

Ministry of Agriculture & Farmers' Welfare Ministry of Environment, Forest and Climate Change







Project Progress Report

Green- Ag Project, Odisha

Transforming Indian Agriculture for Global Environmental Benefits and the Conservation of Critical Biodiversity and Forest Landscapes









State Project Management Unit (SPMU) Directorate of Soil Conservation and Watershed Development Department of Agriculture and Farmers' Empowerment, Government of Odisha

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1. Executive Summary

The GEF funded Green Ag project is implemented in the Similipal Landscape in Odisha, covering 1650 villages of Mayurbhanj District. The Directorate of Soil Conservation and Watersheds Development is the implementing agency in Odisha. The Similipal Biosphere is a protected landscape comprising the Similipal Tiger Reserve, Similpal Wildlife Sanctuary, and Satkosia Reserve Forests and encompassing 17 Revenue Blocks. The project villages are primarily transitional villages and fall into six blocks: Thakurmunda, Jashipur, Karanjia, Udala, Kaptipada, and Samakhunta. Villages being predominantly inhibited by tribal populations.

Being a relatively large landscape, based on landscape assessment through geo-spatial analysis and secondary literature review 66 priority villages were identified for implementation of the project in the Phase I. The landscape approach drives the project implementation, and the villages were selected on a watershed basis.

A bottom-up approach is being adopted in the project to keep community interest, knowledge, and needs on priority. Being a residence of 15 tribal communities, the project implemented the free prior and informed consent (FPIC) process to take the consent of the tribal communities before initiating the project activities in the 66 villages. Community consultation was conducted for all villages in a cluster of 3-5 villages to understand issues and priorities and develop an action plan accordingly. The priority issues as opined by the communities were synthesized to develop the Green Landscape Management Plan (GLMP) with a clear approach to addressing them through the convergence of ongoing government schemes and sole interventions using Green-Ag project funds. The first GLMP is already in implementation.

At the landscape level, the project has adopted a robust institutional mechanism from the village implementation committees (VIC)at village level to the Technical Support Group (TSG) at district level to ensure timely support, monitoring, and sustainability of project intervention. At the state-level, in Odisha, two institutional structures were established the State Steering Committee (SSC) and State Level Technical Committee (SLTC) to provide strategic guidance for the overall success of the project. The SLTC was established only in Similipal Landscape, Odisha under the advice of the first SSC meeting to technical guide the project team.

2. Brief Introduction of the Green Ag Project

2.1 Project Implementation Agency in Odisha

- **Operational Partner**: For the smooth execution of the programme, IMAGE has been selected as the Operational Partner for Odisha and the agreement was signed between IMAGE and FAO on 09.09.2019.
- State Nodal Department: As the project adopts landscape approach, based on the experience of field implementation and the successful execution of watershed activities, the Directorate of Soil Conservation and Watershed Development (DSC&WD) has been designated as the Nodal Agency. To ensure implementation at the District level, the Project Director, Watersheds, Mayurbhanj has been appointed as the District Project Nodal Officer (DPNO) for the project.

2.2 Project Coordination & Governance Mechanism

- State Steering Committee: The State Steering Committee has been constituted vide office order no. 9571 dated 28.05.2019 under the Chairpersonship of the Agriculture Production Commissioner (APC), the State Steering Committee to oversees the project implementation.
- State Level Technical Committee (SLTC): Following the recommendation of the SSC, a State Level Technical Committee (SLTC) was formed under the chairpersonship of the Vice Chancellor of OUAT, as per office order no. 16193 dated 06.09.2019. This is state-specific initiative and provides the necessary technical guidance to the project.
- District Technical Support Group (TSG) Meeting: The Technical Support Group (TSG) at the district level has been established vide office order no. 9563 dated 28.05.2019. The TSG oversees project implementation and the convergence of line department schemes within the project landscape. The Chairperson of the TSG is the Collector & District Magistrate of Mayurbhanj.

2.3 Project Objective

The objectives at the landscape level are same as for the project level:

- ensure that farmers have the capacities and incentives/support to maintain and/or adopt environment friendly agriculture and land use practices
- Maintain and conserve biodiversity including agrobiodiversity, soil and water productivity and other services derived from nature (such as soil conservation and flood control, pollination)
- ensure sustainability of agricultural production

• improve rural livelihoods and enhance farmers' incomes

2.4 Project Components

The project has two components and both are at various stages of implementation in the landscape:

- Component 1: Strengthening policy frameworks and institutional mechanisms both at the national and at the state level.
- Component 2: Strengthening institutional frameworks at the district level and also working with communities on helping them in terms of adapting with agroecological processes.

