



Forest Department



**Natun Rongagora Eco Development Committee (EDC)
Guijan Range, Tinsukia Wild Life Division
Tinsukia District, Assam**

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

Prepared by Natun Rangagora Eco Development Committee

assisted by

Assam Forest Department

&

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

July 2016

Approved

**Divisional Forest Officer
Tinsukia Wildlife Division
Tinsukia**

1. Introduction

<p>About the Project</p>	<p>The vision of the Assam Project on Forest and Biodiversity Conservation (APFBC) is ‘to enable sustainable forest and biodiversity conservation and management in Assam through multi-scale integrative planning and involvement of forest dependent communities in target areas and giving fillip to their livelihood activities through sustainable use of forest and non-forest resources’. The project’s objective has been stated as: ‘In collaboration with the forest dependent communities, to restore forest eco-systems to enhance the forest dependent community’s livelihoods and ensure conservation and sustainable use of biodiversity’.</p> <p>The above project is being mainly funded by the <i>Agence France de Développement (AFD)</i> - i.e. the French Development Agency, with co-funding from the Government of Assam. The Assam Project on Forest and Biodiversity Conservation Society (APFBC Society) has the mandate for planning, implementation, monitoring, coordination and management of all the activities under the above mentioned project.</p>
<p>Micro-Planning & Livelihood Development</p>	<p>In order to promote livelihood activities through market potential based value addition; the present project intends to take up activities like entrepreneurship promotion, product processing value addition and marketing under this project. This has become necessary on account of the pressures on existing forest resources due to the growth of population. There is a need to explore value addition to the existing forest and biodiversity products and services, based on the market potential. In addition, non-forest based livelihoods need to be explored and the capacities of the community members need to be built-up through skills development initiatives.</p> <p>A consortium comprising of Indian Institute of Entrepreneurship (IIE) Guwahati, <i>Rashtriya Gramin Vikas Nidhi (RGVN)</i> and Centre for Microfinance and Livelihood (CML) has been formed to implement (<i>inter-alia</i>) the micro-planning and livelihood development under the above project. The above consortium has been titled as ‘Consortium for Micro Planning and Enhancing Livelihood Opportunities’ - COMPELO in short.</p> <p>As per project guidelines, this micro-plan includes ‘various operations of village and forest development ... livelihood support of forest dependent members and keeping sustainable forest management as the broad objective’. It includes both forest development and livelihood development.</p>
<p>Micro-Plan for the Natun Rangagora EDC</p>	<p>This document gives the Micro-Plan for the Natun Rangagora EDC, which is located in the Tinsukia district of Assam. The Natun Rangagora EDC falls under the jurisdiction of the Guijan Range under Guijan Wild life Division. The present micro-plan has been prepared by members of the community, including both male and female members. This document has emerged as an outcome of a Participatory Rural Appraisal (PRA) process undertaken by the community and personnel of Centre for Microfinance and Livelihood (CML) Guwahati in June 2016. The <i>micro-plan has been compiled by CML based on the project guidelines</i>. The document has been discussed and finalized for adoption in July 2016</p>

2. Village Socio-Economic profile

Location	<p>The Natun Rongagora (EDC) was formed during the 2016 covering three villages namely- Kaliapani, Rongagora, and Baliyan, village. It is situated 10 km away from Guijan Forest Division</p> <p>Appendix 1 gives the Village Map</p>																		
Key Information	<p>The key information of the EDC is furnished below.</p> <p style="text-align: center;">Table – A : Key Information of the EDC</p> <table border="1" data-bbox="435 607 1407 1093"> <tr> <td>Name of the EDC</td> <td>Natun Rangagora</td> </tr> <tr> <td>District</td> <td>Tinsukia</td> </tr> <tr> <td>Forest Division</td> <td>Tinsukia Wildlife</td> </tr> <tr> <td>Forest Range</td> <td>Guijan</td> </tr> <tr> <td>Year of Formation</td> <td>2015-16</td> </tr> <tr> <td>Total Household</td> <td>270 Nos.</td> </tr> <tr> <td>Nos. of EDC Village</td> <td>3 Nos.</td> </tr> <tr> <td>Description of boundary of EDC</td> <td> <ul style="list-style-type: none"> • North : • South : • West • East : </td> </tr> <tr> <td>Range Office Name</td> <td>Guijan</td> </tr> </table> <p>Source: EDC Records & Discussions during PRA Exercise in June 2016</p> <p>Additional details are given at Table-1 of Record-I. (Given at Annexure)</p>	Name of the EDC	Natun Rangagora	District	Tinsukia	Forest Division	Tinsukia Wildlife	Forest Range	Guijan	Year of Formation	2015-16	Total Household	270 Nos.	Nos. of EDC Village	3 Nos.	Description of boundary of EDC	<ul style="list-style-type: none"> • North : • South : • West • East : 	Range Office Name	Guijan
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Brief Details of the Executive Committee & General Body	<p>The brief details of Executive Committee & General Body of the EDC are contained in the table given below:</p> <p style="text-align: center;">Table – B : Brief details of Executive Committee & General Body</p> <table border="1" data-bbox="435 1373 1407 1592"> <tr> <td>Name of President</td> <td>Mr.Hiren Sanapoti</td> </tr> <tr> <td>Name of Secretary</td> <td>Mrs.Chya rani Mach</td> </tr> <tr> <td>No. of Members in Executive Committee</td> <td>9 Male- Female-</td> </tr> <tr> <td>No. of Members in the General Body</td> <td>270</td> </tr> </table> <p>Source: EDC Records</p>	Name of President	Mr.Hiren Sanapoti	Name of Secretary	Mrs.Chya rani Mach	No. of Members in Executive Committee	9 Male- Female-	No. of Members in the General Body	270										
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Households & Population Structure	<p>In Natun Rongagora EDC, has a total of 270 households are residing in the five villages. The total population of the villages is 1225, of which 520 are male and 605 are female members. The sex ratio of the EDC is 978 females per thousand males. The average family size of the villages is around 6 numbers.</p> <p>The study found that, under Natun rongagora EDC, the residing community are Ahoum, Sonowal Kachari and Adivasi. The major caste dominating the</p>																		

	<p>area is Other back wared Classes.</p> <p>The average family size of the family in the area is 5</p> <p>The number of families which fall in the category of below the poverty line are- 86 households.</p> <p>Table-2 of Record-I may be referred for further details in the above regard.</p>
Education & Skill Development	<p>Over 43.5 % 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.</p> <p>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:</p> <ul style="list-style-type: none"> • Livestock Rearing • Fish Catching • Masonry • Painters • Drivers <p>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.</p>
Soil	<p>The study has found different types of soil in Natun rongagora EDC villages. There are three types of soil available: sandy loam, loam and clayey loam in Guijan EDC villages. Of the total area, 62.0 percent is arable, 8 percent is non arable land and 30.0 percent is not available for cultivation. The soils of this area may be classified into following classes as recent riverine alluvial soils (Antisol) & old riverine alluvial soils (Inceptisol).</p>
Water	<p>People mostly depend on hand pumps and wells for water source. Around 197 households from the area depend on hand pump for water source and they use this water source for drinking and also for other household chores. The ground water table is good in the area. The households also have wells for drawing water which they use from time to time for different household activities.</p>
Climate: Temperature & Rainfall	<p>Highest temperature is generally observed in the months of July/August (35°C) and lowest is in the months of December/January (7-8°C). Humidity is the morning hour's ranges from 90-95% and 50-70% in the afternoon hours.</p>

	<p>The climate of the region is sub-tropical wet and is characterized by hot and humid summer and dry cool winter.</p> <p>The Guijan EDC is experiences 2300 to 3000 mm rainfall per year. Average annual rainfall of the area is 2819 mm. While normal rainfall (1901-1950) is 2796.4 mm. It is observed that on an average 64 to 68% of annual rainfall is received during the monsoon period (June-September) and 22-26% of annual rainfall during pre-monsoon period (March-May).</p>
Forest & Bio-diversity	<p>The Protected Area (DSNP) have been broadly classified as- Tropical Evergreen and Semi Evergreen forests. The Guijan EDC forest is enriched with tree species like- Lagerstroemia speciosa (Ajhar), Mansonia dipikae (Badam), Morns laevigata (Bola), Biscofia rnmnica (Uriam), Cordial dichotoma (Bual), Bombax ceiba (Simalu), Lagerstroemia parviflora (Sida), Delonix resia (Radhasura), Canarium benealensis & C resiniferum (Dhuna, Dhup), Ficus hispida (Dimoru), Premna bengalensis (Gohra), Caeslpima pulcherima (Krishnasura),Tetrameles mdiflora (Bheleu), and Tactona srandis (Segun), Areca catechu (Arecanut)</p> <p>A wide variety of plants and animals is available in the adjacent protected Area Dibru Saikhowa National Park and varjan & Padumi wild Sanctuaries Guijan EDC villages, that can easily attract tourists, and thus there is a high possibility for the development of Eco-tourism in this area. In the rain forest, as wel as riverian forest there are a number of rare plants and animals. A large number of species of orchids, butterflies, birds and cats are the central attractive issues of the forest which cannot be found in any other rain forests.</p>
Land Pattern	<p>Use 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:</p> <ul style="list-style-type: none"> • Firewood plantation • Forest degraded • Paddy field • Pond • Road • Settlement area • Stream • Tree Clad area • Water body

