

CLIMATE CHANGE & ADAPTATION PLAN OF SOUTH GARO HILLS DISTRICT

A CONCEPT PAPER & INVESTMENT ROADMAP



Submitted by
District
Administration
&
Meghalaya Rural
Development
Society
South Garo Hills
District

COMPILED BY
Tanmay Saikia (MBA,M.Phil.)
Project Manager
Meghalaya Rural Development Society,
South Garo Hills District

(ON BEHALF OF THE DISTRICT ADMINISTRATION,
SOUTH GARO HILLS DISTRICT, MEGHALAYA)

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Meghalaya Rural Development Society

Baghmara- 794102

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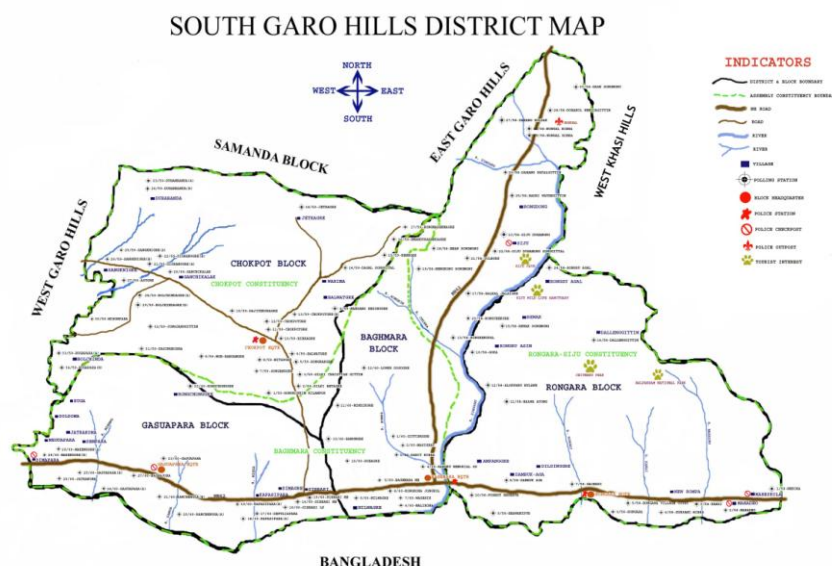
**Summary Of Budget Projections Across The Chosen Sectors In
The Selected Villages Under Climate Change & Adaptation Plan
In Ibdlip In Soith Garo Hills District Of Meghalaya**

FOCUSED SECTOR / PRODUCT IDENTIFIED FOR INTERVENTION IN THE IDENTIFIED VILLAGES OF SOUTH GARO HILLS DISTRICT	TENTATIVE BUDGET
Community Based Responsible Tourism	RS. 4,47,39,000
Apiculture	Rs. 3,50,000,00
Medicinal & Aromatic Plants	RS. 6,44,35,000/-
Piggery	RS. 8,00,000,00
Orange	Rs. 7,60,00,000
Vegetable (Seasonal & Non Seasonal)	Rs. 23,07,40,000
TOTAL :	Rs. 53,09,14,000
(Rupees Fifty Three Crore Nine Lakh Fourteen Thousand Only)	

SOUTH GARO HILLS DISTRICT: AN INTRODUCTION:

The South Garo Hills District lies in the southern part of the state of Meghalaya and was created on 18th June 1992. The district is hilly with difficult terrain with its headquarter at baghmara, the only town in the district. It covers an area of 1887 sq. Km. It is bounded in the north by east garo hills, in the east by the west khasi hills district, in the west by the west garo hills district and in the south by Bangladesh

South Garo hills district is blessed with rich natural resources like minerals, flora and fauna and water bodies like rivers, streams, lakes etc. The important river basins of the district, namely Simsang is the main area where majority of the population inhabit and where most of the socio-economic activities take place. But increase in human population and demand of land and other allied human activities have led to the depletion of available natural resources and created situations where people have to struggle for socio economic well being.



There are rampant exploitation of minerals and other resources as well as flora and fauna. The traditional agricultural practice of shifting cultivation in the hills is still prevalent where trees/vegetation

are cut never to be replanted or replenished causing loss of top fertile soils during rainy season; loss of forest cover and bio-diversity system.

There are many other factors where human activities in the struggle for livelihood and at times greed, have contributed to the environmental degradation and imbalanced eco-system in these river basins. Therefore the need of the hour is how best the fragile relationship between people living in the river basin and the natural resources of these basins can be managed efficiently and sustainably without causing further damage to the eco-system.

The introduction of different initiatives by the state government and other funding agencies have provided ample scope for the district to re-discover its potentials on different fronts and re-built its socio economic status through an integrated and holistic effort.

The time has arrived when all the stake holders including the government departments, NGOs, institutional funding agencies, investors, developmental agencies and the community as a whole have to join hands in the process of planning and implementation of different innovative and endemic initiatives in the district for addressing the basic issues of food and livelihood insecurities and promoting sustainable measures for addressing the macro level aspects including reduction of dependencies on forest and fossils, strengthening forest and ecosystem conservation, reduction of the cause and impact of climate change and finally to ensure an all-round holistic socio-economic-ecological development in the South Garo Hills District.

THE PROFILE OF THE VILLAGES SELECTED UNDER THE CLIMATE CHANGE AND ADAPTATION PLAN IN SOUTH GARO HILLS DISTRICT:

On the basis of the extent of variability and its visible impact on the diverse sectors of ecosystems and livelihood, the following villages have been selected on a pilot basis in the first phase to access the impact of climate change and coping mechanism vis-a-vis its impact on the eco-socio-economic fronts.

SERIAL NUMVER	CLUSTER CENTRE	VILLAGES	HOUSE HOLD
	Siju	Siju-Arteka	38
		Rewak Songmong	165
		Rongsu Agal –Rongsu Rongregittim	160
		Kanai-Kalu Songmong	156
		Chitmang Gongrot- Chitmung Songgitcham-Songgital	94
		Rongcheng-Kosi Songmong	48
	Ampanggre	Ampanggre	162
		Dambuk-Aga	206
		Alokpang- Bulawe	91
		Halwa Atong-Bolbolgittim- Dobajol	73
		Wagekona	52
		Panda	55
		Total	1300

BASIC CONSIDERATION IN SELECTION OF THE VILLAGES (FOR PILOTING):

The basic factors those were considered in selecting the above mentioned villages largely depends upon the following factors:

1. Extent of vulnerability towards natural disasters like landslide, erosion, earth quake, storm, flash flood, draught etc.
2. Extent of man-made disaster like erosion due to past mining, degradation of fertility of soil, deforestation and destruction of animal habitat resulting in to man – animal (elephant) conflict etc.
3. Extent of livelihood dependence on natural resources.
4. Extent of existence of support institutions for nurturing community level organisations (CBOs)
5. Extent of feasibility of enhancing livelihood and economic conditions of the population by
 - ✓ introducing scientific & technological innovations
 - ✓ improving basic infrastructure & support services
 - ✓ strengthening the existing social capital through thematic approaches.
 - ✓ Promoting community based assets and enterprises and facilitating the required market intelligence and infrastructure.

S ARENGTH vs WEAKNESS NALYSIS OF THE SELECTED CLUSTER AND INVESTMENT PROJECTIONS:

(1) AMPANGGRE CLUSTER: The villages taken for piloting the programme are:

- (i) Ampanggre
- (ii) Dambuk-Aga
- (iii) Alok pang- Bulawe
- (iv) Halwa Atong-Bolbolgittim-Dobajol
- (v) Wagekona
- (vi) Panda

All these villages are situated on the Eastern side of the Simsang River Basin. Most of these villages are fairly approachable by road or water transportation. Except for Alok pang-Bulawe and Halwa atong and its nearby villages, the other villages are situated along the Baghmara-Rongra highway. The villages of this cluster are spread over a radius of about 15 KM. The cluster centre, Ampanggre is situated at a distance of 12 KM from the district headquarter, Baghmara.