2.5 Project Duration

- 01 April 2019 to 31 March 2026
- The project officially started on the first of April 2019, and it is a 7-year project with 6 years of implementation.

2.6 Total Budget & Co-finance for 6 years

- GEF Financing for: Odisha: USD 7918402 (% of total GEF financing)
- Co-financefrom Odisha: INR 852.593 crores (% of total co-finance) (for 6 years)

2.7Similipal Landscape, Odisha

Project landscape is located within the Mayurbhanj District and it includes the Similipal

Biosphere Reserve comprising of the Similipal Tiger Reserve, Similpal Wildlife Sanctuary, and Satkosia Reserve Forests. The landscape is very rich in biodiversity and is home to the Royal Bengal Tiger, the Asian elephant, Gaur Chousingha, and Mugger crocodile. Similipal is the only home of the unique melanistic tiger or the "black tiger". It is home to around 1286 flowering species including two orchid species that are endemic to Similipal.



This region also has notable diversity of indigenous rice varieties- *Rupapatia, Kantakarpura, Kalamkati, Janjalijata, Sarubhojana.* The region is also rich in a variety of millets, such as finger millet (ragi), Kodo millet (kodua), barnyard millet, spiked millet (bajra), etc. Additionally, legumes, oilseeds, horticultural crops, vegetables, spices, and condiments are grown in the landscape. The region is rich in wildlife, plants, and crops as well, but the landscape is witnessing various threats such as follows:

- Loss of agrobiodiversity high-yielding species replacing traditional varieties
- Conversion of forestland to other land uses such as agriculture, mining, etc.
- Unsustainable use of natural resources
- Human-wildlife conflict

Thus, the project is being implemented in the landscape to provide support to the agriculture sector and help protect the environment as well.

Adjoining Protected Area	Similipal Biosphere Reserve, Similipal tiger reserve				
District	Mayurbhanj				
Blocks	Bahalda, Badsahi, Bangiriposi, Baripada, Bijatala, Bisoi, Jashipur, Kaptipada, Karanjia, Khunta, Rairangpur, Kuliana, Kusumi, Samakhunta, Saraskana, Thakurmunda, Udala				
No of villages	1650				
Total Area	556900 ha				
High Priority Village Details					
High Priority Villages	66 in current phase-I				
No of Blocks	06				
No of Gram Panchayats	27				
Total Households	11911				
Total Population	53705				
Male	26754				
Female	26990				
Type of Indigenous Community	15 (Bhatudi, Bhumija, Bhuinya, Dehuri, Gond, Kolha, Khadia, Khandual, Mahali, Majhi, Matia, Munda, Santal, Saunti, Ujia)				

Fact Sheet of Similipal Landscape, Odisha

3. Project Implementation Mechanism

To carry out the project interventions, at the state level, a State Project Management Unit (SPMU) and at the district level, a Green Landscape Implementation Unit (GLIU) have been established with sectoral experts. The SPMU works in close coordination with the National Project Management Unit (NPMU) located at FAO for effective implementation of the project components and coordinates all monitoring and reporting tasks at the landscape level.

The **State Project Management Unit (SPMU)** has been established in April 2021 at the OWDM, Annex Building, Siripur, Bhubaneswar with a team of 5 consultants and one office attendant. **Green Landscape Implementation Unit(GLIU)** was established in April 2021 at Khetrapatna, Murgabadi, MayurbhanjDistrict comprising a team of 10 consultants from various disciplines as required for the project implementation along with support of 50 Community resource persons (CRPs) at village level for project implementation. Necessary steps are taken on a timely manner to equip both SPMU and GLIU with required human resources through the State established recruitment process as per approved protocols for smooth implementation of the project.

The SPMU and GLIU team works in tandem with government, communities and other stakeholders for smooth management of the project at State, District and Landscape level.

The SPMU and GLIU team were oriented and trained about the project framework, implementation structures and key interventions, etc. during the project orientation workshops held on 28th& 29th April 2021 by the various experts from NPMU/FAO.

4. Risk Management Strategy

The Green-Ag: Project is a 6 year cycle project from 2019- 2025. Even though the startup project activities initiated from 2019, the outbreak of COVID 19 impacted largely on delaying even the start-up activities like setting up of SPMU, GLIU and project procurements, etc. and accordingly programme implementation activities have been completely delayed. The limitations of travels and conducting workshops and meetings constrained the State units to undertake any field activities. Therefore it essentially required to revise the time line of activities to accomplish project targets in the remaining project period without a miss.