Land Holdings	<p>The type of households as per land-holding is given at Table-3 of Record-I. From the same, it is seen that:</p> <ul style="list-style-type: none"> • 83.33% HH (225 HH) have farming lands • Large farmer (> 10 ha.) 15.55% (42 HH) • Small Farmer (2 – 10 ha.) 18.88% (51 HH) • Marginal Farmer (<2 ha.) 20 % (54 HH) • Landless 44.81% (121 HH)
Livestock	<p>The total number of livestock in the village is 654. The main types of livestock possessed by the households include:</p> <ul style="list-style-type: none"> • Cattle 150 • Bull 89 • Poultry 1049 • Pigs 15 • Goat 265 <p>Table-4 of Record-I may be referred to for the details in the above connection.</p>
Village Infrastructure & Communication Facilities	<p>In any community; the availability of basic infrastructure enables the development of sustainable livelihood options. The infrastructures which are available in the villages can be categorized into the following heads:</p> <ul style="list-style-type: none"> • Physical Infrastructure: The households have the basic amenities including electricity, mobile phones, cycles and motorbikes for communication purposes. The villages are well connected to the main road which connects them to the town. • Education and Health facilities: Education and health facilities include two lower primary school, 4 anganwadi centers, one public health center which is available with the families. • Govt. Offices: The Government offices and line departments which are existing in the area are Panchayat office, local police outpost , Forest Range office ,those all are located in the villages Area. • Financial Institutions: There is a branch of SBI with in the village . post offices is present in the area but they are at a considerable distance of at an average of 5 km from the villages. <p>Table-5 of Record-I, which gives the present status of the village infrastructure.</p>
Agricultural Crops	<p>The details of the agricultural crops grown in the village is available at Table-6 of Record-I.</p>

	<ul style="list-style-type: none"> • Only 6% of the households from the villages are engaged in Sali paddy cultivation. • Proximity to the Tinsukia town and limited farm landholding discourages the farmers from engaging in agriculture and certain traditional fruits like jackfruit, mango, banana and vegetables are grown by the farmers. • Few families have also started engaging in the cultivation of small scale tea gardens.
Crop Production Profile	<p>Table-7 of Record-I may be referred to for the production and yield details of the crops grown in the village.</p> <p>The production and yield details of the crops grown in the village are as follows. The crop cultivated by the families is basically rain fed.</p>
Fodder Availability	<p>The matter of fodder availability in the village is dealt with at Table-8 of Record-I. The above shows that the main sources of fodder in the village are:</p> <ul style="list-style-type: none"> • Crop residue, • Grazing in forest, • Household vegetable wastes • Green Fodder
Markets	<p>Table - 9 of Record-I shows the location of the different markets from the village. The main markets used by the community and its distance from the EDC villages are mentioned below:</p> <ul style="list-style-type: none"> • The Grocery/ PDS shops: existing in the village • The Weekly/ Bi-weekly Market Nearly 1 km away • Major Market: Tinsukia (nearly 12 km away)
Water Resources	<p>The water resources are tabulated at Table-10 of Record-I. The main water resources with the water availability is as follows:</p> <ul style="list-style-type: none"> • Tube-well: 225 Nos. (Adequate) • River: 1 No. (Adequate)- River • Ring well: 4 Nos.
Energy Consumption	<p>Table-11 of Record-I shows the major sources of energy in the village. The same have been listed below.</p> <ul style="list-style-type: none"> • Firewood: Households Depending:225 Nos. Source: Local forest area • Kerosene: Households Depending: 54 Nos. Source: outside market. • LPG: Households Depending: 54 Nos.

<p>Socio-economic status</p>	<p>The villages are inhabited by people mostly belonging to the SC category. The society overall is not marked by deep caste divisions. The observed position of women is satisfactory. The families from the area are basically belonging to the lower middle class category. The other caste dominating the area is OBC.</p> <p>Economic Conditions- The overall economic condition of the people of the area has not been found very satisfactory. They don't have a stable income pattern. Agriculture though done but it is very limited, practiced by roughly 4% of the population. Frequent floods cause rampant damage to their crops and livestock every year.</p> <p>The per annum income of the families is in the range of Rs 75,000 to Rs 1, 20,000. Seasonal migration is also prevalent in the area. People migrate to work in near by brickklins and earn a short term money</p>
<p>Maps</p>	<p>Appendix-1 gives the following maps, based on PRA exercise:</p> <ul style="list-style-type: none"> • Village Map • Village Social Map (with the names and particulars of members in PRA) • Village Resource Map • Wealth Ranking

3. Livelihood opportunity analysis

PRA Exercise	<p>Team from CML Guwahati carried out PRA exercise in Natun Rangagora village as follows:</p> <ul style="list-style-type: none"> • Date: 27-10-2016 • Location: Anganwadi Kendra • Numbers Present: 56 <p>In Presence of: EDC office bearers, Village Headman, community members, Forest Department personnel, etc.</p>																
Objective of PRA	<p>The specific objectives of the exercise are to:</p> <ol style="list-style-type: none"> a) To understand the livelihood options existing within the region, its prevalence and challenges. b) Better understand the credit needs of the poor and their coping mechanism. Examine the options, challenges, and opportunities for financial institutions interested in delivering financial services and c) Identify existing livelihood support mechanisms and explore viable options of providing livelihood support services for increasing income and employment opportunities of the people. 																
Tools Used & Outcomes of the PRA	<p>In this study, different tools were used. These includes</p> <ul style="list-style-type: none"> • Social Mapping • Resource Mapping, • Wealth Ranking, • Seasonality of Livelihoods and • Venn diagram <p>Appendix furnishes the details on above</p>																
Ranking	<p>Ranking exercise has been done for the following:</p> <ul style="list-style-type: none"> • Livelihoods & Skills Development • Entry Point Activities (EPA) <p>Appendix-3 elaborates the above. From the same, it is stated that: Ranking of Livelihoods & Skills Development</p> <p>Ranking of EPA</p> <table border="1" data-bbox="411 1727 1394 2024"> <thead> <tr> <th>Rank</th> <th>Village EPA as ranked</th> <th>Details (Appendix-3 has additional particulars)</th> <th>Probable source of funding/ Department</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>Hospital</td> <td></td> <td></td> </tr> <tr> <td>2.</td> <td>Raising Platform</td> <td></td> <td></td> </tr> <tr> <td>3.</td> <td>Weaving Center</td> <td></td> <td></td> </tr> </tbody> </table>	Rank	Village EPA as ranked	Details (Appendix-3 has additional particulars)	Probable source of funding/ Department	1	Hospital			2.	Raising Platform			3.	Weaving Center		
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1	Hospital																
2.	Raising Platform																
3.	Weaving Center																

4.	Gas		
5	Ambulance		

Livelihood opportunities

Livelihood Opportunities were identified as follows:

Keeping the view of the present livelihood of the villagers, an overall assessment of skill needs/ skill preference of EDC have been analysed. The categorisation has been divided into farm sector and non-farm sector. The responses towards preference towards skill development training programmes have been presented in the following chart.

Table I: Livelihood Opportunities Ranking

Type of training programme	Mark the preferred option				
	1	2	3	4	5
Weaving	1	-	-	-	-
Tailoring & Embroidery	-	-	-	4	-
Electrician	-	2	-	-	-
Hostility	-	-	-	4	-
Food Processing	-	-	-	4	-
• Others (NTFP)	1	-	-	-	-

Source: PRA

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 fancing for the wild animal.(Bio fence- lemon tree)
- b) Lack of irrigation facilities
- c) Lack of agricultural infrastructure, modern tools and equipment's viz, power tillers, tractors etc.
- d) Non usages of high yielding seeds etc.

The opportunities are:

- a) Application of proper and controlled pesticides and insecticides.
- b) Introduction of new and advance technology
- c) Well-structured training programme. The villagers are inherited with the skill of cultivation. All they need is improvisation of their skill level.

The suggested programmes are:

- Tractor operation training
- Agri-skill development programme.
- Training on insecticides, pesticides, hybrid cultivation etc.

Livestock	<p>Table-13 furnishes additional information about opportunities for livestock rearing.</p> <p>The main constraints are:</p> <ol style="list-style-type: none"> Unable to buy fodder from market due to poor financial condition. Treat from the wild animal which destroy the Livestock. No veterinary care clinic. Lack of knowledge about the proper rearing of live stock <p>The opportunities are:</p> <ol style="list-style-type: none"> Higher income from livestock rearing. A huge demanded market for milk is available as Tinsukia district head quarter. <p>The suggested programme is:</p> <ol style="list-style-type: none"> Piggery Poultry
NWFP	<p>The opportunities for NWFP are tabulated at Table-14 under Record-2</p> <p>The main constraints are:</p> <ol style="list-style-type: none"> Less technical know how of cultivating NTFP medicinal plant. Less knowledge of market Linkage. <p>The opportunities is:</p> <ol style="list-style-type: none"> Availability of fertile fallow land <p>The suggested programme are:</p> <ol style="list-style-type: none"> Plantation of Food plants, Medicinal Plant etc.
Specialized Skills	<p>For skills development, the opportunities are tabulated at Table-15 under Record-2</p> <p>The main constraints are:</p> <ul style="list-style-type: none"> • Lack of product diversification • Lack of research on product quality • Lack of TQM techniques. <p>The opportunities are:</p> <ul style="list-style-type: none"> • Providing good communication facility • Training of the skill holder • Financial assistance from govt./NGOS/others Agency. <p>The suggested programme are:</p> <ul style="list-style-type: none"> • Training on Modern Tools and Equipment • Providing modern technology to the villagers • Skill Up gradation & Training on New Product Development and Product Diversification • Setting up a raw material bank • Providing a bulk buy arrangement of the finished product with institutional buyers.

