tikendra Kalita	Hariprad Medhi, Fr-I	Tikendra Kalita		No			

Table 2: Village wise population data:

Table -2.1: Demographic status of the project villages

Sl. No.	Name of EDC	Households (No.)	Population (No.)			Sex ratio	Avg. HH
			Total	Male	Female		size
1	Barengabari	200	1570	800	770	962	8

Table 2.2: Religion and Category wise distribution of households.

Community	Caste/Category	Religion
Assamese, Bengali	Schedule Caste	Hindu
Bodo	Schedule Tribe	Hindu
Bodo	Schedule Tribe	Christian
Assamese	OBC	Hindu
Assamese	General	Hindu
	Assamese, Bengali Bodo Bodo Assamese	Assamese, Bengali Schedule Caste Bodo Schedule Tribe Bodo Schedule Tribe Assamese OBC

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

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

Sl	Name of the village	T	vne of famer	according to la	nd holding	
	Traine of the vinage	-	ype or runner	according to ia	na norang	
no						
		Large farmer	Small	Marginal	Land less	Total
		>10 ha	farmer	farmer	(household)	
			2-10 ha.	(household)	(
			2 10 114.	,		
				<2ha.		
1	Barengabari	-	-	200		200

Table 4: Cattle Population:

Table 4: Cattle Population of the EDC

Sl no	Name of the village	village w	village wise no of cattle's or type of animal							
110	vinage	Cows	Buffaloes	Goat	Poultry	Bulls	Camels	Pig	Total	
1	Barengabari	300	-	133	560	-	-	53	1046	

Table 5: EDC Infrastructure:

Table 5: EDC infrastructure

Infrastructure	Location	Distance from Village (in km)
Main Road	Salbari (outside village)	7 km
Electricity	Barpeta town (outside village)	23 km
Cooking Gas	Salbari (outside village)	7 km
Public Transport	Bansbari (outside village)	2.5 km
Primary Health Centre	Inside	
School	Lower+ Upper Primary School	Within the village
	High School (outside village)— Salbari	7
	High School	7
HS School	Salbari	7
College	Salbari	7
Post Office	Inside	
Bank	Gobardhana	6 km

Drinking Water	Piped supply not available	
Anganwadi Centre	Within the village	4 numbers
VCDC	Bansbari	2.5 km
Police Outpost	Bansbari	2.5 km
Police Thana	Gobardhana	6 km
Railway Station	Barpeta road (outside village)	23 km
Revenue Office	Bansbari	2.5 km
Forest Beat Office	Bansbari	2.5 km
District Head Quarter	Barpeta road	2.5 km

Table 6: Agricultural crops

Table 6: Agriculture Crops

	Rain Fed		Irrigation		
	Name of the crop	Area (in ha.)	Name of the crop	Area (in hac)	
Kharif	Paddy	16.55	NA	NA	
Others	Vegetable, Fruits	57	NA	NA	

Table 7: Crop production profile

Table 7: Crop production profile

Type of crop	Total Production (approx.) in quintals	No of household growing	Average production (quintal/ ha) approx	Area under crop (hac) approx
Paddy	336	42	18-19	16.55
Lemon	19250-22700	125	1375-1620	14
Betel-nuts	14550- 18780trees	130	380-435 trees	32

Table 8: Fodder Availability

Table 8: Fodder availability of the EDC

types	1-3 month	3-6 month	>6 month
Crop residue		✓	
Trees fodder		✓	

Grasses		✓	
Green Fodder	✓		
Grazing in Forest	NA		

Table 9: Location of market from the village

Table 9: Location of market from the village

For Purchase	For Purchase Location	
Grocery shop	Barengabari	-
Weekly Market	Bansbari	2.5 km
Major Market	Bansbari	2.5 km
Forest Corporation Sale Depot.	NA	-
Tendu Patta PHAD	NA	-
Fish Market	Bansbari	2.5 km
Medicinal Plant collection Centre	NA	-
Forest Corporation Medicinal plant Collection Centre	NA	-

Table 10: Water Resources Facility:

Table 10: showing the water resource facility available in the village

Water source	Number	Availability of water	uses
Stream	1	Seasonal	Irrigation, livestock
			rearing
Ring well	18	Perennial	Domestic use
River (not within the	1	Seasonal	All type of use
boundary of the EDC)			

Table 11: Energy consumption:

Table11: showing the Energy Consumption of the EDC

Type of Fuel	Number of household depending	Number of months dependent	Sources (local, village, forest, other sources)	Major/ Secondary
Fuel wood	200	12	Forest	Secondary
Kerosene stove	200	12	Market	Major
Gobar/Bio gas	NA	-	-	-