STRENGTHS OF THE CLUSTER:

- **Fertile land**-suitable for taking up large scale production of seasonal vegetables on a commercial basis.
- **Fairly approachable by road and/or water transportation**- this provides ample opportunity for trade of the produces as a result of enhanced and commercial farming efforts as handling, carriage and transportation cost per unit will not be unmanageable.
- **Huge potential in livestock(mainly piggery) & aquaculture sector:** In all these villages, pig is the most reared livestock. The custom of having a backyard piggery in every household, not only ensures nutritional security to the family, but also serves as an liquidable economic household asset at the time of distress and urgency. However, the absence of scientific rearing methods, lack of medical & other input support services and above all, the lack of awareness and initiatives to convert piggery from household to

commercial level have left the economic perspective of this sector totally unexplored.

Most of the villages in this cluster have natural springs and rivulets which are the natural breeding ground for fishes. Due to the initiatives of concerned departments and agencies, many man made fishery ponds also exists in this cluster.

- **Availability of NTFP:** This is a cluster of valuable NTFPs like cane, bamboo, bay leaf (Tezpatta) and broom grass. However, due to lack of organised marketing efforts, some private middlemen, mostly from Assam and also Bangladesh are reaping the major benefits at the cost of the local community.
- **Informed and empowered community-** due to their proximity to the district head quarter, these villages are better taken care of by most of the line departments and the benefits of different government schemes have gone down to the grass roots. Most of the population of these villages are also organised in the form of self help groups belonging to different line departments and organisations like MRDS. All of these efforts have made the community slightly more informed and empowered compared to the other cluster(s) of the district.

(A) BOTTLE NECKS / LIMITATIONS OF THE CLUSTER:

- No organised entity of farmers to reduce the cost of farm inputs as well as aggregation of farm outputs for collective marketing.
- Agriculture is almost entirely rain-fed. Presence / coverage of irrigation facilities are negligible. production of seasonal vegetable has tremendous commercial potential, but is limited to personal consumption only.
- Technological inputs in the sectors of agriculture and horticulture are almost non-existent. There is no organised and dependable source of inputs like seed, pesticide, tractors, power tillers, water pumps, irrigation equipments, agriculture tools etc.
- Piggery has enormous potential in the cluster. However, the rearing methods are not scientific which leads to increasing rate of diseases to the animal and also to human. Modern farm management techniques addressing the health and hygiene aspects of pig rearing is absent. Moreover, there is a severe lack of dependable and

organised source of inputs, medicines and support services for piggery in the cluster.

- People do not view as a commercial asset. There is lack of coordinated effort from concerned departments, banks and other developmental agencies to promote piggery in a commercial perspective in the villages of the cluster.
- Although aquaculture has a huge potential due to the presence of ample number of springs, rivulets, ponds and above all, the Simsang river in its vicinity, no coordinated effort has been done to promote fishery as a viable commercial enterprise in the villages of the cluster. Villagers lack in knowledge of scientific and commercial fishery techniques. There is no dependable and organised source of fingerlings and fishery inputs in the vicinity of the cluster, in fact , in the entire district.
- Efforts by different government and non government agencies in capacity building of the livestock and fish farmers in the sectors of scientific production and organised marketing is almost insignificant.
- No move has been taken by any agency to organise the pig and fish farmers in to registered producers' cooperatives, which may address the issues like streamlining steady and round-the-year supply of inputs in one hand, and ensuring collective production, aggregation, value addition and marketing of the farm outputs.
- Floriculture has tremendous potential in this cluster. Some entrepreneurs have already initiated and demonstrated floriculture as a profitable enterprise, but the scope of this sector has not yet been fully explored and focused.
- In the sector of NTFP, there is no organised efforts of production, sustainable harvesting, aggregation, packaging and marketing. The area has large production of Tezpatta, broom grass, cane and bamboo. However, in the absence of any farmers' cooperative societies, apart from some middlemen & agents of big traders of Assam and West Bengal, very few villagers have been significantly benefited from their non timber forest resources.
- Infrastructure for aggregation, value addition (cleaning, sorting, grading etc.), processing and collective marketing of NTFP (mostly tezpattta, bamboo, cane, honey and broom grass) horticulture

produces (seasonal vegetables, fruits, areca nut and cashew nut) is totally absent in the cluster.

- Scientific and organised infrastructure facilities for storage of farm produces is also not available in the area. Absence of cold storage has resulted in depriving the farmers of premium prices of their produces in the off season.
- Transportation cost is high as the farmers depend on hired private vehicles for transporting their produces

STRENGTH vs WEAKNESS ANALYSIS OF THE SELECTED CLUSTERS AND INVESTMENT PROJECTIONS:

2. **SIJU CLUSTER:** The villages taken for piloting the programme are:

- ii) Siju-Arteka
- iii) Rewak Songmong
- iv) Rongsu Agal –Rongsu Rongregittim
- v) Kanai-Kalu Songmong
- vi) Chitmong Gongrot- Chitmong Songgitcham-Songgital
- vii) Rongcheng-Kosi Songmong

In fact, the villages selected under this cluster can further be divided into two groups: the first constituting of Siju and Rewak Songmong and the second including the rest of the villages. While the villages of the first sub group (Siju and Rewak Songmong) are connected through road and water transportation, the villages of the second sub group are one of the most interior villages of the district, situated at the periphery of the Balpakram National park having one of the toughest terrains. The distance of these villages from the closest motorable road is between 6 to 15 KM.

The reason behind keeping these two sets of villages under the same cluster is purely from the programme implementation point of view as Siju is the major market and is an established trade centre for most of the farm inputs and outputs in the cluster. The place Siju offers lot of strategic benefits to the implementing agencies willing to bring about a holistic development of the cluster based on its natural resources.

3. STRENGTHS OF THE CLUSTER :

The cluster has an immense potential to enhance the natural resource based economic activities. The fertile land of the Simsang river basin is ideal to take up almost all sorts of plantations of food and non food crops, citrus and tropical fruits, ecumenically important forest species and medicinal cum aromatic plants. The cluster produces a large amount of orange, pear and some endemic tropical fruits during monsoon and autumn which may be value added at site or may be stored in cold storage to be sold at a premium price during the off season.

- **Huge potential of cultivation, collection and processing of Medicinal and aromatic plants and herbs-** most of the villages in this cluster are situated amidst forest areas, and are at the periphery of the famous Balpakram Biosphere reserve. There is a large quantity of medicinal and aromatic plants growing naturally in this region. According to the legends, in Ramayana, when Laxman was injured critically by Ravana, Hanuman carried the *Sanjeevani* herbs to revive Laxman from the mountain forests of Balpakram. However, no care has yet been taken to preserve and cultivate valuable medicinal plants and herbs in this area.
- **Huge potential of apiculture:** Due to the presence of huge forest and floral cover, and also due to the topography and climatic conditions, this cluster is extremely suitable for apiculture. Most of the villages have traditionally rearing honeybees in their home, however, the efforts have not yet been made to expand the production through scientific rearing of bees and modern methods of honey harvesting, extraction and subsequent value addition and marketing activities.
- **Good production of oranges-**Most of the villages in this region have good quantity of land under orange orchards. Orange trees are also available in community forest lands. 'Siju-Orange' is known for its unique taste and pristine aroma. However, most of the orange producing villages are situated at remote mountain terrains. Due to the remoteness of these villages from the nearby markets and in the absence of organised marketing and processing and storage system, the local residents are selling their produces to private middlemen at a distress price.
- **Potential hot spot for eco tourism & adventure sports:** The cluster offers two distinct areas where eco tourism can become one of the major sources of livelihood for the local residents. These two

areas having tourism potential are: (i) Siju and the villages bordering Siju Wildlife sanctuary and (ii) the villages surrounding the Balpakram National park.



