



Proposal on Implementation of SATOYAMA Initiatives in Badarma (WL) Sanctuary under OFSDP-II



Odisha Forestry Sector Development Project, Phase-II
Odisha Forestry Sector Development Society
Forest & Environment Department, Government of Odisha



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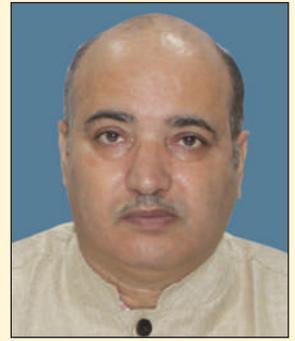
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FOREWORD

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(Lalit Kumar Tewari)

A handwritten signature in black ink, appearing to read 'L. K. Tewari', written on a white rectangular background.

1. Introduction

Odisha State is located in the eastern coast of India, covering an area of 1,55,707 sq. km., which constitutes 4.74 % of the geographical area of India. Physiographically, the state can be divided into four regions, viz., Northern Plateau, Eastern Ghats, Central Tableland & Coastal plains. The total geographical area of state is 1,55,707 sq.km., of which 61204.17 sq. km. (39.31%) is recorded as forest area. The Reserve, Protected and Unclassed forests account for 36049.25 sq.km. (58.90%), 24940.71 sq.km. (40.75%) and 214.21 sq.km. (0.35%) respectively. Forest degradation

in the state is mainly due to over exploitation of the resource to cater the requirement of gradually increasing population for agriculture & habitation, mining and other anthropological activities. One of the major concerns has been the untenable usage of forest resource by the forest dwellers for timber, fuelwood, fodder, non-timber forest products etc. and forest fire which caused sizeable forest degradation in the state. People living in and around forests are highly dependent on forests for their livelihood.

2. Background

2.1 OFSDP II Proposal

Government of Odisha signed an agreement for financial assistance with JICA for implementation of Odisha Forestry Sector Development Project Phase-II (OFSDP-II) during March, 2017. The project is being implemented in 50 Forest Management Units (Forest Ranges) of 12 Territorial Forest Divisions and 2 Wildlife Divisions.

The objective of OFSDP-II is to enhance forest ecosystem along with sustainable livelihood of local people by improving sustainable forest management, sustainable biodiversity

conservation and community development, thereby contributing to harmonization between environmental conservation and socio-economic development in the Project area in Odisha. The envisaged approach to achieve the overall goal in a sustained manner will include restoration of degraded forests and augmentation of forest resources through people's participation; securing sustainable forest management by improving forest administration; capacity building of community organizations and other stakeholders; conservation and scientific management of the biodiversity; promotion to

inter-sectoral convergence for better livelihood and improvement of income of the targeted forest dependents.

The OFSDP-II, inter-alia, has a biodiversity component. Under this component the concept of Satoyama initiative is proposed for initiation in Badarma (WL) Sanctuary of the Badarma (WL) Division.

2.2 The SATOYAMA Model

“Satoyama” - A Japanese term for landscapes that include both human production activities and natural habitats, where human influence is an essential aspect of the local ecosystem. The term “Socio-ecological Production Landscapes (SEPLS)” refers to all such landscapes, including Japanese Satoyama. Satoyama Initiative is based on the principle that such landscapes, when properly managed, can benefit biodiversity and human livelihoods, rather than biodiversity and human livelihoods being in a state of opposition and thus leading to “society in harmony with nature”.

Satoyama models are designed to develop a common awareness on the value of nature and to create models for sustainable rural society living in harmony with nature.

2.2.1 Importance of Satoyama in Japan

In Japan, the forests cover 68% of the geographical area which is about two-thirds of the landmass.

The population density in big cities is extremely high on one hand and there is a decreasing trend in population in rural and semi-rural areas. The age group in big towns ranges from 20 to 55 years whereas the older age groups and small children still live in rural and semi-rural areas. Natural resources and local culture is threatened because of constant exodus of population in the working group from the rural areas.