Credit Facility	<p>Table-16 under Record-2 discusses this aspect.</p> <p>The main constraints with the reasons are:</p> <ul style="list-style-type: none"> • Financial exclusion • Higher rate charged by the private money lender. <p>The opportunities are:</p> <ul style="list-style-type: none"> • Providing opportunity for modern financial institution • Adequate awareness for various scheme of govt. such as mudra banks. <p>The suggested programme is:</p> <ul style="list-style-type: none"> • Setting up modern financial institution in the nearby areas.
Strategic Interventions	<p>Summarizing the suggested programmes at above as strategic interventions for the Livelihood Development Plan:</p> <ul style="list-style-type: none"> • Agriculture & Horticulture: Tractor operation training, Agri-skill development programme ,Training on insecticides, pesticides, hybrid cultivation • Livestock: Piggery, Poultry. • NWFP: Plantation of Food plants, Medicinal Plant, arerunut Plantation, Floriculture etc. • Specialized Skills: Training on Modern Tools and Equipment, Providing modern technology to the villagers, Skill Up gradation & Training on New Product Development and Product Diversification, Setting up a raw material bank, providing a bulk buy arrangement of the finished product with institutional buyers. • Credit facility: Inclusion with modern financial institution in the nearby areas.
Livelihood Opportunity Analysis	<p>Framework of livelihood Opportunity Analysis has been done with the help of the following criteria:</p> <ul style="list-style-type: none"> • Livelihood assets • Livelihood context • Priority ranking on potential livelihood <p>The livelihood situation of Natun Rangagora EDC has been analysed 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 –</p> <ol style="list-style-type: none"> 1. Natural Capital 2. Physical Capital 3. Social Capital 4. Human Capital 5. Financial Capital

1. Natural Capital :

The Major natural Capital of Natun Rangagora EDC is, Dibru saikhua National park and dibru river is flowing through out for farming purpose and for the livelihood rearing the villagers use river water as well as underground water.

2. Physical Capital :

Majority of the household in Natun Rangagora are involved in farming sector Detailed land holding pattern is described in the table 3/annexure 6

There is no pucca or semi pacca house in the village .

3. Social Capital :

Social capital has been used to explain the improved performance of diverse groups, the growth of entrepreneurial firms, superior managerial performance, enhanced supply chain relations, the value derived from strategic alliances, and the evolution of communities.

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

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

4. Human Capital :

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

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

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

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

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

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

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

The culture and tradition of a community shows a communities civilisation. The project area is highly cultured and their traditional way of living brought immense potentially of tourism in the area.

In the project area, males are largely engaged in farm activities such as land preparation, sowing, weeding, inter culture and harvesting. Where females are involve in cooking, child care, livestock rearing etc. It is important to analyse gender participation to see how value addition can be provided based on their skills which they perform in day to day life.

Migration is one of the important factor in analysing human capital. Out-migration or in-migration is take place due to available opportunities for better livelihood. In the project area there is no such out-migration or in-migration seen in the PRA. This is due to the less high educated persons available in the area. As education plays an important role in the migration factor. Higher education level increases the migration because people willing to go outside for better livelihood option. The family size also limited.in this certain case migration from other place to another is seen negligible in the project area.

5. Financial Capital :

Economic & Financial Capital indicates the capital base (cash, credit/debt, savings, and other economic assets, including basic infrastructure, production equipment and technologies) which are essential for the pursuit of any livelihood strategies.

In the project area, it is seen that only limited number of people (2 percent of the total households) having their bank accounts. Other facilities like having health insurance, crop insurance, bank loans, availing micro finance is nil.

	<p>In this case there is a need to improve the Economic & Financial Capital in the area by providing bank accounts, health insurance, crop insurance, bank loans, availing micro finance in order to improve the livelihood scenario of the area.</p>
<p>Livelihood Context</p>	<p>Livelihood activities of the Guijan EDC are identifies on the basis of following criteria:</p> <ul style="list-style-type: none"> • Contribution of particular livelihood activity in the total income of the EDC • Percentage involvement of income group in a particular livelihood activities • Priority ranking of the potential livelihood activities

4. Livelihood Development Plan (LDP)

Income Generating Activities	<p>The main income generating activities as planned at the village are:</p> <p>Farm Sector :</p> <ul style="list-style-type: none"> • poultry and Gottarey • Fish Catching • Horticulture (Tea) <p>Non-Farm sector:</p> <ul style="list-style-type: none"> • Eco Tourism • Tailoring & Embroidery.
SHG Activities	<p>SHGs of the village can plan the following activities:</p> <ol style="list-style-type: none"> 1. To create awareness. 2. To organise and form group 3. To involve the villagers in Livelihood Activities collectively.
Exposure Trips	<p>The following exposure trips are planned:</p>
Summary of Action Plan	<p>As attached in next page.</p>
Convergence	<p>The planned initiatives may be converged with the following schemes of the Government of India:</p> <ol style="list-style-type: none"> a. National Rural Employment Guarantee Scheme - for rural employment b. Rashtriya Krishi Vikas Yojana (RKVY) - for agricultural and allied developmental activities 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. g. MGNREGA/Job Card related works with DRDA h. Introducing Ujjala programme for replacement of use of firewood. <p>The above convergence will yield synergies for the present plan, as well as help in sustaining the planned works in the post-project period.</p>

5. Action Plan (A) of Natun Rangagora EDC (Entry Point Activity)

SL.NO	Item	Unit	Unit Cost	Total	Remarks
1	Construction of Eco cottage for home stay with in the EDC	5	5L	25 L	Maintenance by the EDC for revenue generation
2	Construction of machine boat	3	10L	30L	For using tourism purpose in DSNP And use to rescue the community during flood.
3	Construction of weaving centre	1	25L	25L	Used as training cum production centre in the ground floor & 1 st floor used as a community Hall
4	Construction of raising Platform	4	5L	20L	Sand graveling of existing road.
5	Procurement of Function Utensil for the villagers. 1)Chair 2)Plastic Table 3)Cooking Utencil 4) Tarpoline	100 30 L.S 5	0.04 0.10 0.50 0.05	0.40 0.30 0.50 0.25	To be used by the EDC member for their personal family function & community function on rental for income generation.
6	Procurement of sports materials for youth including yoga & wiliness san . 1.Foot ball 2.Volley Ball 3. cricket set. 4. Carpet. 5.Grocery set.	5 4 1 1 2	0.01 0.005 0.15 0.30 0.10	0.05 0.02 0.15 0.30 0.10	Inspiring the youth in sports & Culture
7	Procurement of Ambulance	1	7L	7L	Used for farming Activity in rental for income generation
	Total			172.2L	

Action Plan (B) of Natun Rangagora EDC

SL. No	Year	Activity	Unit	Unit Cost	Method	Total Amount	Remarks
1	1 st Year	Participatory Micro Plane	1	100000.00	PRA, Baseline Survey	100000.00	
2		Awareness Building	2	20000.00	Awareness Programme	40000.00	
3		Training on Tailoring & embroidery	30		40 days	200000.00	
4		Training on Weaving	30		40 days	200000.00	
5		Supply of modern tools.	60	150000.00		3000000.00	
		Total				840000.00	

SL. No	Year	Activity	Unit	Unit Cost	Method	Total Amount	Remarks
1	2 nd year	Awareness generation camp on formation of collective unit (e.g. SHGs, Societies, NGO, Producers, Company .	2	50000.00	4 days awareness camp on formation of collective unit through cooperative expert.	100000.00	
2		Training on Micro Enterprise	2	50000.00	3days Entrepreneurship Orientation Pregame.	100000.00	
3		Hand Holding guidance support and linkage promotion programme for self employment and placement.	2	50000.00	Hand holding support from CML expert through out the year .	100000.00	
4		Value chain improvement	2	50000.00	10 days training on diversification	100000.00	
5		Improved production and processing Capacity	2	130000.00		260000.00	
		Total				660000.00	

SL. No	Year	Activity	Unit	Unit Cost	Method	Total Amount	Remarks
1	3 rd year	Linkage with the institutional buyer and govt. organization throughout the year.	2	80000.00	Creating platform for buyer and sellers .interaction2days.	160000.00	
2		Setting up the Ban	2	100000.00	Linkage through	200000.00	

		Bazar. through out the year.			Van Bazar		
3		Exhibition Participation	1	120000.00	Participation one exhibition through forest department.	120000.00	
4		Access to other geographical Market.	2	120000.00	Exposer Visit	240000.00	
5		Publicity through E-Portal brochure catalog etc	2	60000.00	2days training and awareness progamme taken by marketing expert.	120000.00	
		Total				840000.00	

SL. No	Year	Activity	Unit	Unit Cost	Method	Total Amount	Remarks
1	4 th year	Training on Food processing	30		40 days	200000.00	
2		Training on Electrician	30		40 days	200000.00	
3		Supply of modern tools.	60	150000.00		3000000.00	
4		Exhibition Participation	1	120000.00	Participation one exhibition through forest department.	120000.00	
5		Access to other geographical Market.	2	120000.00	Exposer Visit	240000.00	
		Total				1060000.00	

SL. No	Year	Activity	Unit	Unit Cost	Method	Total Amount	Remarks
1	5 th year	Value chain improvement	2	50000.00	10 days training on diversification	100000.00	
2		Improved production and processing Capacity	2	130000.00		260000.00	
3		Exhibition Participation	1	120000.00	Participation one exhibition through forest department.	120000.00	
4		Access to other geographical Market.	2	120000.00	Exposer Visit	240000.00	
5		Training on Hospitality Management	30	200000.00		200000.00	
					Total	920000.00	

Abstract of Action Plan for 5 year

SL. NO	Year	Activity	Unit	Amount
1	1 st year	Participatory Micro Plane	1	840000.00
		Awareness Building	2	
		Training on Skill Development	30	
		Training on Skill Development	30	
		Supply of modern tools.	60	
2	2 nd year	Awareness generation camp on formation of collective unit (e.g.SHGs,Societies, NGO, Producers, Company .	2	660000.00
		Training on Micro Enterprise	2	
		Hand Holding guidance support and linkage promotion programme for self employment and placement.	2	
		Value chain improvement	2	
		Improved production and processing Capacity	2	
3	3 rd year	Linkage with the institutional buyer and govt. organization through out the year.	2	840000.00
		Setting up the Ban Bazar. through out the year.	2	
		Exhibition Participation	1	
		Access to other geographical Market.	2	
		Publicity through E-Portal brochure catalog etc	2	
4	4 th year	Training on Skill Development	30	1060000.00
		Training on Skill Development	30	
		Supply of modern tools.	60	
		Exhibition Participation	1	
		Access to other geographical Market.	2	
5	5 th year	Valu chain improvement	2	920000.00
		Improved production and processing Capacity	2	
		Exhibition Participation	1	
		Access to other geographical Market.	2	
		Sub Total of Skill Development		
		Sub total of Entry Point activity		17220000.00
		Total		220400000.00

6. Forest Development Plan (FDP)

This Forest Development Plan has been prepared after a detailed PRA exercise at the village level as a part of the Micro-Plan of Natun Rangagora 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 JFMC Forests

The micro-plan takes into consideration the following categories of the EDC Forests of the Natun Rangagora EDC:

- (a) Forest areas assigned to the EDC by the Forest Department .
- (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 EDC forests is briefly discussed below.