LPG	09	-	Market	Secondary
Electric Healer	NA	-	-	-

Table 12: Education Status

Table 12: Showing the Literacy percentage

Categories	% of people in each category
Illiterate	59
Middle School	28
HSLC	8
HS	5

RECORD: II

LIVELIHOOD OPPORTUNITY ANALYSIS

Table 13: Agriculture and Horticulture:

Table 13: showing the agricultural and horticultural status

	Tubic 15. Showing the agricularia and normaliana Salas					
Constraints	Reason	Opportunities	Programme			
Low Production	 Lack of fencing Only one crop undertaken annually (Sali) Lack of irrigation facilities. Lack of agricultural infrastructure, modern tools and equipment's viz, power tillers, tractors etc. Non usages of high yielding seeds. 	 Introduction of new and advance technology. Well-structured training programme. Usage of high yielding seed programme. Organic farming helps in increase productivity 	 Introduction of Bio-Fencing process. Tractor operation training Agri-skill development programme. Easy loan facility to purchase modern equipment 			
Storage and Production	 Lack of common storing place Lack of protection from wild animals Lack of cold storage facility due to non-availability of electricity 	 Helpful in preserving unsold products for a longer period of time. They can store their product and sell it when there is a higher demand. 	 Packaging Transportation and distribution. 			

Marketing	 No knowledge on marketing know-how, dependence on traditional system of selling. Weak marketing linkages More output is producing than demand in the local market Wastage of the produce due to non-introduction of broader and new market 	•	More knowledge about the current market situation as well as the current value of their products. They can sell their products outside of the district as well as outside the state so that their supply don't get wasted.	•	Buyers sellers meet Open up the new markets outside the district Providing a bulk buy arrangement of the finished product with institutional buyers.
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Table 14: Livestock

Table 14: Livestock

Constraints	Reasons	Opportunities	Programme
Less grazing	Wild animals kill the		
land	livestock		
Availability of fodder	Unable to buy fodder from market due to poor financial condition	 Higher income from livestock rearing. The villagers can make it as an alternative livelihood opportunity if they have the easy access of livestock fodder. 	
Veterinary care facility	 Improper functioning of veterinary care clinic Lack of knowledge about the proper rearing of live stock 	 Disease control Increases the life span of cattle. It will also help to aware the villagers and will encourage them for livestock rearing. 	
Production of milk	 Less availability of fodder No scientific knowledge on cattle rearing to increase the milk production. 	 Training on the milk production can enhance the skill of milk production. Availability of supplements like cattle "Milk Booster, Milk Plus" etc. can increase the production of milk in the area. 	
Milk market	 Less contact with the direct market for milk Unaware of the market demand of different milk made products. 	High income from milk and milk product	Training on making different milk products

Table 15: Specialised skill

Table 15: Specialised skills: Handloom

Constraints	Reasons	Opportunities	Programme
Raw material availability	 Non-Availability of Raw Materials within reachable location (market 7km away) No Storage 	Common place for setting a raw material storage	Setting up a raw material bank
Product quality	 Shortage of High Quality Materials Use of Traditional machineries 	Developing Quality Products for new market exploration.	 Training on Modern Tools and Equipment. Providing modern technology to the villagers
Marketing potential	 No standardised market No pricing policy No linkage with the institutional buyers No Product Diversification or New Product Development. 	Exploring new markets with diversified products	Providing a bulk buy arrangement of the finished product with institutional buyers.
Credit facilities	 No linkage with the banks or post office saving banks. Unaware of the development schemes of banks and government 	 Financial assistance by the Govt. Providing easy access to credit. 	Microfinance, Term Loans, Working Capital Arrangement
Product Diversification	 No Product Diversification or New Product Development. Lack of concept for product diversification. 	Developing Demand Based Products, as per the needs of the modern day market.	Skill Up gradation & Training on New Product Development and Product Diversification

Table 16: Credit facility

Table 16: Credit facility

Constraints	Reason	Opportunities	Programme
Indebtness	Nil	Setting up modern financial institution in the nearby areas.	
Rate of interest	Higher lending rates charged by the private money lender	Subsidised credit arrangement	
Availability of loan	Fear of risk takingNo knowledge of documentation	Start-ups entrepreneurial venture	
Mortgage difficulty	Unavailability of proper documentation of mortgaged property.	Proper awareness about documentation in the area	