The Satoyama initiative in Japan has following objectives:

- To restore rural economy and protect cultural heritage in the rural areas
- To conserve the biodiversity in forests and improve livelihood in the rural areas so that the population can come back to the rural areas and thrive

2.2.2 Satoyama in Odisha Context

In the context of Odisha, Population both in rural and urban areas is high and the urbanisation is extending to rural areas. There is heavy pressure on Natural resources due to over exploitation. There is an extensive man animal interface. To preserve local culture and enable branding, value addition & marketing of some products is highly essential. Further, there is ample need of convergence of govt. programmes with various line Departments, so as to give maximum benefit to the villagers. A comparison of Satoyama in Japan and in Odisha is as given below :

Japan	Odisha
68% Geographical Area is Forest	34 % Geographical Area is forest
Private owned forests maximum	Maximum forest area is Govt. owned
Natural resource depletion because of depopulation and under use of forests	Natural Resource depletion because of over use of forest resources
Migration of rural population to Urban area	Trend of urbanization in rural areas
Aims to bring back people to forests to manage forests	Aims to have enable human interface for sustainable management of forest resources and minimize migration of people from villages to urban areas.

Despite of the differences in the magnitude of problems in Japan and in Odisha, there is a basic similarity in the situation and that is that the sustainable forest management and biodiversity conservation are the need of the hour and the human interface needs strengthening on various accounts.

The reasons for adapting Satoyama Initiatives in Odisha is to uplift the Socio-economic conditions of forest dependent community by providing alternate employment opportunities, in order to check biotic pressure on forests and wildlife, thereby to conserve biodiversity.

2.3 Applicability of SATOYAMA in OFSDP II

One of the key mandate of the project (OFSDP-II) is conservation and scientific management of the biodiversity with inputs on development of livelihood initiatives. In appreciation of the SATOYAMA model, which originated and is being implemented in Japan, and is also being implemented in few other countries, it is proposed to adapt the model in 2 villages of Badarma sanctuary of Bamra (WL) Division as pilot projects.

2.3.1 Rationale of Satoyama Initiative under OFSDP II

In the above context, it is proposed to introduce the landscape management for revitalization and sustainable management adopting SATOYAMA framework i.e. "socio-ecological production land scape with the capacity development of stakeholders. The community members of project villages would be encouraged to map and reflect the indicators of landscape scale resilience and how their socio-economic condition can be improved by adopting the methodology developed under SATOYAMA initiative. The local communities require a complete understanding of the status and changes in conditions in their landscapes in order to strengthen resilience. Changes would be captured in the sphere of ecological, agricultural, cultural and socio-economic aspects.

The concept of SATOYAMA will be piloted in two villages which are located on two micro watersheds, by using the tested methods. The communities inhabiting there can increase their capacity to respond to social, economic and environmental pressures and shocks, to improve their environmental and economic conditions, thus increasing the social and ecological resilience of their landscape and biodiversity. Ultimately the villagers can make progress towards realizing a society living in harmony with nature.

3. Objectives of the Satoyama Initiatives for OFSDP II

The main objective of implementation of Satoyama initiative is to promote socio-ecological production landscape with sustainable management of Biodiversity in Pilot areas of Badarama Wildlife Sanctuary. The community members of the pilot areas will be encouraged to map and reflect the indicators of landscape scale resilience with adequate capacity development inputs by adopting the methodology developed under SATOYAMA initiative for OFSDP-II.

- To promote Sustainable Management of biodiversity
- To improve Community and Ecology Resilience
- To contribute to livelihood, culture and social aspects of the target community

4. About the Pilot Area

4.1 The Bio-Diversity context in Pilot Area

Bamra wildlife division in Sambalpur district covers two wildlife sanctuaries namely Badarma wildlife sanctuary over an area of 304 Km² and Khalasuni wildlife sanctuary over an area of 116 Km². The area is rich in biodiversity especially being the landscape being used by elephants. The area is away from urbanization and populated with sizable tribal population. As majority of the people are poor and are over dependent on forest, it has resulted in degradation of forest and biodiversity.

Sambalpur district supports Dry Deciduous Forest, which has very rich floral and faunal composition. Though Sal is the predominant

species it has its associates like Asan, Mundi, Dhaura, Bija, Jamun, Kendu, Kusum, Mango, Sisoo, Chara, Genduli, Salai, Sidha, Karada, Harida, Bahada and Ainla etc as trees species while the shrubs and climbers are represented by Korei, Kulahari, Palas, Lodha, Muturi, Latapalas, Siali etc., while main invasive species is *Eupatorium odoratum* in relative blanks.