- (i) Siju: Close by Simsang River is the Siju bird sanctuary, a home for many rare and protected birds and other wildlife. 132 kms from Tura, Siju is famous for Dobakkol or the bat cave with impressive

stalagmites and stalagmites.

It is one of the longest cave in the Indian Sub-continent and contains some of the finest river passages to be found any where in the world. Apart from Siju, there is vast potential for promotion of river based rural tourism and tourism activities, as simple as organising community fishing festival, butterfly observation, river rafting and introduction of the 'bed-&-breakfast' concept at selected rural destinations in the cluster through a pre-trained entrepreneur or self help group.

(ii) Balpakgram national park : Most of the villages in the cluster are situated at the periphery of the Balpakgram national park.. It is a national wild life park, about 167 kms from Tura. It is home to one of the rarest animals in the world - the Lesser Panda or the Red Panda as it is commonly known. Balpakram (a place of perpetual winds) covering an area of about 220 sq km with a variety of wildlife including tigers, elephants, bison, black bear, leopards and sambar deer, apart from a large number of rare and endangered flora and medicinal plant species. The area is also rich in legends and is a site of religious importance for both Garo as well as Hindu pilgrims.



BOTTLE NECKS / LIMITATIONS OF THE CLUSTER:

- Remoteness and lack of accessibility to most of the villages : Most of the villages in the cluster are situated in remote mountain terrains and are not accessible by road or water transportation. The average distance from the villages to the nearest motorable road and market place ranges between 6 to 15 KM, and it involves walking through one of the most hostile mountain terrains and thick forests. This remoteness and inaccessibility of the villages are leading to the socio-economic bottlenecks like:
 - Lack of awareness of community on Government schemes.
 - Poor presence of departmental initiatives on all socio-economic fronts.
 - Transportation cost of both inputs and outputs are very high making commercial entrepreneurship extremely difficult.
- Cultivation & collection of medicinal plants and herbs and establishment of related processing enterprises has immense potential if the concerned line departments and other development agencies work together to address the issues of reducing transportation costs by improving accessibility and developing suitable infrastructure.
- Eco Tourism, mainly Community Based Responsible Tourism (CBRT) has immense potential in the area. The region could transform in to a hot spot for nature lovers, trekkers and adventure loving tourists, if a holistic approach is undertaken to:
 - educate the locals on the benefits of tourism promotion,
 - develop trained manpower to handle the different aspects of hospitality and support services like nature guides, porters, story tellers etc.
 - develop infrastructure for comfortable and hygienic food, stay, nature watching, view points, electrification, communication and ensuring safety and security of the visitors.
 - sensitise the community to take ownership of the infrastructures developed to promote tourism in the area. Community Based Responsible Tourism (CBRT) is the ideal model of tourism approach that can become sustainable

by ensuring livelihoods to the villagers for their efforts in conservation of natural resources.

- Although apiculture is a traditional household practice in the villages situated in the upper reaches of the landscape, it has never been scientifically explored. The bee-keeping methods are age-old and the harvesting is crude. Although the quality of the mountain honey is excellent, both in taste and composition, crude methods of extraction and lack of facilities for attractive bottling & packaging does not fetch good price to the honey farmers. There has been no initiative from any agencies-governmental or otherwise- to promote the apiculture sector with a integrated market oriented approach.
- Technological inputs in the sectors of agriculture and livestock are almost non-existent. No organised and dependable source of inputs like seed, pesticide, tractors, power tillers, water pumps, irrigation equipments, agriculture tools, animal feed and medicine etc. Agriculture is almost entirely rain-fed. Presence / coverage of irrigation facilities are negligible. No organised entity of farmers to reduce the cost of farm inputs as well as aggregation of farm outputs for collective marketing.
- Capacity building efforts by different government and non government agencies of the farmers both in the sectors of production and marketing by different government and non government agencies is not sufficient. There is no common point / centres for training facilities to the farmers of agri-allied sectors.
- There is no infrastructure, organised entity and committed efforts from the all the concerned agencies responsible to promote scientific production, sustainable harvesting, aggregation, packaging and marketing in the sectors of cane & bamboo, tezpatta, broom grass and other NTFPs.
- Transportation cost is high as the farmers depend on hired private vehicles for transporting their produces

Recommendations and implementation roadmap under Climate Change & Adaptation programme:

On the basis of the analysis of the strengths and the limitations of the selected clusters, the following interventions can be recommended to be taken up under the present programme on Climate Change & Adaptation and ensure both forward and backward linkages of each of the interventions by integrating them with the other on-going programmes and schemes of different departments and agencies in the area. It may well be mentioned here that no isolated interventions, however well planned and implemented may be, will not sustain for a longer period if it is not conceived as an integral part of a larger holistic approach which permits converging the efforts of all the agencies in a complementary manner in a specific area or cluster.

On this back drop, a Specialised Product/Sector Based Cluster Approach is suggested to be taken up in the present scenario as a pilot in the above mentioned twelve villages as follows:

Serial Number	Cluster Centre	Villages	Specialised / focused product(s) / sector(s) selected for intervention
1.	Siju	Siju-Arteka	1) Community Based Responsible & Eco Tourism 2) Medicinal & Aromatic Plants 3) Orange 4) Honey (Apiculture)
		Rewak Songmong	
		Rongsu Agal –Rongsu Rongregittim	
		Kanai-Kalu Songmong	
		Chitmang Gongrot-Chitmung Songgitcham-Songgital	
		Rongcheng-Kosi Songmong	
2.	Ampanggre	Ampanggre	1) Piggery 2) Seasonal & off seasonal vegetables
		Dambuk-Aga	
		Alokpang- Bulawe	
		Halwa Atong-Bolbolgittim-Dobajol	
		Wagekona	
		Panda	

FOCUSED SECTOR NUMBER 1 :

COMMUNITY BASED RESPONSIBLE & ECO TOURISM: IMPLEMENTATION PLAN AND PROJECTED BUDGETARY OUTLAY:

Responsible Tourism is tourism ‘*that creates better places for people to live in, and better places to visit*’.

The 2002 Cape Town Declaration on Responsible Tourism in Destinations^[1] defines Responsible Tourism as follows:

“Responsible Tourism is tourism which:

- minimizes negative economic, environmental and social impacts
- generates greater economic benefits for local people and enhances the well being of host communities
- improves working conditions and access to the industry
- involves local people in decisions that affect their lives and life chances
- makes positive contributions to the conservation of natural and cultural heritage embracing diversity
- provides more enjoyable experiences for tourists through more meaningful connections with local people, and a greater understanding of local cultural, social and environmental issues
- provides access for physically challenged people
- is culturally sensitive, encourages respect between tourists and hosts, and builds local pride and confidence”

EXAMPLE OF SUCCESSFUL COMMUNITY BASED RESPONSIBLE TOURISM PROJECT IN INDIA :

When community takes the forefront in responsible tourism, owns it, manages it and makes most of the business decisions that can be taken locally in a participatory manner with the other shareholders, it is termed as Community Based Responsible Tourism (CBRT). A classic example of CBRT is visible in Supi and Jhuni villages of Bageshwar district of Uttarakhand at an altitude of 6700ft, which was a joint effort of IFAD supported UPASaC (a SVCC under Aajeevika project), Government of Uttarakhand, the cluster federation of SHGs developed under the project and Village

Ways (a London based International Tour operating company). *Pl. Refer to www.villageways.com and find Saryu valley project.*

OBJECTIVES OF COMMUNITY BASED RESPONSIBLE TOURISM PROJECT IN TOURISM DEVELOPMENT IN SOUTH GARO HILLS DISTRICT UNDER IBDP

Tourism Development – Can be defined as the process of providing facilities and services for visitors to a destination in order to gain economic and other benefits

Economic objects

The economic objectives of tourism development include:

Employment creation Increasing foreign currency earnings Tourist contributions to the multiplier effect - the additional revenue created in an area as a result of tourism expenditure.