1.1. Forests & Their Conditions

The details of the status of forest areas assigned to the EDC have been furnished at Table-3.1 under Proforma-3 ('Forest Development Plan'), which has been attached as Annexure to this micro-plan. After considering other areas planted (or to be planted), the conditions of the forests of the Natun Rangagora EDC have been summarized below.

Table-1: Conditions of the Forests In Protected Area Natun Rangagora EDC

Identification	Allotted to EDC in Buffer zone of DSNP(Ha)	Distance from Village (Km)	Condition of Forest [Good - Forest with crown density of 40% of more Else 'Degraded']	Type of plantation	Utilization
(A) Assigned Forest					
Dibru Saikhowa National Park, Buffer Zone (Guijan Wildlife Range)	500 Ha	0 - 1.5Km	Riverian - newly formed soil and Char Area	Fooder to the Wild animal/Sand done stabilization etc.	
(B) Other Planted Area					
			Good Area: - Nil Degraded Area: Nil		
TOTAL					

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

It is seen that the Natun Rangagora EDC has 500 Ha under its forests, of which 160 Ha is 'Good' and 50 Ha is 'Degraded'.

1.2. Forest Soil Type

The forests of Natun Rangagora EDC 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 Natun Rangagora EDC

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	15%	-
(d) Sand dune	45%	-

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

For the Natun Rangagora EDC; the salient points of the forest soil type are summarized below:

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

1.3. Existing Composition of Flora

In the forests of the Natun Rangagora 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 Composition of Flora in the Protected Area Natun Rangagora EDC

Parameter	Local Name(s)	Biological Name(s)
Major Forest Species	Hollock	
Associates	Gamari	<i>Gmelina Arborea</i>
Shrubs	Dhekia	<i>Ferns</i>
	Bhot jalakia	<i>Capsicum chinense</i>
Medicinal Plants	Arjun,	<i>Terminalia arjuna</i>
	Hilikha	<i>Terminalia Chebula</i>
	Neem	<i>Azadirachta indica</i>
	Amlakhi	<i>Phyllanthus emblica</i>
Produces		
	Jori bet	<i>Calamus erectus</i>

Others, if any	Jati bet	<i>Calamus tenuis</i>
	Raidang bet	<i>Calamus rotang</i>
	Chuli bet	<i>Calamus flagellum</i>
	Lejai bet	<i>Calamus floribundus</i>
	Kako Bah	<i>D. hamiltonii</i>
	Pahari Jati Bah	<i>Oxytennera parvifolia</i>
	Dulu Bah	<i>Schizostachyum dulloa</i>
	Amlakhi	<i>Emblica officinalis</i>
	Halakh	<i>Terminalia myriocarpa</i>
	Hollong	<i>Dipterocarpus macrocarpus</i>
	Arjun	<i>Terminalia arjuna</i>
	Agar	<i>Aquillaria agallocha</i>

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

2. Other Inputs for the Forest Development Plan

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

2.1. Past Protection Measures of the EDC

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

- (a) Number of households involved: 478
- (b) Number of people involved: 478 (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 available in the table given at below.

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

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

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

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

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

Name of Forest Produce	Community Requirement (Kg per annum) (*)	Remarks
Firewood	120700	Throughout the year
Timber for House	496 nos.	Dec - Jan
Small Timber for Implements	-	-
Pole / Bamboo	730 bamboo	Dec - Jan
Fodder from Forest	140800	Throughout the year
NTFP	204000	Throughout the year
Other _____		

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

(*) = Approx. Qty. of Average Household Requirement (from Table-4 (A) x 65 Households

2.3. Collection & Marketing of Forest Produce by Villagers

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

Table-5 (A): Collection & Marketing of Forest Produce by Villagers of the Natun Rangagora EDC

Name of Forest Produce	Collection for Marketing			Location of Collection
	Season / Months	No of Households Collecting	Average Qty. Collected (Kg)	
Firewood	Throughout the year	183	4320	Forest
Timber for House	Dec - Jan	183	4 nos.	Forest
Small timber for Implements	-	-	-	-
Bamboo	Dec - Jan	183	16 nos.	Forest
Pole	-	-	-	-
Fodder from Forest	Throughout the year	183	8 kg per day	Forest
NTFP	Throughout the year	183	9-11 kg per day	Forest
Other	-	-	-	-

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

In the above connection, the following table gives additional pertinent information.

Table-5 (B): Collection & Marketing of Forest Produce - Additional Information [Natun Rangagora EDC]

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

Fodder from Forest	1200 kg /year	Local Market	900-1400/month
NTFP	-	-	-
Other	-	-	-

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

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

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

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

3. Protected Area Protection Issues

3.1. Protection Problems

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

- **Table-7: Protection Problems of the Natun Rangagora 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	No	No
Smuggling of Timber	Yes	Yes
Encroachment of Protected Area Lands	Yes	Mainly of Missing Tribal Forest Village enlarge their occupying Area.
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:

- Grazing - Local Animals
- Grazing - Animals from Other Area

3.2. Reasons for Degradation of the Protected Area

reasons for degradation of forest are as follows:

- Non improvement of management Plan due to dearth available of fund.
- Traditional Cultivation of Tribal People
- Extremist problem in the Protected Area .

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

4. Components of the Protected Area Development Plan

The following sub-sections discuss the main components of the Protected Area Development Plan of Natun Rangagora 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 Natun Rangagora EdC from the issues discussed earlier at Sub-section 3.1

Table-8: Protection Plan of the Natun Rangagora EDC

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

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

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

- (a) Fencing
- (b) Fire protection

4.2. Types of Operations Proposed

The types of operations proposed for the treatment of degraded areas of the Protected Area of Natun Rangagora EDC are given hereunder.

Table-9: Types of Operations Proposed in the Natun Rangagora EDC

Treatment	Required (Yes/ No)	Responsibility of EDC (Yes / No)	Month / Year when can be done	Extent of Area proposed for Treatment (Ha)
Restoration of Degraded Protected Area	Yes	Yes	June - July	200 Ha
Watershed Treatment	Yes	Yes	All the Year	20Ha

Treatment	Required (Yes/ No)	Responsibility of EDC (Yes / No)	Month / Year when can be done	Extent of Area proposed for Treatment (Ha)
Water Reservoirs	Yes	Yes	All the Year	20 Ha
Grass and Silvi Pastoral activities	Yes	Yes	All the Year	100 Ha
Bamboo culture and earth piling	Yes	Yes	All the Year	Home grown
Seed Sowing	Yes	Yes	All the Year	50 ha
Root & Shoot Cutting & Plantation	Yes	Yes	All the Year	-
Cut Back & Coppice Treatment	Yes	Yes	All the Year	-
Stone wall fencing/live Hedge fencing	Yes	Yes	All the Year	200 Ha
Social Fencing	Yes	Yes	All the Year	200 Ha
Other Activities(Protection of Elephants)	Yes	Yes	All the Year	R.F

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

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

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

4.3. Forest Improvement Plan - Advance Works & Creation

The pertinent details in the above connection have been tabulated

1. Medicinal plannation at their own land.
2. Plantation in the buffer zone area mostly newly raised char in the river for fast care and sand done stabilization to protect soil erosion

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

4.4. Forest Improvement - Annual Targets

5. Table-10 (A) and (B): Annual Targets of Forest Improvement in Natun Rangagora EDC (Year-1 to Year-5) and (Year-6 to Year-10)

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

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

Action Plan for Creation of Plantation		
Financial Year	Activities	Amount
2016-17	Identification of suitable site for regeneration-examine possibilities of natural seed fall-determine intensity and nature of biotic interference-Area Not Less than 100 ha, Demarcation of land during the month of December-January, Partition of land in 4 blocks, Land development, Soil Working @ Rs 1000/ha	100000
2017-18*	Block Plantation 3m x 3m, 1111 plants/ha-during the season of April-June ; GPS marking of the area	497000
2018-19*	Block Plantation 3m x 3m, 1111 plants/ha-during the season of April-June ; GPS marking of the area	497000
	1st Weeding; Replacement of dead/struggling saplings raised in the previous year	61600
2019-20*	Block Plantation 3m x 3m, 1111 plants/ha-during the season of April-June ; GPS marking of the area	596400
	2nd Weeding; Replacement of dead/struggling saplings raised in the previous year	73920
2020-21*	Block Plantation 3m x 3m, 1111 plants/ha-during the 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
2022-13*	5th Weeding; Replacement of dead/struggling saplings raised in the previous year	354816
2023-24*	6th Weeding; Replacement of dead/struggling saplings raised in the previous year	266112
2024-25*	7th Weeding	266112
2025-26*	8th Weeding	266112
Total Budgetary Requirement		3989424

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

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

Name of Plantation : Block Plantation of Teak Mixed with Associates, Firewood and Bamboo
 Plantation Period : 2016-17 to 2025-26 (10 Years)
 Plantation Area : 100 ha
 Spacing : 2m X 2 m-2500 plants per ha
 No. of Plants to be Raised : 110000 (11000 approx. annually)
 Number Blocks : 10 Numbers(10 ha each)
 Species : Teak; Associates-Ajar, Khoroi, Khayer, Sissoo, Jia, Arjun, Ghora Neem, Bamboo(Jaati, Kako, Bholoka, Bijili), etc