The mammalian fauna comprise of leopard, Jungle cat, leopard cat, elephant, gaur, sambar, chital, barking deer, mouse deer, Indian pangolin, civet cat, grey mongoose, jackal, Fox, sloth bear, wild boar, hanuman langur, rhesus monkey, Malabar giant squirrel etc; the birds are represented by pea-fowl, red jungle fowl, parakeets, brahminy kite, pariah kite, grey hornbill, pied horn bill, open billed stork and crow pheasant etc, while the

reptilians and amphibians are represented by 4 species of tortoises, monitor lizards, chameleon, gecko, snakes of different types like python, rat snake, keel back, cobra, frogs and toads etc, some fishes are also found in the seasonal streams and water bodies. There are other organisms like molluss, insects, arthropods. The wild animals is like elephants, wild boar, barking deer, mouse deer, sloth bear, hare, pea fowl and red jungle fowl and few other birds and reptiles are also present in the forest areas.

4.2 The Pilot Villages

Two villages namely- Nunvet and Kutab which are located inside Badarma Sanctuary with sizable human population, have been selected for the pilots to be implemented under Satoyama initiative. These are:

4.2.1 Nunvet Village

Nunvet Village, which is 17 kms away from Badarma Range office has 119 households with a population of 326 out of which 248 are ST population and 78 are of general castes. Of the 119 families approximately 70% are poor and 30% are of middle income group. The prevalent castes are Gond, Munda, Chasa, Rautia and Kumbhar.

The village comprises of 5 hamlets namely Mayapal, Talipada, Chasapada, School pada, Uparpada. The village has 196.29Ha arable land. The land holding is 3-5 arces in general and the land types are Mal, Bahal, Berna and Guda land.

People live on agriculture as their major source of livelihood. Paddy is the major crop of the villagers during Kharif. The other crops are pulses such as black gram, horse gram, millets like ragi, oilseeds like Rasi and groundnut, spices such as turmeric and coriander. Vegetable of several types are grown for consumption and commercial purpose.

In addition to agriculture, they do animal husbandry (dairy, goatery and poultry) and depend on NTFP (Chara, Harida, Bahada, Aanla, kendu, mushroom etc.) for livelihood. The village observes festivals such as Nuakhai, Puspuni and Makar etc.

The village has four women SHG groups. People both male and female are migrating from village to nearby cities and to cities outside the state. The village level institutions are EDC, primary school, Anganwadi, ASHA and forest camp shed. A forest road connects the village. The village has watershed Name: 0407010208030203.

4.2.2 Village Kutab

Village Kutab, which is 10 kms away from Badarma Range office has a population of 338 out of which 170 people are of Scheduled Tribe. The village consists of four hamlets. The main castes are Kondha, Gouda, Gond, Rautia and Agharia. While 80% of the families are poor, 20% families are of middle income group. Total arable land of the village is 203.81 ha and people are having land holdings varying from 0.5 acres to 30 acres. Paddy is the major crop during Kharif, additionally they produce green gram and horse gram.

The key livelihood sources are agriculture, animal husbandry and NTFP. People of the village are migrating to cities for wage employment. Key horticultural products are mango and jackfruit used for both consumption and sale. The key NTFPs are Harida, Bahada and Chara besides Sal seeds and Mohwa. They use Mohwa seed (tola) oil for cooking too.

In the village seven women SHGs are there. Other institutions such as anganwadi, School up to 8th class, ASHA and forest beat house are there. A stream is there which dries in summer, one tank which retains water even in summer and used by people. The Water Shed name: 040701028040104.

4.3 Rationale for Selecting the Pilot Villages

Both the villages have excellent landscape with undulating terrain of low land, high land, forest, seasonal stream and few man-made water bodies. There is also sizable area of Village Forest in both villages. Numbers of communities are residing in both the villages in complete harmony. Both villages are away from the National highway and urban areas and are surrounded by good forest which is subjected to forest fire, grazing and other degradations due to abiotic and biotic interferences. Human-wild animal interface is visible in both the villages in the form of depredations by elephants, wild boar, and rhesus monkey besides some crop loss caused by pea-fowl which need to be addressed. There are different types of land like *Bahal*, *Berna*, *Mahal* and *Guda* which are suitable for different types of crops in different seasons. Hence this can be considered an opportunity to help make them productive and make the villagers self-sustaining with optimum food and nutrition. Remoteness from the highway, its forests, wild life, topography and life style of people can also be showcased for regulated eco-tourism.