Direct employment – occurs in hotels, airports, airlines, tour operators, travel agents, and tourist offices.

Indirect employment - occurs in industries that serve the travel and tourism industry.

Environmental Objectives

Environmental education - this is usually through visitor centres. this information helps the tourist understand the reasons for conservation and encourages them to respect the environment. Conservation Environments improvements Preservation of wildlife habitats Regeneration - is used to preserve heritage sites

Socio-cultural objectives

Promoting cultural understanding Enhancing the image of an area Creating a national identity

Empowerment of local community and fostering Partnerships

Opens the door of partnership among the different shareholders including the facilitating agencies (MRDS), government department, funding organisation (IBDP) and local community, with local community playing the major while the others playing the facilitating and skilled roles.

COMMUNITY BASED RESPONSIBLE TOURISM PROJECTS PLANNED IN SOUTH GARO HILLS DISTRICT

1. AT THE VILLAGES ON THE PERIPHERY OF BALPAKRAM NATIONAL PARK

Location: South Garo Hills District. It is a national wild life park, about 167 kms from Tura. It is home to one of the rarest animals in the world - the Lesser Panda or the Red Panda as it is commonly known.



Balpakram (a place of perpetual winds) covering an area of about 220 sq km with a variety of wildlife including tigers, elephants, bison, black bear, leopards, sambar deer, situated near Baghmara in south Garo Hills district of Meghalaya. The western part of the park adjoins with Siju bird sanctuary along the banks of Simsang river.

2. AT AMPANGRE-PANDA VILLAGE IN THE VISINITY OF BAGHMARA RESERVE FOREST (HOME OF ELEPHANTS):

At a distance of about 4 kilometers from the main town of Baghmara, this thick forest is inhabited by langurs, birds of different species, elephants, etc. Many tourists have reported sighting herds of elephants as they travel from Baghmara to Balpakram National Park via Baghmara Reserve Forest.

3. AT SIJU VILLAGE AT THE VISINITY OF SIJU CAVE & WILD LIFE SANCTUARY:

Close by on the other side of Simsang River is the Siju bird sanctuary, a home for many rare and protected birds and other wildlife. 132 kms from Tura, Siju is famous for Dobakkol or the bat cave with impressive stalagmites and stalagmites. It is one of the longest cave in the Indian Sub-continent and contains some of the finest river passages to be found any where in the world.



The Siberian ducks also migrated here during the winter months. The lesser or Grey Hornbill is also seen around Siju. One interesting and rare bird is the Peacock Pheasant seen in Siju.

Possibility of eco-tourism activities / adventure sports:

The following possibilities of eco-tourism activities and adventure sports can be promoted in the selected locations in the above mentioned destinations.

- A. Water sports like Rafting, fishing
- B. Rock climbing
- C. Bird Watching
- D. Hill Trekking & nature watching

Development of proper infrastructure for the above mentioned eco-tourism activities is of utmost importance to boost this sector in the district. Similarly, support facilities like development of village guest houses, tent colonies, village restaurants, primary medical facilities, rescue equipments etc. are also to be developed side by side.

The MRDS – LIFCOM has initiated some of the above stated activities with the support of the local community and the cluster federations of the SHGs promoted by it. The pictures given below depicts some of the community initiatives undertaken at these villages facilitated by the local community institutions developed under the MRDS in the South Garo Hills District..

Rock climbing and Water Sports facilitated by MRDS promoted SHGs at Kilbolmagre village



Village Guest House at Rongsonggre developed by MRDS assisted groups

Eco-camps by MRDS assisted SHGs at Siju during Siju Festival



Under the initiative of MRDS – LIFCOM the SHGs of Simsang River Basin has established transit camping facilities to visitors of Siju cave and Siju Bird Sanctuary on the bank of the river Simsang. The result was a highly profitable business venture for the hosts.

PROPOSAL FOR A HOLISTIC DEVELOPMENT OF COMMUNITY BASED RESPONSIBLE TOURISM AT SELECTED CLUSTERS IN SOUTH GARO HILLS DISTRICT & TENTATIVE BUDGETARY PROJECTIONS:

A comprehensive CBRT proposal as been proposed by MRDS has both the following components :

1. Infrastructure Development &

2. Skill Development (Capacity building trainings in different traits & Exposure and study visits)

1. INFRASTRUCTURE COMPONENTS:

- Construction of eco-friendly cottages at destinations with non luxurious yet comfortable amenities for tourists.
- Construction of Eco parks
- Rock formation-site development
- Construction of Natural walking trails.
- Development of a Fish Sanctuary in natural locations with conservation perspectives.
- Construction of resting points along various stages of the trek to the actual spot.
- These resting points along various benches with canopies to provide rest and shelter to visiting tourists.
- Information centers to provide necessary Information (pamphlets, booklets, first aid facilities etc)
- Food stalls to sell bottled water and snacks. Local community institutions, Self Help Groups, Churches can undertake the maintenance and running of these stalls.
- Bird watching- construction of watch towers and provision for hiring binoculars.
- Eco-Camping –Demarcation of areas for tent pitching and providing tents on hire.
- Development of tent colonies in destinations

- Game Fishing- Development of fishing zones and provision for fishing equipments
- Construction of low cost yet reliable Bridges/jetties/ other structures over water bodies
- Installation of signboards
- Development of tourist booking offices / collaboration with tour operators at major towns of Meghalaya and Assam
- Construction of web sites for promotion and bookings
- Construction of outdoor display in major towns of the region.

2. SKILL DEVELOPMENT :

a. Capacity building Trainings on:

- Skill development of selected local youths as guides in the diverse arena of traditional heritage of the site, its history, culture and geography.
- Specialized guides in the themes of bird watching, river rafting, butterfly watching, flora, medicinal plant diversity, trekking and adventure sports.
- Front office skills and ethical values.
- Housekeeping skills with table manners.
- First aid and rescue skills
- English and Hindi language speaking skills
- Home stay management skill
- Tourism business and marketing management skill

b. Exposure visits to the places both inside and outside the North Eastern region for experiencing the above stated skills

- Within the state (General exposure to rural & eco tourism)
- Within North Eastern region (thematic trainings for skill enhancement)
- At national destinations (thematic trainings for skill enhancement)

TENTATIVE BUDGET PROPOSED FOR ACHIEVING THE ABOVE STATED OBJECTIVES (BOTH 1 & 2 i.e. Infrastructure development & skill development)

➤ **INFRASTRUCTURE COMPONENTS:**

Serial Number	PARTICULARS	QUANTITY	RATE (Tentative)	TENTATIVE AMOUNT (Rs.)
i.	Construction of eco-friendly cottages at destinations with non luxurious yet comfortable amenities for tourists.	10	3,00,000	30,00,00
ii.	Construction of Eco parks and view Decks	15	1,10,000	16,50,000
iii.	Construction of Natural walking trails.	7	2,50,000	17,50,000
iv.	Development of a Fish Sanctuary in natural locations with conservation perspectives	25	50,000	12,50,000
v.	Construction of resting points along the trek to the destination with facilities for sitting, drinking water and sanitation	6	1,00,000	6,00,000
vi.	Provision of garbage bins along the trails to safe guard the environment from	250	10,000	25,00,000

	plastic pollution			
vii.	Rock formation-site development	4	15000	60,000
viii.	Information centers to provide necessary Information (pamphlets, booklets, telephone and first aid facilities etc)	5	4,50,000	22,50,000
ix.	Food stalls to sell bottled water and snacks. Local community institutions, Self Help Groups, Churches can undertake the maintenance and running of these stalls.	15	30,000	4,50,000
x.	Bird watching- construction of watch towers and provision for hiring binoculars.	4	4,00,000	16,00,000
xi.	Eco-Camping – Demarcation of areas for tent pitching and providing tents on hire	6	70,000	4,20,000
xii.	Development of tent colonies in destinations	4	4,00,000	16,00,000