Action Plan for Creation of Plantation		
Financial Year	Activities	Amount (in Rs.)
2016-17	Identification of suitable site for regeneration-examine possibilities of natural seed fall-determine intensity and nature of biotic interference-Area Not Less than 100 ha, Demarcation of land during the month of December-January, Partition of land in 4 blocks, Land development, Soil Working @ Rs 1000/ha	100000
2017-18*	Block Plantation 2m x 2m, 2500 plants/ha-during the season of April-June ; GPS marking of the area	262500
2018-19*	Block Plantation 2m x 2m, 2500 plants/ha-during the season of April-June; GPS marking of the area	262500
	1st Weeding; Replacement of dead/struggling saplings raised in the previous year	26950
2019-20*	Block Plantation 2m x 2m, 2500 plants/ha-during the season of April-June; GPS marking of the area	315000
	2nd Weeding; Replacement of dead/struggling saplings raised in the previous year	32340
2020-21*	Block Plantation 2m x 2m, 2500 plants/ha-during the season of April-June; GPS marking of the area	315000
	3rd Weeding	64680
2021-22*	4th Weeding; Replacement of dead/struggling saplings raised in the previous year	266112
2022-13*	5th Weeding; Replacement of dead/struggling saplings raised in the previous year	155232
2023-24*	6th Weeding; Replacement of dead/struggling saplings raised in the previous year	116424
2024-25*	7th Weeding	116424
2025-26*	8th Weeding	116424
Total Budgetary Requirement		2149586

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

5.1. Nursery Development Plan

The Nursery Development Plan for the Natun Rangagora EDC 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 Natun Rangagora EDC. This includes the Departmental Nursery involved in EDC works.

Table-11 (A): JFMC Nurseries of the Natun Rangagora EDC

Location of Nursery	Species	Year of Development	Number of Seedlings	Remarks
NATUN RANGAGORA EDC	Varieties	2016		Proposed

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

Other Nurseries

The following table gives the details of other nurseries near the Natun Rangagora EDC.

Table-11 (B): Other Nurseries near the Natun Rangagora EDC

Name of Nursery	Species	Year of Development	Number of Seedlings	Remarks
Natun Rangagora EDC	Varieties	2016		Proposed

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

5.2. Maintenance Plan - 10 Years

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

(A) Timber Species, Gameri, Elephant Apple,

Table-12 (A): Maintenance Plan of Teak Plantation in the Natun Rangagora EDC

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

Year(s)	Treatment
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 Natun Rangagora EDC

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 Natun Rangagora EDC

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

Year(s)	Treatment
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 Natun Rangagora EDC

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

Year(s)	Treatment
	Minimal pruning for removal of criss-crossing, overcrowding branches
10 th Year	Collection of fruits Minimal pruning for removal of criss-crossing, overcrowding branches

Source: Discussions with Forest Department personnel & Community members

5.3. Miscellaneous Operations Plan

The miscellaneous operations planned in the Natun Rangagora EDC are given below.

Table-13): Miscellaneous Operations in the Natun Rangagora EDC

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

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

Marketing Operations

For produce from the Natun Rangagora EDC, 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 Natun Rangagora EDC, as well as the sharing mechanism for the usufruct benefits.

5.4. Expected Benefits Related to Wood & Grass

The above has been tabulated below for the Natun Rangagora EDC. 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 Natun Rangagora EDC

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

5.5. Nursery Development Plan

The Nursery Development Plan for the Natun Rangagora EDC depends on the following types of Nurseries:

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

The details are given below.

EDC Nurseries

The following table gives the details of the nurseries of the Natun Rangagora EDC. This includes the Departmental Nursery involved in EDC works.

Table-11 (A):EDC Nurseries of the Natun Rangagora EDC

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

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

Other Nurseries

The following table gives the details of other nurseries near the Natun Rangagora EDC.

Table-11 (B): Other Nurseries near the Natun Rangagora EDC

Name of Nursery	Species	Year of Development	Number of Seedlings	Remarks
Natun Rangagora EDC	Varieties	2016	7,20,000	Proposed

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

Declaration Certificate

Certify that the Micro Plan of Mirigaon EDC has cover our hole desire as per our Expectation .we are expecting the problem of our village will be removed shortly by conserving the forest and precise wild animal spices .

(President)
Signature of the Natun Rangagora EDC

(Secerataey)
Signature of the Natun Rangagora EDC

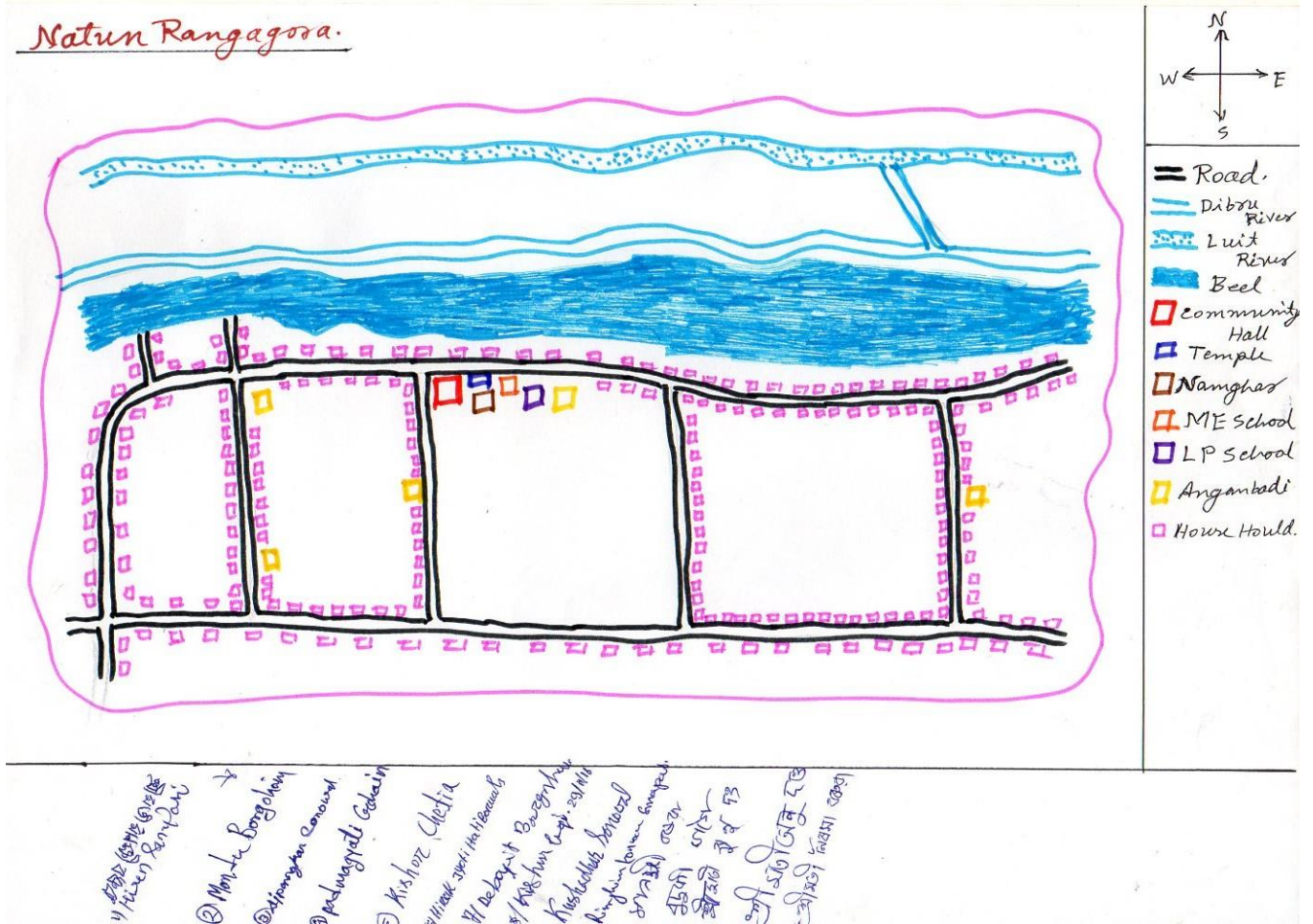
Counter signature of DFO
Tinsukia Wild life Division

List of Appendices

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

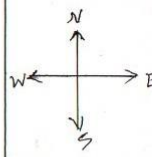
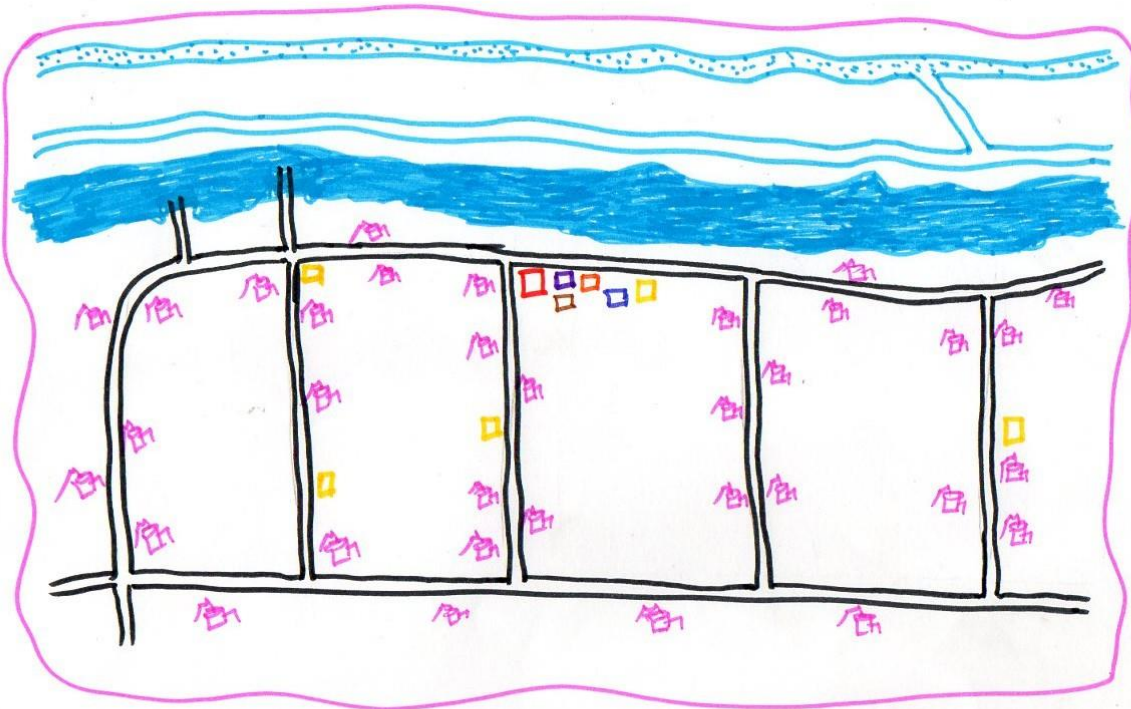
Annexure- 1