4.4 Critical Challenges in the Pilot Area

Even though the area has a rich biodiversity yet there are observable critical challenges which prompt the intervention such as those under Satoyama Initiatives. These are listed below:

4.4.1 Water Scarcity

There are several seasonal hill streams which flow down from the higher reaches of the sanctuary and create several valleys down the slopes. They hold water for 4 to 6 months of the year, while rest of the year they remain dry or very little of water remains for slightly longer periods. Hence water scarcity is a major problem.

4.4.2 Forest Fire

Being a tropical forest and people's dependence on the forest mainly for NTFPs and fuel wood etc., prompts them to set fire to forests to easily collect the NTFPs. Every summer there is forest fire, which not only desiccates the soil, but also burns the leaf litter preventing formation of top soil and making the soil prone to erosion. It also kills many organisms, ground dwelling animals and birds and destroys their eggs and nests and kills their young ones, It creates scarcity of foraging materials too. The soil fertility is also very badly affected.

4.4.3 Illicit removal of forest products

Though illicit felling for timber and fuelwood causes depletion, this appears to have been controlled to a great extent here in the recent past.

4.4.4 Cattle Grazing

Though it is prevalent here, it appears not to have much adverse impact. However, this needs to be fully controlled.

4.4.5 Human-Wild Animal Interface

As several villages and their hamlets are located in different valleys within the sanctuary who mainly grow paddy and vegetable besides some horticultural crops, they are often in conflict with wild animals like elephants, wild boar, rhesus monkey and pea-fowl as they often destroy their crops. The elephants, in particular break their mud houses in search of stored food grains.

4.4.6 Socio-economic context

The socio-cultural backwardness is due to low literacy, regular migration, unequal gender equations, languishing cultural practices, low access to schemes and provisions etc.

5. Proposed Approaches of Satoyama Framework:

Satoyama initiative provides a conceptual framework for the sustainable landscape management through six core approaches as below:

- Resource use within the carrying capacity
- Cyclic use of natural resources
- Recognition of the value and importance of local traditions and culture
- Multi-stakeholder participation and collaboration.
- Contribution to socio-economies

- Improvement of community resilience.

The combination of these interventions can be implemented by adopting the following steps:

- consolidating wisdom on securing diverse ecosystem services and values;
- integrating traditional ecological knowledge and modern science to promote innovations; and
- exploring the new forms of co-management systems.

Figure Conceptual Framework of Satoyama Initiative



6. Strategies

It is proposed to introduce the landscape scale management for revitalization and sustainable management adopting SATOYAMA framework for development of SELPS in project villages. With the capacity development, the community members would be encouraged to map and reflect the indicators of landscape scale resilience and how it can be improved adopting the methodology developed under SATOYAMA initiative. Local communities require a more complete understanding of the status and changes in conditions in their landscapes in order to strengthen resilience. However, resilience can be difficult to measure precisely because it is complex and multifaceted. Instead of attempting to define an overall measure of resilience for SEPLS, an approach for monitoring SEPLS using a set of indicators designed to capture their essential attributes. The indicators of Resilience in SEPLS consist of a set of 20 indicators designed to capture different aspects of key systems - ecological, agricultural, cultural and socio-economic. These include both qualitative and quantifiable indicators, but measurement is based on the observations, tallies, perceptions and experiences of the local communities themselves. They are to be used flexibly and can be customized to reflect the circumstances of each particular landscape and its associated communities.