	Game Fishing- Development of fishing zones and provision for fishing equipments	7	25,000	1,75,000
xiii.	Construction of low cost yet reliable Bridges/jetties/ other structures over water bodies	22	60,000	13,20,000
xiv.	Installation of signboards	150	5,000	7,50,000
xv.	Development of tourist booking offices / collaboration with tour operators at major towns of Meghalaya and Assam	4	10,00,000	40,00,000
xvi.	Construction of web sites for promotion and bookings	2	7,50,000	15,00,000
xvii.	Construction of outdoor display in major towns of the region.	16	1,50,000	24,00,000
	SUB TOTAL (A)			27275000

➤ **SKILL DEVELOPMENT :**

(i) **Capacity building Trainings on:**

PARTICULARS	QUANTITY	RATE (Tentative)	TENTATIVE AMOUNT (Rs.)
Skill development of selected local youths as guides in the diverse arena of traditional heritage of the site, its history, culture and geography.	6	1,50,000	9,00,000
Specialized guides in the themes of bird watching, river rafting, butterfly watching, flora, medicinal plant diversity, trekking and adventure sports.	24	90,000	21,60,000
Front office skills and ethical values.	4	40000	1,20,000
Housekeeping skills with table manners.	4	150000	6,00,000
First aid and rescue skills	2	55000	1,10,000
English and Hindi language speaking skill	8	65000	5,20,000
Tourism business and marketing management skill	6	150000	9,00,000
Management & Administration, Documentation, M&E and R&D overhead	=	=	98,04,000
SUB TOTAL (B)			15114000

(iii) **Exposure visits to the places both inside and outside the North Eastern region for experiencing the above stated skills**

Particulars	Number of visits	Number Of Participants	Rate In Rs.	Tentative Amount (Rs.)
Within the state (General exposure to rural & eco tourism)	10	100	7000	700000
Within North Eastern region (thematic trainings for skill enhancement)	6	60	15000	900000
At national destinations (thematic trainings for skill enhancement)	3	30	25000	750000
SUB TOTAL (C)				2350000

GRAND TOTAL = (SUB TOTAL A + B + C) = RS. 4,47,39,000
RUPEES FOUR CRORE FOURTY SEVEN LAKH THIRTY NINE THOUSAND ONL

FOCUSED SECTOR NUMBER 2. UNDER CLIMATE CHANGE & ADAPTATION PLAN : APICULTURE: IMPLEMENTATION PLAN AND PROJECTED BUDGETARY OUTLAY:

A. INTRODUCTION:

Beekeeping is an absorbing hobby to some, and to others it is an industry for producing honey and wax. Since ancient times, honeybees have been kept in a crude manner in India. Beekeeping, today is based upon improved methods using the principles of movable frame-hive, honey extractor and the smoker. Beekeeping is an ideal hobby because it involves outdoor work and does not require much time. It is both interesting and instructive. Moreover, the returns in the form of money and mental satisfaction are highly gratifying. Beekeeping is an asset as honey bees help in increasing crop yields through pollination and gather nectar to produce honey and wax. It is a well considered view that the income derived by increased crop yield due to beekeeping is quite substantial.

B. SCOPE IN THE IDENTIFIED CLUSTER(S):

The major part of the South Garo Hills district, specially the identified villages on the periphery of Siju Wildlife sanctuary and Balpakram NP is covered by forest trees and different seasonable and non seasonable flowers. Most of the trees are tropical semi-evergreen which gives flowering around the year. Looking at this aspects Apiculture may be a good home based industry in every villages of south garo hills.

Bee keeping in South Garo Hills has not attained much importance though a number of plants producing bee pasturage are available throughout the year. Some important plants like oilseed crops, vegetables, fruits, plantation crops, and ornamental plants are the natural bee pasturage of this region. The region is best for beekeeping. The weather in this region remains humid throughout the season and the temperature ranges from 5°C to 31°C which is suitable for bee activities. Sometimes winters are very cold. Therefore, a migratory beekeeping has been found more popular in this region

Beekeeping can be a profitable occupation in areas with good floral pasturage. Possibility for the development beekeeping in India is tremendous due to its diverse

environment and inexhaustible floral resources obtained from natural vegetation and cultivated crops.

Beekeeping can profitably be pursued by men, women and children, by farmers, orchardists, and by those who are landless or underemployed. Beehives can be kept to the backyard or on house tops. A subsistence farmer can get higher income from beekeeping than from other avocations. Those who have the time and interest can manage a number of beehives and make beekeeping a profitable enterprise by selling the surplus honey and wax. Several people in a village or group of villages may join, together and start a co-operative, generating work and income, since the manufacture of the basic beekeeping equipments such as hives, frames, smokers, extractors and containers, as well as the processing of honey and bee wax can be done locally.

C. PRESENT SCENARIO: Although reliable secondary data is not available, yet on the basis of survey in the identified cluster, the following primary data was collected:

Number of existing honey farming households : 600

Average production of crude honey per household per year: 8 litre

Cumulative production in the cluster : 4.8 MT

D. FUTURE SCENARIO AFTER INTERVENTION:

Given proper training and scientific rearing tools, the existing farmers' production will be increased in an average of 25% during the first year.

Cumulative production in the cluster : (from existing honey farmers) will be : 6 MT

There was an indication that success of the scientific intervention will attract at least 100 more house hold in the second year.

Thus additional production from replication in the second year will be: 1 MT

Thus the Cumulative production in the cluster in the second year of the intervention is estimated to be: 6MT + 1MT = **7 MT**

E. PROJECTED YEARLY INCOME: (of 7MT of crude honey at farm)

a) **At the present market rate of crude honey @ Rs. 200/KG** (without processing and subsequent value addition) : Rs. 14,00,000 /-

- b) **If processed, properly bottled, branded and FPO/AGMARK certified:** @ Rs. 350/- per KG = Rs.24,50,000 /-
- c) **If organic certified:** @ Rs. 650 KG = Rs. 45,50,000 /-

F. INTERVENTION PLANNED IN THE AREA:

- a) Capacity building, exposure visit to the farmers to the institutions and model villages of India where farmers have adopted scientific method of apiculture as a profitable sustainable & major livelihood option.
- b) Organising honeybee rearing farmers of the cluster/villages in to a Farmers' Cooperative Society and providing necessary training on scientific rearing, harvesting and extraction of honey.
- c) Providing infrastructures including scientific honey rearing boxes, nets, beehives, other tools and equipments for scientific harvesting, extraction & processing of honey.
- d) Certification, branding, packaging, advertising, promotion and market linkages.

G. PROJECTED BUDGET:

Serial Number	Item	Rate per unit (Rs.)	Quantity	Proposed Amount (Rs.)
a.	Training on scientific bee keeping methods (in a batch of 25 farmers each, for 7 days)	98,000/-	24	2352000
b.	Capacity building & awareness programmes to organised honeybee farmers to cooperative society	26000/-	10	260000
c.	Exposure visit of representatives of the cooperative to apiculture research stations / model centres in India for	1,50,000	4	600000

	understanding production, processing & commercialisation process of honey in modern day scenario (in a batch of 10 representatives)			
d.	Provision of modern honey rearing equipments (bee boxes with accessories) to existing farmers (10 sets per farmer)	25,000	6000	15000000
e.	Honey processing equipments at village / SHG level	10,000	30	300000
f.	Infrastructure, plant & machinery, equipment, tools and accessories for branding, packaging, bottling, labelling at cluster level	26,00,000	1	2600000
g.	Certification, transportation, promotion and market linkages	LS	LS	3000000
	Management & Administration, Documentation, M&E and R&D overhead	LS	LS	10888000
	TOTAL			3,50,000,00

GRAND TOTAL :