Accordingly the state specific risk management strategy and revised timeline for the project cycle w.e.f. 2021-26 has been prepared under the guidance of NPMU/FAO and approved in the 2nd SSC meeting held on 29th October 2021.

5. Glimpse on Status of Project Implementation

5.1 State Inception Workshop

A three days State Inception Workshop was held from 26th to 28th October in Odisha to orient State and District government officials on Green-Ag project. The workshop was



(OUAT), other research Institutions, SPMU and GLIU team) participated in the workshop, along with representatives from NPMU/FAO.

The State Project Inception workshop report is prepared by SPMU and uploaded in the Green-Ag web portal.

(greenag.nmsa.gov.in/pdfDoc/Reports/Od_I nception_Workshop.pdf). flagged by Hon'ble Minister, Agriculture & FE, Fisheries & ARD and Higher Education, Odisha in presence of 62 participants from key departments/organisations (Agriculture, Animal Husbandry, Soil Conservation, Horticulture, Biodiversity Board, Odisha University of Agriculture & Technology



5.2 District Level Project Inception Workshop

A three-day, district level inception workshop for the Green-Ag project was held from 25th to 27th April 2022 at the Prayas Conference Hall of Mayurbhanj District, Odisha. The purpose of the workshop was to orient and inform the district officials from different line departments, and the different stakeholders including, Green Landscape Implementation Unit (GLIU) team members and the newly recruited Community Resource Persons (CRPs) about the project.

During the three days of the workshop, participants were given an overview of the project and its implementation architecture, followed by detailed presentations on technical concepts on various project themes. Progressive farmers from the landscape also participated in the workshop and contributed their experience and knowledge from the field to shape project interventions suitably.

The Landscape level project Inception workshop report prepared by SPMU and uploaded in the Green-Ag web portal.

(greenag.nmsa.gov.in/pdfDoc/Reports/Od_GLIU_Inception_Workshop.pdf)



5.3 Project Coordination meetings of SSC, SLTC, and TSG

Meeting Details

Coordination Committee	Frequency of the Meeting	2019	2020	2021	2022	2023
State Steering Committee (SSC)	Half –Yearly	26.07.2019		29.10.2021	06.06.2022	29.04.2023
State Level Technical Committee (SLTC)		17.10.2019	17.02.2020	27.04.2021	04.02.2022	18.01.2023
Technical Support Group (TSG)	Quarterly	22.10.2019		24.12.2021	20.07.2022	24.03.2023 07.07.2023



The meeting notice, agenda and proceedings and a note of the meeting is uploaded on the project website and can be accessed at the link: (<u>Green-Ag (nmsa.gov.in)</u>

5.4 Landscape Assessment

5.4.1 Geospatial analysis

Geospatial analysis which included temporal and spatial data on land cover and change in land use, terrain characteristics, water bodies, forest cover, cropping patterns, population density, etc. was done at the landscape level by the Satsure, external agency engaged by the NPMU (when was it done and by whom). Data was collected for three-time intervals, 2009, 2014 and 2019. Being done at the landscape level, these data sets give a more realistic picture of the ground.

5.4.2 Secondary Literature Review

Secondary literature review of the reports and statistics published by the Government Departments, at National and State level such as the Census (2011), Agriculture census, Agriculture input survey, Groundwater yearbook, District statistical handbook, etc. was done by Dr.Arun Mani Dixit, Consultant, NPMU on during March 2022-23. In these reports some of the data sets were available at the state level, some at the district level, and some at the block level. Also, the data years were different, hence it was difficult to compare the findings from the secondary literature review report with the findings from the geospatial analysis.

5.5. High Priority Area Identification

Based on the findings from geospatial analysis and secondary literature review, 66 high-priority villages were identified in the project landscape on a watershed basis. These villages were approved during the 3rd Technical Support Group (TSG) meeting held on 20.07.2022. The high priority villages are located in six blocks, namely Karanjia, Udala, Shamakhunta, Jashipur, Thakurmunda, and Kaptipada.

The team in consultation with the NPMU is in the process of identifying another set of the high priority villages for phase II on the same methodology. The team is targeting to cover at least 20% of total villages in the landscape during the entire project period.

5.6 Free prior informed consent (FPIC)

The process of obtaining consent from indigenous (tribal) community for project planning and implementation in their village is known as Free, Prior, and Informed Consent (FPIC). It is an iterative process and not a one-off event, involving a series of consultations, dialogues, exchanges, and interactions between the project representatives and the local indigenous peoples throughout the project cycle before arriving at a decision.