The indicators potentially would give them a greater sense of ownership over management processes, hopefully leading to more lasting sustainability. This would also ensure community's sense of ownership over the

planning, implementation, monitoring and evaluation of resource-management practices. Lessons and knowledge generated by these activities can then be used to communicate local visions and strategies for resilient landscapes and productive ecosystems as input into higher-level policies and programs that affect community livelihoods as well as further conservation and resource-management planning. These are elaborated as follows:

- 1. Identification of Watersheds and selection of EDCs** - This concept would be piloted in two micro-watersheds. There are 26 EDCs within the Badrama sanctuary in Badrama Range. Out of these EDCs, only 2 EDCs on micro watershed will be selected for the interventions. Although larger number of EDCs were proposed to be taken up in the MOD, field survey and actual budgeting revealed that due to insufficient funds it will be possible to take up only 2 EDCs.
- 2. Development of capacity of the community** to identify the indicators of Resilience in Socio-ecological Production Landscapes (SEPL)
 - a. This has a potential for raising awareness of the concept of resilience in the field of sustainable development and
 - b. has potential to be one of the most effective tools for measuring the concept of resilience in the field of sustainable development.
- 3. Mapping reflecting the indicators** of landscape scale resilience and how it can

be improved by adopting the methodology developed under SATOYAMA initiative will be carried out. Instead of attempting to define an overall measure of resilience for SEPLS, an approach for monitoring SEPLS using a set of indicators will be designed to capture their essential attributes.

The 20 Indicators of Resilience in SEPLS will be designed to capture different aspects of key systems - ecological, agricultural, cultural and socio-economic. There will be used flexibly and customized to reflect the circumstances of each particular landscape and its associated communities.

4. Conduct of the inventory of biodiversity and ecosystem valuation with active participation of the local communities.

5. Lessons and knowledge generated by these activities can then be used to communicate local visions and strategies for resilient landscapes and productive ecosystems as input to the other protected area.

6.1 Strategy Design

The Satoyama concept would be piloted in two micro-watersheds of Badrama Wildlife Sanctuary and using the tested methods communities can increase their capacity to respond to social, economic, and environmental pressures and shocks, to improve their environmental and economic conditions, thus increasing the social and ecological resilience of their landscapes and biodiversity, ultimately make progress towards realizing a society in harmony with nature.

The specialized agencies will be engaged for undertaking the capacity development of the community for identifying the biodiversity resilience indicators, inventory of biodiversity and ecosystem valuation with active participation of the local communities. The detailed implementation plan shall be prepared by the PMC Biodiversity Specialist (National). A specialized agency will be procured to implement the activities as a package, according to the detailed implementation plan. The work shall be directly supervised and monitored by PMU.

Table: Activities and Applicable SATOYAMA Principles

Applicable SATOYAMA Principles	Proposed Activities	Mode of Implementation under OFSDP-II
Approach 1: Resource use within the Carrying capacity of the environment	Biodiversity Inventory and Creation of the Monitoring System including community based monitoring system	Specialized Agency, PMC, PMU/DMU
Approach 4: Multi Stakeholder Participation and Collaboration	Habitat Improvement Activities will be planned based on the identified species in the biodiversity inventory. 1) Intensive habitat improvement work in smaller areas (e.g. 500 to 1000 ha) so that to completely remove anthropogenic threats like fire, livestock grazing, tree cutting/lopping etc. 2) Improvement of the key habitat factors like water, grass/meadow cover, bamboo cover, fruit bearing plants etc. In case of birds, artificial nesting sites can be created to improve nesting frequency. 3) Awareness and campaign to get public support for conservation of species.	Specialized Agency, PMC, PMU/DMU

Approach 6: Improved Community Resilience	1) Creation of People's Biodiversity Register 2) The exercise should be undertaken in collaboration with Biodiversity Management Committee of the respective Panchayat. This will help the communities to understand the natural assets in their vicinity and monitor the changes. Necessary interventions shall be planned during the micro-planning process of the EDCs.	Specialized Agency/ Panchayat/ Local Biodiversity Management Committee
Approach 2: Sustainable use of Natural Resources	Alternative Livelihood Activities- 'agriculture based (i.e. Sustainable agriculture practices, reviving of the traditional food crops and farming practices and etc.)	Component 4: Livelihood Improvement/ In Convergence with OLM (As per component 4 Livelihood improvement in MoD)
Approach 5: Contributions to Socio-Economies	Identification of the biodiversity resilience indicators, inventory of biodiversity and ecosystem valuation	PMC Specialist (National). Development of capacity of the community to identify the indicators by expert/specialized agency.
Approach 3: Recognition of the Value and Importance of Local Traditions and Cultures	Revival of the Indigenous and Traditional Knowledge As part of the sustainable living, indigenous and traditional knowledge of farming and resource utilization can be documented and put into practice.	Component 7.4: PMU/PMC as per Publicity/ Communication