RUPEES THREE CRORE FIFTY LAKH ONLY

FOCUSED SECTOR NUMBER 3. UNDER CLIMATE CHANGE & ADAPTATION PLAN :MEDICINAL & AROMATIC PLANTS: IMPLEMENTATION PLAN AND PROJECTED BUDGETARY OUTLAY:

A comprehensive proposal in MAP sector as been proposed under the climate change and adaptation plan has both the following components :

- **Skill Development (Capacity building trainings in different traits & Exposure and study visits)**
- **Infrastructure Development for Processing & Value addition centre**
- **Exposure visit at modern ayurvedic farms and healing centres for commercialisation of traditional knowledge**

➤ SKILL DEVELOPMENT :

Capacity building Trainings on:

- Skill development of existing local group of Ojha (village doctor) for better identification and proper survey of locally available MAP.
- Skill development on cultivation and conservation practices for SHG members/Growers of MAP in scientific ways.
- Management skill development of Federation /Group to take care of value addition centre.
- Research skill development of best existing Ojha(village level doctor) for research station.
- Development of Up to date skill of healing of existing village doctors.
- Better business and marketing management skill to the Federation/Group

➤ INFRASTRUCTURE COMPONENTS:

- Construction of MAP processing and value addition centre with proper facilities at destinations.
- Construction of storage house for collected raw materials
- Supply of machinery inputs for the processing centre
- Construction of small information cum office hall for the growers cum federation.

- Construction of selling point in the local market so that products can be use by local community.
 - Establishment of Research Station of locally available MAP for more production and well use of the materials by next generation.
 - Installation of signboards at important places
- **EXPOSURE VISIT COMPONENT (at modern ayurvedic farms and healing centres for commercialisation of traditional knowledge)**
- Within the state (General exposure to better MAP growers farm)
 - Within North Eastern region (MAP producing cum value addition centre)
 - At national destinations (to modern & traditional ayurvedic healing practices centres)

PROJECTED BUDGET:

➤ **SKILL DEVELOPMENT : Capacity building Trainings on:**

Particulars	Number of program me(s)	Rate per unit (Rs.)	Amount in (Rs.)
Skill development of existing local group of <i>Ojha</i> (traditional healers of villages) for scientific survey, identification and proper documentation of locally available Medicinal & Aromatic plants and herbs	4	2,25,000	900000
Skill development on cultivation and conservation practices for SHG members / growers of MAP in scientific methods (each group of 20 farmers for 6 days)	40	90,000	3600000
Management skill development of cooperative society of farmers in	20	40000	800000

diverse areas of management of organisation, value addition, processing, legal issues and market linkages			
Skill development of existing local group of <i>Ojha</i> (traditional healers of villages) in modern methods of herbal treatments at reputed national institutions / destinations (each batch of 10 <i>Ojha</i> for 45 days)	2	5,05,000	1010000
SUB TOTAL (A)			63,10,000

➤ **INFRASTRUCTURE COMPONENTS:**

Particulars	Quantity	Rate per unit (Rs.)	Amount in (Rs.)
Construction of processing cum value addition centre (building & infrastructure development)	2	20,00,000	4000000
Construction of low cost aggregation & storage facilities for raw materials at village level	15	500000	7500000
Procurement of plant & machinery, equipment, tools and accessories for value addition / processing (that includes branding, packaging, bottling, labelling etc.	1	40,000,00	4000000
Infrastructure development for sells centres at head quarters of the districts and major towns	6	20,00,000	12000000
Establishment of R&D cum	1	1,70,000,00	17000000

herbal/ ayurvedic healing Centre for preservation, improvement and documentation of traditional knowledge on medicinal plants			
Advertising & Promotion in diverse media	LS	LS	2000000
Management & Administration, Documentation, M&E and R&D overhead	LS	LS	650000
SUB TOTAL (B)			5,30,000,00

➤ **EXPOSURE VISIT COMPONENT (at modern ayurvedic farms and healing centres for commercialisation of traditional knowledge)**

Particulars	Number of exposure / study tours	Total Number Of Participants	Rate/Head in Rs.	Tentative Amount (Rs.)
Within the state (General exposure to better MAP grower farms for 4 days each	20	250	6,000	1500000
Within North Eastern region (MAP producing cum value addition centre) for 6 days	10	125	13,000	1625000
At national destinations (to up to date healing practicing centre) each batch of 10 representatives of farmers of medicinal and aromatic plants	10	100	20,000	2000000
SUB TOTAL (C)				51,25,000

GRAND TOTAL = (SUB TOTAL A + B + C) = RS. 6,44,35,000/-

(Rs. Six Crore Fourty Four Lakh Thirty Five Thousand Only)

FOCUSED SECTOR NUMBER 4. :PIGGERY: **IMPLEMENTATION PLAN AND PROJECTED BUDGETARY** **PROJECTIONS :**

A holistic & comprehensive proposal in the sector of piggery includes the following components :

- 1. Skill Development of livestock farmers in piggery (Capacity building trainings in different traits & Exposure and study visits)**
- 2. Infrastructure Development for Pig breeding centre**

We Shall Discuss These Components In Detail As Follows:

1.SKILL DEVELOPMENT :

Capacity building Trainings on:

- Skill development of Para-professionals / Master trainers / barefoot medical practitioners
 - Skill development on hygienic health management practices of pigs for SHG members & Federation.
 - Farm management & marketing skills development to Federation & producer cooperative society to take care of breeding cum inputs supply centres.
 - Management and Organisational skill to SHGs, the Federation/ Federation & producer cooperative society
- c. **Exposure visits to the places both inside and outside the North Eastern region for development of scientific production cum marketing management skills**
- Within the state (General exposure to better pig farm)
 - Within North Eastern region (visit for better knowledge of management of pig centre)
 - At national destinations (to up to date management practices pig centre)

2.INFRASTRUCTURE DEVELOPMENT COMPONENTS:

- Construction of Pig breeding centre with scientific method.
- Construction of pig fattening centre with scientific method
- Construction of storage house for feed materials

- Supply of machinery inputs for the Para professional person
- Construction of inputs storage house.
- Construction of selling point in the local market so that products can be use by local community.
- Procurement of vehicle for transportation.

PROJECTED BUDGET:

➤ SKILL DEVELOPMENT : **(A) TRAININGS**

Particulars	Number of programme(s)	Rate per unit	Tentative Amount (Rs.)
Skill development of Para-professionals / Master trainers / barefoot medical practitioners	10	1,50,000	1500000
Skill development on scientific farm management practices addressing animal health & hygiene to SHGs & entrepreneurs	8	80,000	640000
Organisational management skills to SHGs / Federation & Cooperative Society	4	150000	600000
Marketing management skill to the SHGs / Federation & Cooperative Society to look after breeding cum inputs centres	10	40,000	400000
Management & Administration, Documentation, M&E and R&D overhead	=	=	5660000
SUB TOTAL (A)			88,00,000

(B) EXPOSURE / STUDY VISITS :

(C)

Particulars	Number Of Visits	Number Of Participan ts	Unit Rate In Rs.	Projected Amount (Rs.)
Farmers' exposure to scientific pig breeding sites (within state)	20	200	5,000	1000000
Exposure of Master trainers / barefoot medical practitioners to R&D institutes (Within North Eastern region) 7 days each batch of 10 participants	8	80	2,00,000	1600000
Exposure of Master trainers / barefoot medical practitioners as well as SHGs / Federation & Cooperative Society (at national destinations to update knowledge & technology of rearing & Marketing Management each batch of 10 participants for 7 days	8	80	3,50,000	2800000
SUB TOTAL (B)				4800000

➤ **INFRASTRUCTURE COMPONENTS:**

PARTICULARS	QUANTITY	RATE (Tentative)	TENTATIVE AMOUNT (Rs.)
Construction of scientific pig breeding & fattening centres having inputs for demonstration of hygiene & health management	20	20,00,000	4000000
Construction of storage house for feed materials	2	50,00,000	10000000
Procurement of machinery inputs for para professionals	30	50,000	1500000
Construction of hygienic selling points in local and district markets	6	6,00,000	3600000
Construction of storage centres having refrigeration facility for inputs like machinery, vaccine, artificial insemination machine etc.	8	12,00,000	9600000
Cooperative Society owned transport network for marketing of farm products	2	8,50,000	1700000
SUB TOTAL (C)			6,64,000,00

GRAND TOTAL = (SUB TOTAL A+B+C) = RS. 8,00,000,00

(RUPEES EIGHT CRORE ONLY)

FOCUSED SECTOR NUMBER 5. ORANGE:

IMPLEMENTATION PLAN AND PROJECTED BUDGET:

The Siju cluster produces one of the best variety of orange. The villages of the cluster are situated in one of the most inaccessible terrains having thick forest cover, steep hills and no roads. The nearest market at Siju is situated at a distance of more than 10 KM from the orange producing villages. This inaccessibility is the major barrier for commercialisation of “*Siju Orange*” .