The FPIC process in the Similipal Landscape, was planned to be implemented in three phases, with two steps in each phase:

PHASE 1: IDENTIFICATION AND COMMUNITY DISCUSSION

Step 1: Stakeholder Mapping- Identification of tribal communities and their leaders in the village

Step 2: Meeting with the Tribal Leaders and communities

PHASE 2: RESOURCE MAPPING, GRIEVANCE REDRESSAL AND CONSENT

Step 3: Participatory resource mapping (PRM)

Step 4: Grievance redressal and consent (an agreement)

PHASE 3: MONITORING AND DOCUMENTATION:

Step 5: Participatory monitoring and evaluation of the agreement

Step 6: Document lessons learned and achievements.

The Free Prior Informed Consent (FPIC) process was conducted in the priority Villages from 26th July 2022 to 22nd November, 2022, with active participation of tribal community members. The mandated FPIC process was undertaken smoothly by conducting total of 329 meetings in the priority villages.



After detailed discussions about the Green-Ag project, the community members of all indigenous groups expressed their willingness to implement the Green-Ag Project in their village. The community leaders of the Bhatudi, Bhumija, Bhuinya, Dehuri, Gond,

Kolha, Khadia, Khandual, Mahali, Majhi, Matia, Munda, Santal, Saunti, Ujiatribes signed the consent form and declared their commitment to extending necessary support for the smooth implementation of the project activities in their villages.



5.7 Village Implementation Committee (VIC)

The Green-Ag project promotes a multi-sectoral initiative that involves the collaboration of various stakeholders, including government entities, Self Help Groups, and Farmers Producer Organisations, to assess the condition of their landscape. Community being the drivers of the project at village level, 66 Village Implementation Committees (VICs) has been constituted,including769 members (426- Males and 343 females), along with 442 ex-officio members in the priority villages of the Similipal Landscape. Furthermore, 45% of the VIC members are women. These committees comprise representatives from diverse key stakeholders, including field functionaries, community institutions, and farmer collectives. The Chairperson of the VIC is the Sarpanch of the village.

The VICs play a crucial role in evaluating community consultation findings, identifying landscape strengths and weaknesses, addressing issues and challenges, reconciling differences, providing support in developing Green Landscape Management Plans, overseeing the implementation, monitoring implementation, providing course corrections, and promptly informing the project team about any issues or challenges faced. The VICs have been institutionalized with regular monthly meetings and their proactive role in monitoring the project and support the implementation at village level. There were 528 VIC meetings conducted from January 2023 to August 2023 in the priority villages.

The World Environment Day was celebrated on 5th June 2023 in the project villages of Mayurbhanj, Odisha. Village Implementation Committees (VICs) held meetings in Gundihudi, Nabara, and Khandiadhar villages to discuss pro-environmental schemes and initiate sapling planting for World Environment Day. The meeting involved Sarpanch, VIC members, and Line department staff. A tree plantation drive was held in localities, involving villagers planting Jack fruit and Acacia in private fallow lands.



5.8. Community Consultation

The project conducted Community consultation as a tool to engage with communities specifically indigenous communities to identify issues, priorities and actions required to address those issues. NPMU/FAO supported the teams to understand the process and carry out the exercise at field level. The SPMU and GLIU further trained the CRPs and the Community consultation process was carried out 27th& 28th September 2022.

The community consultation process covered 18 clusters, each comprising 3-5 villages, encompassing 66 priority villages within the Similipal Landscape. Subsequently, a detailed consolidated report was prepared.

While conducting community Consultation, the finding of geospatial analysis and secondary literature review were presented to the communities at the cluster level that helped the team to gather community opinion on validation of the changes and issues of importance in the landscape across sectors.



5.9 Green Landscape Management Plans (GLMPs)

As per the project result framework, Green landscape management plan (GLMP) is to be developed for the project villages incorporating community level issues, priorities and action plans as opined during community level interactions. The comprehensive plan for district will be then prepared which should have a convergence of Government of Odisha's schemes relevant to the project objective. The GLMP must be endorsed by the TSG at District level.

Building upon the key insights garnered from the community consultation, a comprehensive Green Landscape Management Plan (GLMP) was prepared in consultation with the NPMU and approved in the Technical Support Group (TSG) meeting held on 24th March 2023. The Green Landscape Management Plan (GLMP) is in implementation since Rabi-2022.

In the first phase GLMP was approved with an estimated fund outlay of Rs. 20.15 Crore (Convergence 19.18 Crore, Green Ag Rs 0.62 Crore & Farmers Contribution Rs 0.35 Crore). Further, an increased fund outlay of Rs 2.54 Crore (Convergence Rs 1.74 Crore, Green Ag Rs 0.78 Crore & Farmers Contribution Rs 0.02 Crore) is approved for added activities in the 5th TSG meeting held on 7th July 2023 for implementation in the kharif season 2023.