1. Social Map



2. Resource Map

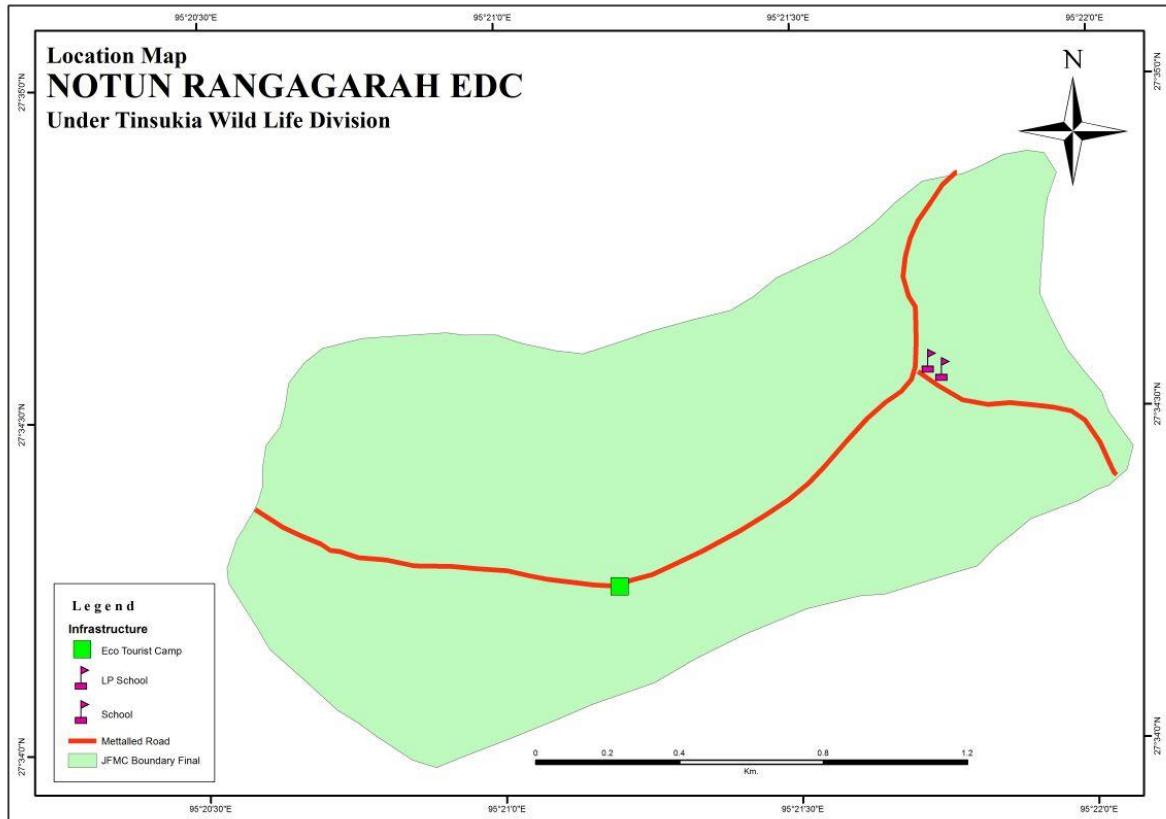
Natur Ranggora.



- Road.
- Lut Rin
- Dibru Ri
- Beel
- Communi Hall
- Temple
- Nanghas.
- ME School
- L.P. School
- Anganbad

১) পানি সনাক্ত
 ২) মন্ট লোগগৌন
 ৩) ষ্টাম্পাৰ সনাক্ত
 ৪) গাৰগাৰ্গাৰি গাৰগৌন
 ৫) কিশোৰ চোখা
 ৬) হিন্দু গৌৰীনাৰনাথ
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3. GIS Map



Annexure-2 : PRA Exercise

Location and Timing of PRA

Numbers of participants :	62
Time :	1:30 pm
Venue :	Anganwadi, Natun Rangagora Village

Brief about the villages under Natun Rangagora EDC

Sl. No.	Name of village	Households (No.)	Population (No.)			Sex Ratio	Avg. HH size
			Total	Male	Female		
1	Kaliapani	74	356	182	174	6050 females per thousand males	4
2	Rangagora	98	447	216	231		4
3	Mirjapur	48	238	126	112		6
4	Balijan	50	184	96	88		3
	Total	270	1225	620	605		

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

- a) Focussed Group Discussions
- b) Seasonality Analysis
- c) Social Mapping
- d) Wealth ranking
- e) Venn Diagram
- f) Chappati Diagram
- g) Priority Ranking – EPA and Livelihood

a) Focussed Group Discussion:

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

Findings from FGD

- The existing livelihood options available in the EDC villages are daily wage labour and a few private jobs. Agriculture is not prevalent in the EDC, only about 6% of the families cultivate paddy which is mainly rain fed.
- Some of the emerging livelihood options are mid-scale poultry and wage labour in the nearby tea gardens.
- There is no support services available in the field of agriculture.

- The villagers rear cow, duck, local poultry and pig. Almost in 90% of the cases, it is mostly the womenfolk who looks after the reared livestock. However, the villagers face serious challenges like outbreak of diseases, attack of wild animals etc. while rearing livestock.
- There is no support services provided by the Government authorities in ensuring proper rearing of livestock. .
- Some of the traded where the villagers are skilled at are , masonry, bamboo craft, electrician, plumbing etc. In few of these courses, the villagers have been provided basic training as well under the Forest Department project.
- Some of the Government schemes through which some of the villagers have been benefitted are MGNREGA, IAY, provision of tube-well etc. However, these benefits have covered only 20-30% of the villagers.

b) **Seasonality Analysis**

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

Expenditure & Income

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

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

Savings and Credit

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

Seasonality of Engagement_ Farm Activities

Crop	Cultivating	Harvesting
Paddy	May-July	October- December

Seasonality of Engagement_ Non-Farm Activities

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

a) Social Mapping:

The social mapping activity was carried out to visualise the socio-economic aspects of the household under the EDC villages. The mapping identified the housing patterns of the households, availability of schools, social infrastructure, religions and beliefs of the communities etc. Prior to social mapping an awareness camp was organised within the villages with an objective to gather villagers for PRA. The villagers were actively participated in the PRA activity. Initially, the people of villagers were asked to draw the main roads of the village and then asked them to locate their houses and locate the important social places and government offices with help of the PRA team members. Two of them voluntarily came out to draw and they were assisted by other villagers and the team members.

Table-3.1: Information about the villages

	Village	4	
Social information	Total Population		1225
	Male		620
	Female		605
	Total households		270
	Numbers of semi pucca Houses		51
	Numbers of Pucca Houses		42
	Numbers of IAY Houses		
	Landmarks	Bridges	
Stream			
River		1	Dibru
PHC			
Power Transformer			
Community hall		1	
Primary School		4	
Anganwadi Centre		4	
ME, High School & College		1	

- Under social mapping study a total of 496 households have been identified. Of which only 130 houses are pucca houses (bricked wall)
- Other than the class based division of the households, important places like community hall, primary schools, anganwadi centre and playground, religious institutions etc. were mapped.

- Main sources of water for the villagers are the tube-well which is used by villagers as a source of drinking water and for their day to day use.
- Provision of Education facility up to primary level is satisfactory in the village as there are 4 primary schools in Five villages along with Anganwadi center.

b) Seasonal Mapping of livelihood activities:

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

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

Key Findings:

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

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

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

- The trespassing of elephants in the paddy fields especially during harvest season has been expressed as one of the major problems faced by the farmers. The herd of elephants attack the fields mostly during the peak season because of which many lose their desired harvest.
- Poor irrigation is problem in the area. Recession of ground water level and low retention of rain water are causing water shortage problem for paddy cultivation. The

respondents pointed out that the farmers in their own ways have been managing irrigation for their farm lands which is not sufficient in most cases.