Under the Climate Change And Adaptation Plan, procedure and measures are suggested with a three fold objective:

- i. To increase the area under orange cultivation by rejuvenation of existing orchards on one hand & raising nursery for new plantations on the other.
- ii. Institutionalisation of the orange producers by formation of farmers’ cooperative society and imparting training on scientific cultivation.
- iii. Setting up infrastructure for processing and value addition & ensuring sustainable market linkages.

Keeping the above stated objectives in mind, a comprehensive proposal for skill development, cultivation, postharvest technology, processing, value addition and market linkage for “*Siju Orange*” is given below:

The major components of the proposal are:

1. Skill Development of existing orange farmers on modern methods of cultivation through trainings and study visits.
2. Enhancing orange production through rejuvenation of orchards, new plantations and raising of nursery to ensure cost effectiveness and dependable cum steady source of saplings.
3. Infrastructure Development for Processing & Value addition centre (post harvest technology)

Each of components is described in detail below and tentative budget against them is also mentioned:

COMPONENT 1: SKILL DEVELOPMENT OF EXISTING ORANGE FARMERS :

(A) Capacity building Trainings on:

- Skill development of existing cultivators and non cultivators on package of practices of orange cultivation in scientific ways.
- Skill development of existing orchard rejuvenation to the groups.
- Skill development of Para professionals on orange cultivation, pest control measure etc.
- Skill development on Nursery raising techniques to the Federation /Group.
- Management skill development of federation/group for management of value addition centre.
- Development of Up to date skill on cold storage management.
- Better business and marketing management skill to the Federation/Group.
- Skill development for farmers on grading, quality management and packaging of orange.
- Technical Skill development for selected members to run the processing unit

Exposure visits to the places both inside and outside the North Eastern region for experiencing the above stated skills

- Within the state (General exposure to orange growers farm)
- Within North Eastern region (orange producing cum value addition centre)
- At national destinations (to up to date knowledge of export system for the management person)

PROJECTED BUDGET: (for COMPONENT 1.)

➤ **Capacity building Trainings on:**

PARTICULARS	QUAN TITY	RATE (Tentati ve)	TENTATIVE AMOUNT (Rs.)
Skill development of existing cultivators and non cultivators on package of practices of orange cultivation in scientific ways.	6	1,50,000	9,00,000
Skill development of existing orchard rejuvenation to the groups	30	90,000	2,70,000
Skill development of Para professionals on orange cultivation, pest control measure etc.	10	40000	4,00,000
Skill development on Nursery raising techniques to the Federation /Group.	4	150000	6,00000
Management skill development of federation/group for management of value addition centre	5	55000	2,75,000
Development of Up to date skill on cold storage management.	7	65000	4,55,000
Better business and marketing management skill to the Federation/Group.	6	150000	9,00,000
Skill development for farmers on grading, quality management and packaging of orange	6	150000	9,00,000
Technical Skill development for selected members to run the processing unit	6	150000	9,00,000
SUB TOTAL A(1)			5600000

- **Exposure visits to the places both inside and outside the North Eastern region for experiencing the above stated skills**

PARTICULARS	QUANTITY	NUMBER OF PARTICIPANTS	RATE/HEAD(Tentative)	TENTATIVE AMOUNT (Rs.)
Within the state (General exposure to orange growers farm)	20	200	5,000	10,00,000
Within North Eastern region (orange producing cum value addition centre)	10	100	10,000	10,00,000
At national destinations (to up to date knowledge of export system for the management person)	3	30	15,000	4,50,000
SUB TOTAL A(2)				2450000

COMPONENT 2: ENHANCING ORANGE PRODUCTION THROUGH REJUVENATION OF ORCHARDS, NEW PLANTATIONS AND RAISING OF NURSERY

This involves:

- New plantation of locally adopted orange and HYV in different areas.
- Establishment of big Nursery of HYV and local variety through federation/ group/individuals
- Organizing orange farmers into Orange Farmers' Cooperative Society
Rejuvenation of existing orange orchard in large scale

PROJECTED BUDGET: (for COMPONENT 2.)

PARTICULARS	QUANTITY	RATE (Tentative)	TENTATIVE AMOUNT (Rs.)
New plantation of orange (HYV & local) in 10ha of land	10 ha.	5,00,000	50,00,000
Establishment of big Nursery of HYV and local variety through federation/ group/individuals	2 ha.	5,00,000	10,00,000
Organizing orange produce cooperative system	1	5,00,000	5,00,000
Rejuvenation of existing orange orchard in large scale	20ha.	50,000	10,00,000
SUB TOTAL B			7500000

COMPONENT 3. INFRASTRUCTURE DEVELOPMENT FOR PROCESSING & VALUE ADDITION CENTRE (POST HARVEST TECHNOLOGY)

This involves :

- Construction of orange processing and value addition centre (post harvest technology centre) with proper facilities at destinations.
- Construction of cold storage house for collected raw materials
- Supply of machinery inputs for the processing centre
- Construction of small information cum office hall for the growers cum federation.

- Construction of selling point in the local market and head quarter of the district so that products can be use by local community.
- Establishment of Raw orange grading and packaging Station at federation level.
- Installation of signboard.

PROJECTED BUDGET: (for COMPONENT 3.)

PARTICULARS	QUANT ITY	RATE (Tentative)	TENTATIVE AMOUNT (Rs.)
Construction of orange processing and value addition centre (post harvest technology centre) with proper facilities at destinations.	1	1,00,00,000	1,00,00,000
Construction of cold storage house for collected raw materials	1	1,50,00,000	1,50,00,000
Procurement of machinery inputs	1	50,00,000	50,00,000
Selling point of processed products in local cum head quarter of the district	6	20,00,000	1,20,00,000
Establishment of information cum office hall cum training hall	1	50,00,000	50,00,000
Sign board and hoarding in cities, town and villages	100	20,000	2,00,000
Construction of grading and packaging centre	1	50,00,000	50,00,000
Management & Administrative cost	LS	LS	8250000
SUB TOTAL C			6,04,50,000

**GRAND TOTAL = Sub Total (A1+A2+B+C) = Rs. 7,60,00,000
(Rupees Seven Crore Ten Lakh Only)**

FOCUSED SECTOR NUMBER 6: VEGETABLE (SEASONAL & OFF SEASONAL)

IMPLEMENTATION PLAN AND PROJECTED BUDGETARY PROJECTIONS :

PROPOSAL FOR A HOLISTIC DEVELOPMENT OF SEASONAL AND OFF SEASONAL VEGETABLE CULTIVATION AT SELECTED CLUSTERS IN SOUTH GARO HILLS DISTRICT & TENTATIVE BUDGETARY PROJECTIONS:

A comprehensive proposal of Seasonal and Off seasonal vegetable cultivation, postharvest technology proposal as been proposed by MRDS has both the following components :

1. Skill Development of vegetable farmers in scientific & commercial method of cultivation
2. Enhancing production by increasing area under cultivation and large scale commercial cultivation, establishment of vegetable nursery, introduction of commercial cultivation of off seasonal vegetables in poly house with scientific methods of irrigation (like sprinkler & drip) etc.
3. Infrastructure Development for Processing & Value addition centre (post harvest technology) and related skill development programmes.