6.3 Proposed Intervention Design

Areas	Broad components	Output (s)	Provisional Budget for year (Lakhs)	Convergence Possibilities
Diagnostic study and Planning	Base situation Biodiversity and natural resources Livelihoods, asset, income etc. Institutional landscape: EDC, SHG, Secondary institutions and support service providers Product and market profile Micro plan	Base line prepared Micro plan in place	05	With universities for engaging interns
Promoting/ Strengthening Institutions at community level	SHGs, EDC, Farmer group, youth club, cultural group, user group promoted	CBOs build and in place	05	Agriculture dept. NABARD Youth and sports dept. Dept. Of Culture

Promotion of livelihood-I	<p>Agriculture Products: paddy, spices, pulses, millets, oil seeds and vegetable, millets.</p> <p>Horticulture Products: Jackfruit, Mango and custard apple</p> <p>Off-Farm Products: Dairy, Honey Bee, Mushroom, Poultry, local fishery</p> <p>NTFP: Medicinal plants, Char, Harida, Bahada&Amla within the village ring line</p> <p>Non-farm Products: processing of Paddy, Honey, Mango jelly</p>	Provision of input, appropriate technology, improved practices, new livelihood opportunities, processing activities initiated,	30	<p>Agriculture dept.</p> <p>NABARD</p> <p>Horticulture mission</p> <p>Dept. of Animal husbandry, Dairying & Fisheries</p> <p>OLM</p> <p>RD Dept.</p> <p>Millet Mission</p>
Promotion of Livelihood-II	<p>Kitchen garden</p> <p>Bio-compost, vermi-compost, Bio-gas</p> <p>Regulated Eco-tourism</p> <p>Micro nursery</p>	<p>Kitchen garden promoted</p> <p>Bio-compost units: bio-fertilizer and pesticide</p> <p>Ethnic house and watch centre</p> <p>Micro nurseries developed</p>	10	<p>Dept. of Tourism</p> <p>Dept. of Horticulture, Dept. of Forest & Environment.</p>
Capacity Building	<p>Need assessment from time to time</p> <p>Orientation, Trainings, Refreshers, Exposures, Demonstration and handholding</p> <p>Community Resource cadre</p>	<p>TNA paper</p> <p>CB events</p> <p>Resource cadres in place</p>	10	<p>NABARD</p> <p>SIRD</p>
Business Development Services	<p>Business Opportunity Guidance (BOG) and Business Plan</p> <p>Finance: Inclusion, Linkages</p> <p>Market: Linkages, information, supply chain management</p> <p>Infrastructure and Technology</p> <p>Techno-managerial Capacity</p> <p>Licencing, Branding, Patent</p>	<p>List of opportunity on different components</p> <p>Identified markets and the players</p> <p>Infrastructure (s) in place</p> <p>Whom to approach for what paper in place</p> <p>Market info & linkages</p>	15	
Convergence	<p>Supply side: Schemes and provisions</p> <p>Demand side: community needs</p> <p>Levers: Demand Generation, linkage</p>	<p>Individual/HH linked to entitlement, safety net and provisions</p> <p>Provisions for man animal conflict</p> <p>Natural resource management such as water, land etc.</p>	02	District Admn.

Infrastructure	Need assessed Resource mapped Community contribution Infrastructure development	Appropriate infrastructure in place (CFC for paddy processing, honey processing, Drying yard)	20	District Mineral fund NABARD Dist. Adm.
Interpretation Centre	Site finalization with stakeholders Design developed Lay out and the use indicated	Interpretation centre in place	10	Forest/Tourism Dept.
Promoting Local/ Traditional culture	Strengthen existing culture and revive the languishing one Promote culture that embedded biodiversity conservation Promote local art and craft	Identification of areas of promotions in place Culture champions identified Traditional and languishing culture agreed for promotion	08	Dept. of Culture
Man-Animal Conflict	Preventive measures: Solar fencing, Trenching Compasontary grant	Preventive measures in place	10	Forest dept.
Natural Resource Management	Land and soil management DLT Water harvesting	SMC & DLT WHS Plantation taken	20	Water Resource Dept. NABARD Agri. dept
IPSI Membership	Work out Eligibility Ready the institution Modalities	Membership applied	03	
Monitoring, Documentation and sharing	CMRV Documentation at FMU, DMU and PMU level Publicity: internal and external	Monitoring tools and process in place. Role and responsibility clarity of each stakeholder	15	
Evaluation	Mid-term	Internal	02	
Facilitation	Selection of an facilitating agency Terms of service designed	Agency selected and placed	15	
Management	Manpower and Management cost		10	
Total			190	

Note: A realistic intervention plan and design with budget forecast can be prepared after the diagnostic study.