- Also, villagers even if they want to take up homestead gardening as a commercial activity, can't take up owing to lack of irrigation facilities.
- The villagers lack the know-how on scientific agricultural technical application for ensuring better agricultural productivity

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

Challenges in livestock rearing:

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

Challenges of Non-farm Activity

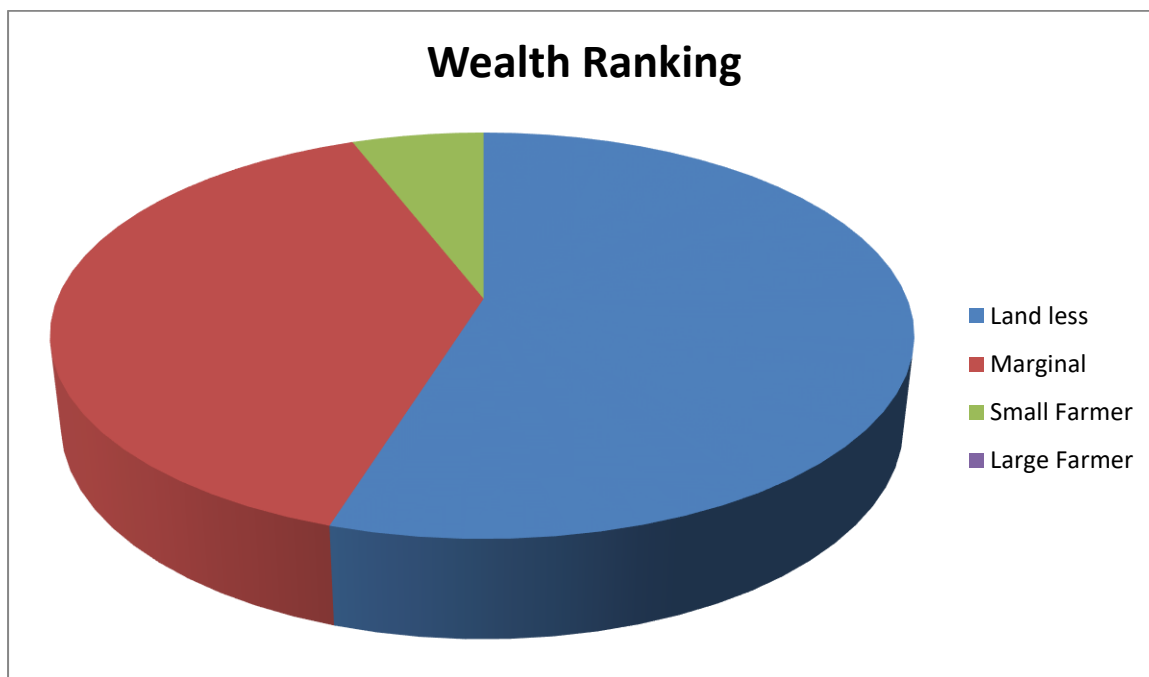
- The villagers engaged with craft and other activities are having low entrepreneurial Spirit. This can be attributed to the fact that, the artisans are having low level of education, lack of exposure and awareness regarding prospect of entrepreneurship income and employment generation.
- Non-availability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

Wealth Ranking

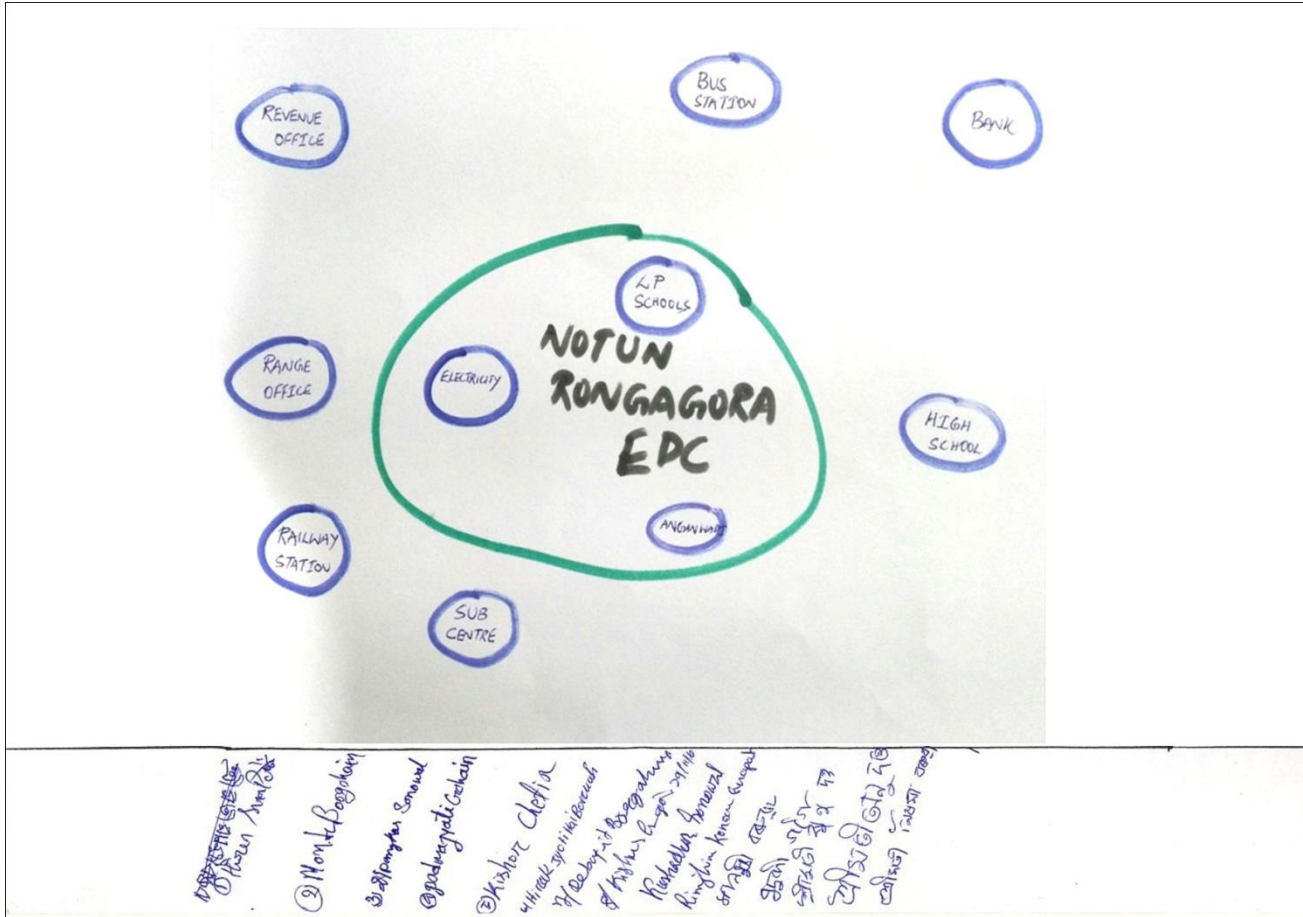
Wealth ranking, or well-being ranking, involves community members identifying well-being. Wealth ranking was done with the help of the following information about the households

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

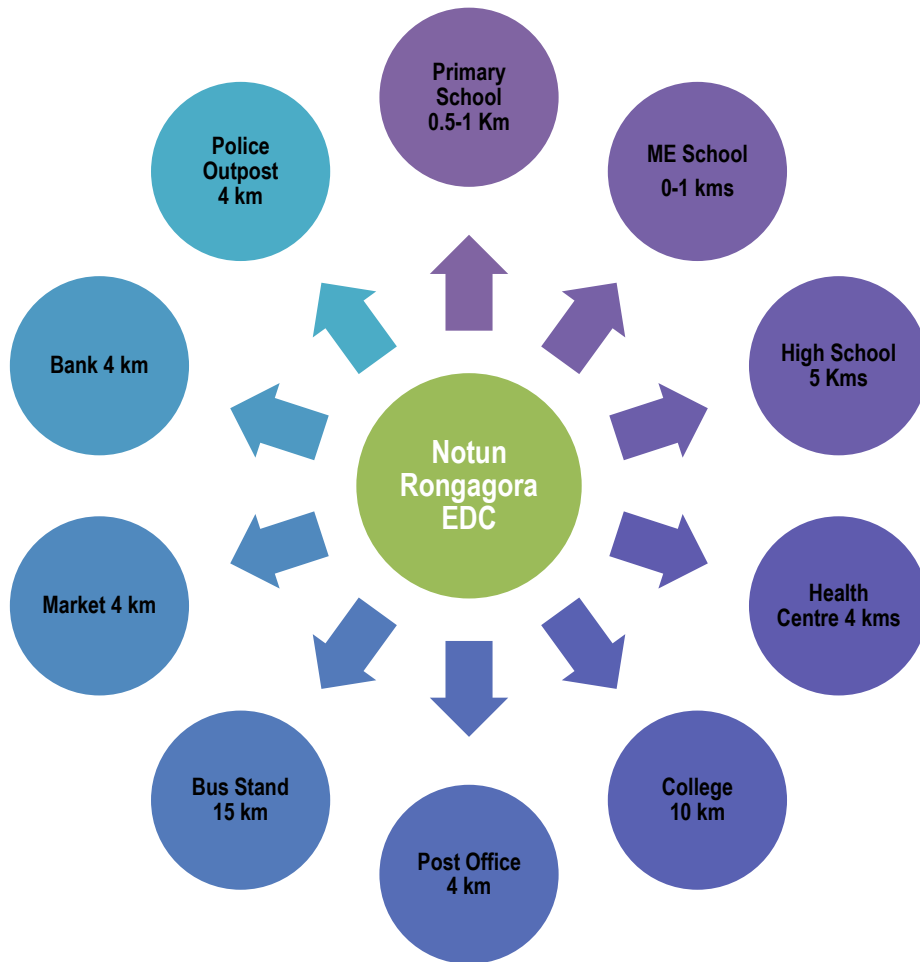
As such it is found that about 54.83 % per cent people are poor, about 39.32 % per cent are belonging to middle class and about 5.85 % per cent are categorized to be rich. Poor people are mainly irregular wage earners and mostly mortgage land for the paddy cultivation. Rich people are mainly involving in tea cultivators and paddy cultivators with good amount of agricultural land. They also have televisions sets, two wheelers, and four wheeler etc. Middle class people are doing cultivation of Tea, horticulture products as well as of paddy with own agriculture and analysing the different wealth groups in a community. It enables evaluators to learn about the socio-economic stratification of project beneficiaries and local people's definitions and indicators of wealth/land along with mortgaged lands.



Venn Diagram



Chapatti Diagram



Priority Ranking- EPA

Priority Matrix of Natun Rangagora EDC for Entry Point Activity

Natun Rangagora

Entry Point Activity	Hospital (A)	Raising Platform (B)	Weaving Center (C)	LPG (D)	Ambulance (E)		Mark	Position
Hospital (A)	A	A	A	A	A		5	1st
Raising Platform (B)	X	B	B	B	B		4	2nd
Weaving Center (C)	X	X	C	C	C		3	3rd
LPG (D)	X	X	X	D	D		2	4th
Ambulance (E)	X	X	X	X	E		1	5th

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 ১০০) ~~১০০) Ambulance (E)~~

Priority Ranking- Livelihood Activity

5. Priority Matrix of Natun Rangagora EDC for Potential Livelihood Activity

Natun Rangagora.