The above stated components are described in detail below:

(A) COMPONENT OF SKILL DEVELOPMENT :

This component includes:

Capacity building Trainings on:

- Skill development of existing cultivators and non cultivators on package of practices of vegetable cultivation in scientific ways.
- Skill development of existing kitchen garden growers.
- Skill development of Para professionals on seasonal and off seasonal vegetable cultivation, pest control measure etc.
- Skill development on Nursery raising techniques to the Federation /Group.
- Management skill development of federation/group for management of value addition centre.
- Development of Up to date skill on cold storage management.

- Better business and marketing management skill to the Federation/Group.
- Skill development for farmers on grading, quality management and packaging of vegetables.
- Technical Skill development for selected members to run the processing unit
- Technical skill development for selected farmers to run power tiller, tractor and vehicle

Exposure visits to the places both inside and outside the North Eastern region for experiencing the above stated skills

- Within the state (General exposure to vegetables growers farm)
- Within North Eastern region (vegetable producing cum value addition centre)
- At national destinations (to up to date knowledge of export system for the management person)

(B) COMPONENT OF PRODUCTION ENHANCEMENT THROUGH LARGE SCALE COMMERCIAL CULTIVATION, ESTABLISHMENT OF VEGETABLE NURSERY, POLY HOUSES, INTRODUCTION OF TECHNOLOGY ETC.

This component includes:

- Increasing the area under cultivation by enhancing farming system and introduction of modern methods of cultivation of seasonal and off seasonal vegetable having commercial value (both locally adopted variety and HYV in different villages)
- Establishment of big Nursery of HYV and local variety through federation/group/individuals for ensuring dependable and timely supply of seedlings and planting material to farmers.
- Introduction of commercial cultivation of off seasonal vegetables in poly house with scientific methods of irrigation (like sprinkler & drip) etc.
- Organizing vegetable producers' cooperative society for streamlining the input supply system and also for collection, aggregation, sorting, grading and marketing of farm produces in local and regional markets.

(C) COMPONENT OF INFRASTRUCTURE DEVELOPMENT

- Construction of **Central Processing & Value Addition Centre** having proper facilities for weighting, aggregation, sorting & grading and modern machineries, equipments and tools for processing,. The centre will also have good infrastructure for comfortable parking of trucks & pickup vehicles for transport vehicles both for inputs and processed products.
- Construction of farm input supply cum information dissemination centre. The infrastructure for this can, however, be merged with the **Central Processing & Value Addition Centre** depending on the availability of space.
- Construction of cold storage house for collected raw materials
- Construction of selling points in the major markets in the district and in the major towns in the state and region.
- Establishment of small sorting & grading facilities at village level.
- Establishment of training hall for soft skill development.
- Construction of farmers training centre cum hostel.
- Construction of water supply system in the field and poly house

TENTETIVE BUDGET FOR ABOVE STATED THREE COMPONENTS
:

➤ **BUDGET FOR COMPONENT (A)**

(i) Capacity building Trainings on:



PARTICULARS	QUANT ITY	RATE (Rs)	PROJECTED AMOUNT (Rs.)
Skill development of existing cultivators and non cultivators on package of practices of vegetable cultivation in scientific ways.	6	1,50,000	9,00,000
Skill development of existing kitchen garden growers	30	90,000	2,70,000
Skill development of Para professionals on vegetable cultivation, pest control measure etc.	10	40000	4,00,000

Skill development on Nursery raising techniques to the Federation /Group.	4	150000	6,00000
Management skill development of federation/group for management of value addition centre	5	55000	2,75,000
Development of Up to date skill on cold storage management.	7	65000	4,55,000
Better business and marketing management skill to the Federation/Group.	6	150000	9,00,000
Skill development for farmers on grading, quality management and packaging of orange	6	150000	9,00,000
Technical Skill development for selected members to run the processing unit	6	150000	9,00,000
Technical skill development for selected farmers to run power tiller, tractor and vehicle	10	150000	15,00,000
SUB TOTAL (A1)			61,90,000

(ii) Exposure visits to the places both inside and outside the North Eastern region for experiencing the above stated skills

Particulars	Quantity	Number Of Participants	Rate/Head (Rs.)	PROJECT ED AMOUNT (Rs.)
Within the state (General exposure to vegetable growers farm)	20	200	5,000	10,00,000

Within North Eastern region (vegetable producing cum value addition centre)	10	100	10,000	10,00,000
At national destinations (to up to date knowledge of export system for the management person)	3	30	15,000	4,50,000
SUB TOTAL (A2)				24,50,000

➤ **BUDGET FOR COMPONENT (B)**

**Large Scale Commercial CULTIVATION, NURSERY , Introduction
Of Technological Inputs Etc.**

PARTICULARS	QUANTITY	RATE (Tentative)	TENTATIVE AMOUNT (Rs.)
Large scale cultivation of Commercially valuable vegetables with modern farming and irrigation technology	100 ha.	5,00,000 per Ha.	50000000
Establishment of big Nursery for ensuring dependable and timely availability of seedlings through entrepreneurs and SHGs/ vegetable producers' cooperative society	2 ha.	10,00,000 per Ha.	2000000
Organizing vegetable producers into Vegetable Producers' Cooperative Society	1	LS	500000
Construction of poly houses	20ha.	5,00,000	10000000

for off seasonal vegetable cultivation			
Supply of agricultural inputs (seeds, power tillers, scientific & modern farming tools etc.) to the farmers / SHGs/ Vegetable Producers' Cooperative Society	300	1,75,000	52500000
SUB TOTAL (B)			115000000

➤ **BUDGET FOR COMPONENT (C)**
INFRASTRUCTURE DEVELOPMENT

PARTICULARS	QUAN TITY	RATE (Tentative)	TENTATIVE AMOUNT (Rs.)
Construction of Central Processing & Value Addition Centre having proper facilities for weighting, aggregation, sorting & grading and modern machineries, equipments and tools for processing,. The centre will also have good infrastructure for comfortable parking of trucks & pickup vehicles for transport vehicles both for inputs and processed products.	1	5,00,00,000	50000000
Construction of farm input supply cum information dissemination centre. (The infrastructure for this can, however, be merged with the Central Processing & Value Addition Centre depending on the availability of space.)	1	50,00,000	5000000

Construction of cold storage for collected raw materials	1	1,50,00,000	15000000
Construction of selling points in the major markets in the district and in the major towns in the state and region.	10	4,00,000	4000000
Procurement of machinery inputs	1	50,00,000	5000000
Selling point of processed products in local cum head quarter of the district	6	20,00,000	12000000
Construction of Farmers' Training Centre cum hostel	1	25,00,000	2500000
Establishment of small sorting & grading facilities cum platform at village level.	10	4,00,000	4000000
Procurement of hi-tech poly houses and irrigation systems for off-season vegetable cultivation	13	6,00,000	7800000
Advertising and promotion of products in different media	LS	LS	600000
Management & Administrative overhead	LS	LS	1200000
SUB TOTAL (C)			107100000

**GRAND TOTAL ESTIMATE OF THE SEASONAL AND OFF
SEASONAL VEGETABLE CULTIVATION = SUB TOTAL
(A1+A2+B+C)= Rs. 23,07,40,000**

**(RUPEES TWENTY THREE CRORE SEVEN LAKH FOURTY THOUSAND
ONLY)**

Suggestions and advice:

This image shows a single sheet of white paper with horizontal blue or grey ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.