6.4 Implementation Modalities

The proposed pilot will be implemented with the active participation of the community people. The EDCs will be strengthened to act as the nodal CBOs and SHGs will be capacitated to take up remunerative livelihood activities and take a key role in plus components such as culture

promotion, sanitation etc. Additionally, Youth clubs, Farmer groups and other user groups can be promoted as required. The pilot will be implemented by the Badarma range office team with the overall supervision and support of the division(DMU). PMU will provide the overall

technical guidance, financial support in form of **revolving fund** (to be renamed after developing the strategy and guidelines)/ may be **one time grant** and other type of funds to support EDCs in critical areas is required. Resources will be leveraged from line departments under convergence. Community will be in a lead role in planning, implementation and monitoring.

A partner NGO will be placed at the range level to facilitate the approved plan. The NGO will be required to place 2 to 3 persons as manpower support for facilitating the plan. It is required to have a resource person to facilitate the NRM and livelihood activities and a resource person to facilitate packaging, branding and marketing.

A third resource person is envisaged to take up social development, institution building, coordination, convergence and documentation. The PNGO should be engaged for a period of 3 years. The key task of the NGO will be to implement the pilot proposal of SATOYAMA in the target village. The PNGO will work at the FMU level and report to the DFO Bamra. The ToR and the detailed task of the PNGO will be defined based on the diagnostic study report.

There are EDCs in all the villages in the cluster, they need be strengthened and some SMC work taken up there by the DMU to avoid resentment among them, which may affect implementation of the pilot projects.

Diagnostic Study Framework outline

Key Domains	Areas of Exploration	Target Respondent
NRM	Land holding, type of land and quantity, use of different category of land, erosion, reasons of erosion, coping mechanism, traditional practices of land management, issues Map Water sources, seasonality, dependency, use of sources over calendar time, source ownership and management, issues Forest, access and dependency, issues including availability of NTFP within the village limit and its utilisation.	Villagers, Farmers, Agr. Extn. Officers, local forest staff, soil conservation dept through FGD, IDI, KII n SSQ
Livelihood: agriculture, Horticulture, animal husbandry, off-farm activities, handicrafts, processing activities,	Existing, emerging and languishing livelihood sources across farm, off farm and non- farm. Dependency on different sources and return from different sources, process of each livelihood activity, resources put for these activities, source of these resources, productivity, consumption and sale pattern, market, reach, BDS services (financial and non-financial), issues and challenges	HH level survey through SSQ
Social and Cultural	Literacy, category and caste, gender status, role of gender in socio-economic sphere, migration,	HH level through SSQ, FGD and KII
Institutional	Type of institutions present in the community and their service, participation, perception and contribution, capacity of people in driving these institutions, supports received, achievements, issues at management, resource and skill	CBOs, community people, support agency (if any) FGD and KII
Resilience	Shocks, typology, areas which the shock impacts, coping system	Community people through FGD

7. Outputs

- Individual Level: Improved skill and practices, improved access to information, access and realization of benefits of entitlement
- HH level: Improved asset and income, improved consumption, better participation
- CBOs: Strengthened CBOs like EDC & SHGs, new institutions like farmer group, user group, cultural group and youth clubs, greater role and participation
- Socio-Cultural: Revived traditional knowledge and practices, gender parity, improved access to schemes and provisions
- Livelihood: Improved existing sources in terms of input, method, technology, value. New opportunities

8. Outcomes

- Improved Resilience: Handle risks better, improved safety net, Improved Basic services, Improved adaptability
- Area level changes: Improved value chain, organic practices, better market linkages, improved infrastructure, plastic free zone
- Biodiversity: Improved bio-diversity, conflict between humans and wild animals minimized, natural resources management scientifically carried out.
- Organization, Networks and Policies: New and improved organizations, enabling policy environment for promoting biodiversity, resilience and livelihood.