Potential Livelihood Activity	Weaving (A)	Tailoring & Embroidery (B)	Electrician (C)	Hospitality Training (D)	Food Processing (E)		Ranking	Priority
Weaving (A)	A	A	A	A	A		5	6 th
Tailoring & Embroidery (B)	X	B	B	B	B		4	2 nd
Electrician (C)	X	X	C	C	C		3	3 rd
Hospitality Training (D)	X	X	X	D	D		2	4 th
Food Processing (E)	X	X	X	X	E		1	5 th

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Annexure-3 : Photographs





Annexure -4
List of Executive EDC

- 1 . Hiren Sanapati (President)-9854644336**
- 2. Champa Dey (Secretary)**
- 3. Jayanta Khatuwal**
- 4. Mantu Borguhain**
- 5. Lokhyadhar Gogai**
- 6. Kakudhar Sonowal**
- 7. Miss Bina Hazarika**
- 8. Miss Saran Iata Hazarika**
- 9. Miss Mridula Chetia.**

Annexure-5 (Record: I)

Table- 1: Basic data of the village:

Sl.No	Name of the EDC	Date of Estd.	Nos. of members in Executive Committee	Name of President	Name of the Secretary
1	Natun Rangagora	2015-16	13	Hiren Sanapati	Chaya rani Mach

Table-2: Village wise Population data

Sl.No	Name of the village	Total House Hold	Total Population		
			Total	Male	Female
1	Kaliapani	74	356	182	174
2	Rangagora	98	447	216	231
3	Mirjapure	48	238	126	112
4	Balijan	50	184	96	88
	Total	270	1225	620	605

Table -2 .1Village wise population data

Name of the village	No. of HHs	SC		ST		OBC		General		Total of all Category
		Male	Female	Male	Female	Male	Female	Male	Female	
Kaliapani	74			3	6	179	168			
Mirjapure	48					110	100	16	12	
Balijan	50			33	35	54	39	9	14	
Total	270			36	41	553	531	31	33	1225

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

Sl. No.	Name of Village	Type of farmers according to land holding				Total
		Large Farmers >10 Hact.	Small Farmers 2 to 10 Hact.	Marginal Farmers < 2 Hact.	Landless	
1	Kaliapani	11	13	14	33	74
2	Rangagora	16	19	21	45	98
3	Mirjapure	7	10	9	21	48
4	Balijan	8	9	10	22	50
	Total	42	51	54	121	270

Table- 4: Cattle Population:

Village wise numbers of Cattle or type of animal								
EDC	Cows	Buffaloes	Goats	Cocks/Hens	Bulls/Oxen	Camels	Pigs	Total
Natun Rangagora	150		269	1049	89		15	1572

Table- 5: Village wise Infrastructure:

Head	Particulars	Additional Information
Institution Name	Natun Rangagora EDC	Pre-Hiren sanapati (Secy- Chaya Rani Mach
Year of Formation	2016	
Division	Tinsukia	
Range Office	Guijan	
Number of Executive Committee members	9	Male-8 , Female-4
Names of cluster/villages under EDC	4village	Kaliapani,Rangagora,Mirjapur, Balijan
Total no. of Households	270	
Residing Communities	Sonowal Kachari, Adivasi,Boro	
Nearest LP School	4	• LP School 1 KM from EDC,
Anganwadi Kendra	4	Most of the Anganwadi are located adjacent to LP School
Church/Temple/Namghar	4	2 Namghars and 1 Masjid
Nearest ME School	1	½ km from EDC
Nearest High School	1	2 km from EDC
Nearest College	1	7 km from EDC
Nearest Hospital	Guijan sub-center	It is located 2 Km from the EDC
Nearest Police Station	Guijan Out Post	2 km from EDC
Nearest Post Office	Rangagora PO	2 kms from EDC
Nearest Market	Guijan Market	Weekly market
Approach Road	2	Dulijan road

Gelapukhri road

Table- 6: Agricultural crops

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

Table- 7: Crop production profile

Type of crop	Total Production (approx) in quintals	No of household growing	Average production (quintal/ hac) approx	Area under crop (hac) approx
Paddy		234		
Tea		92		
Vegetable				

Table- 8: Fodder Availability

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

Table- 9: Location of market from the village

For Purchase	Location	Distance from village if in other village (in km)
Grocery shop	Natun Rangagora	
Weekly Market	Natun Rangagora	
Major Market	Tinsukia	

Forest Corporation Sale Depo		
Tendu Patta PHAD		
Fish Market	Natun Rangagora Ghat	1 km
Medicinal Plant collection Centre		
Forest Corporation Medicinal plant Collection Center		

Table -10: Water Resources Facility:

Water Source	Number	Water Availability	Uses
Water Harvesting Structure	NA		
Hand pump	254	Perennial	Drinking
River	1		
Well	4	Seasonal	Washing and Kitchen Gardening

Table- 11: Energy Consumption

Type of Fuel	Number of household depending	Number of months dependent	Sources (local, village, forest, other sources)	Major/ Secondary
Fuel wood	175			
Kerosene stove	121			
Gobar/Bio gas				
LPG	51			
Electric Heater				

Additional Tables:

Table- 12: Income Distribution

Table 12: Income distribution of the households

Categories		No. of households in each category
BPL	below 25000	121
APL	25000-50000	54
	above 50000	94

Table- 13: Education Status

Level of Education	Name of Villages				Total
	Natun Gaon	Balijan	Mirjapur	Kaliapani	
Illiterate	26	39	15	12	92
I-IV	155	37	8	157	357
V-VII	80	33	25	128	266
VIII-X	120	43	15	38	216
XI-XII	43	33	13	5	94
Graduate	10	5	1	4	20
Post Graduate	0	2	0	0	2
Total	434	192	77	344	1047

Source: Field survey

RECORD: II

LIVELIHOOD OPPORTUNITY ANALYSIS

Table- 12: Agriculture and Horticulture:

Table-12: Agriculture and Horticulture

Constraints	Reason	Opportunities	Programme
Low Production/ Collection	<ul style="list-style-type: none"> • Degraded fertility level of the paddy land due to tea Cultivation • Negligible knowledge for organic farming • No use of HYV seeds • Lack of irrigation facilities • Negligible use of modern machineries like tractor, power tiller etc. • Not driven by the market demand 	<ul style="list-style-type: none"> • Use of irrigation facilities, modern machineries which directly lead to increase production • Application of HYV (high yielding variety) seeds 	<ul style="list-style-type: none"> • Training on organic farming • Provide training on the application of modern seeds, machineries etc. • Provide credit facilities to buy modern machineries.
Storage and Processing	<ul style="list-style-type: none"> • Lack of common storing place • Lack of cold storage facility due to non-availability of electricity 	<ul style="list-style-type: none"> • Helpful in preserving unsold products for a longer period of time 	
Marketing	<ul style="list-style-type: none"> • Lack of transporting facilities for carrying products • Less contact with the direct market; much dependency upon middle man • No knowledge on marketing know-how, dependence on traditional system of selling. 	<ul style="list-style-type: none"> • Smooth transportation facility will help the farmers to carry their products to the nearby markets. • Generate highest market price by removing middle men. • More knowledge about the current market situation as well as the current value of their products. 	<ul style="list-style-type: none"> • Buyer seller meet

Table- 13: Livestock

Constraints	Reasons	Opportunities	Programme
Less grazing land	Not Applicable		
Availability of fodder	<ul style="list-style-type: none"> • Unable to buy fodder from market due to poor financial condition • Trees fodder n crop residue are available only for 3-6 months. Green fodder is also not available for the whole year. 	<ul style="list-style-type: none"> • Faster growth of cattle • Higher income from livestock rearing 	
Veterinary care facility	<ul style="list-style-type: none"> • No veterinary care clinic • Lack of knowledge about the proper rearing of live stock 	<ul style="list-style-type: none"> • Disease control • Increases the life span of cattle • encourage livestock rearing for earning purpose 	
Production of milk	<ul style="list-style-type: none"> • Less availability of fodder • No scientific knowledge about the cattle rearing for increasing milk production 	<ul style="list-style-type: none"> • High demand for milk products • Availability of supplements to cattle like “Milk Booster, Milk Plus” etc. can increase the production of milk in the area. 	
Milk market	<ul style="list-style-type: none"> • Less contact with the direct market for milk • Unaware of the market demand of different milk made products. 	<ul style="list-style-type: none"> • A huge demanded market for milk is available as Kokrajhar district head quarter and West Bengal state is too far from the JFMC. 	

Table- 14: NWFP

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

Table-15: Specialized Skills

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

			national and international seminars/expos <ul style="list-style-type: none"> Intervention in the form of engagement of market consultant Introduction of product catalogues
Credit facilities	<ul style="list-style-type: none"> No linkage with the banks or post office saving banks Unaware of the development schemes of banks and government 		<ul style="list-style-type: none"> Microfinance, Term Loans, Working Capital Arrangement
Product Diversification	<ul style="list-style-type: none"> No Product Diversification or New Product Development. Lack of concept for product diversification. 	<ul style="list-style-type: none"> Developing Demand Based Products, as per the needs of the modern day market. 	<ul style="list-style-type: none"> Skill Up gradation & Training on New Product Development and Product Diversification

Table-16: Credit Facility

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

Conflict Resolution

If in case any circumstance arise a conflict in between the member-secretary and the president of the EDC the executive committee member will try to resolve the problem in a one sitting. If not than Recall the meeting for the second sitting in the present of superior authority to settle the dispute. If than Also not resolve than try to settle the dispute by sitting with the whole general body including the higher Authority .if not than try to solve the dispute by inviting the higher authority of District Administration .