5.10 Implementation of the GLMP (From November 2022)

5.10.1 Interventions for improved agriculture and livestock practices.

Through the Rabi crop interventions, 185 households have adopted paira cropping for pulses, a practice aimed at enhancing nutrient management and soil conservation. This approach ensures a sustainable and nutritious food source for their families. Additionally, 880 households have received doorstep nutrition services.

A total of 33,815 livestock, owned by 4,485 households, have been successfully vaccinated, contributing to their overall health and well-being.

Furthermore, 1,400 indigenous poultry have also received vaccinations during this period, bolstering the poultry health in the area.

The project supported 5,000 subabul fodder saplings to 219 livestock keepers for improving the availability of fodder for livestock.

5.11 Support to NPMU for developing the Spatial Decision Support System (SDSS)

5.11.1. Preparation of agriculture crop matrix (Mustard, Green gram, Chickpea & Lentil)

The farmers of the project villages grow various crops of pulses, oil seeds and vegetables in the rabi season. Zero tillage practice is very much prevalent in the area which is treated as agro ecological practices to reduce soil erosion and augment soil moisture conservation. Looking at such crop practices prevalent in the area, A crop suitability matrix for mustard, green gram, lentil and chick pea is under progress with consideration to agro-ecological factors, soil conditions etc to provide right information to the farmers in time for eco-friendly agriculture practices.

5.12.Curriculum Development Workshop for the Farmer Field School on Sustainable Agriculture

A two-day workshop to develop an enterprise-centric curriculum for the Farmer Field School (FFS) on sustainable agriculture was organized on February 16 and 17, 2023 at the Green Landscape Implementation Unit (GLIU) Office, Baripada, Mayurbhanj. The representatives of relevant line departments - Agriculture, Horticulture, Soil conservation, Forest, scientists from KrishiVigyan Kendra (KVK), progressive farmers, National Project Management Unit/ FAO, State Project Management Unit (SPMU) and Green Landscape Implementation Unit (GLIU) and the Community Resource Persons (CRPs) participated in the workshop.

The participants discussed and suggested the best environmentally friendly agriculture practices for Kharif Paddy and Rabi Chickpea along with livestock products like Black Bengal goats in the landscape under the guidance of Shri SudhakarYerrakonda, FFS Specialist, NPMU.

The workshop concluded by identifying a list of sustainable good agriculture practices for Paddy and Chickpeas for the Simlipal landscape, Mayurbhanj district.

The curriculum on Kharif paddy was developed as an outcome of the workshop by the FFS expert of the NPMU. These SPMU and GLIU got the curriculum vetted and validated by the KVK scientist of the landscape. The FFS in the landscape will be conducted for paddy crop in Kharif season and chickpeas inrabi season. As per the curriculum, each FFS will have 6 sessions on various crop development stages to be covered during each cropping cycle.

5.13 Farmers Field School (FFS) on Sustainable Agriculture

The project team is currently conducting 44 Farmers Field school (FFS) in cluster mode covering all 66 villages. In each FFS session, 25-30 farmers participate to learn about different stages of paddy crop cultivation in the kharif season of 2023. The first session which focused on Land Preparation of Rice (DSR) and sowingof the 44 Farmers Field School (FFS) hasbeen completed and the second session (vegetative stage – insect pest management)is currently underway with the same group of farmers. 1320farmers are participating in the FFS for paddy Cultivation and have applied the acquired knowledge to enhance their paddy crop cultivation. Handouts andbrochures in theodia language on the content of the training has been prepared to facilitate the FFS.

5.14 Curriculum Development Workshop for Farmer Field School (FFS) on Livestock Management:

The curriculum development workshop for Farmer Field School on on Livestock Management was organized from 18.07.2023 to 19.07.2023 at the RKVY Resource

Center in the O/o-P.D. Watershed, Mayurbhanj, Odisha. The workshop was conducted develop a livestock product centric curriculum including livestock rearing to value addition and market access. The Chief District Veterinary Officer of Mayurbhanj, Block Veterinary Officer (BVO) of six Green-Ag blocks, Project Director Watersheds, Mayurbhanj,



Fodder Development Officer, Progressive Farmer, and representatives from the National Project Management Unit (NPMU)/FAO, Green Landscape Management Unit



(GLIU), and Community Resource Persons (CRPs) attended the workshop.Note on workshop can be accessed at Green-Ag (<u>Green-Ag</u> (<u>nmsa.gov.in</u>)

The draft curriculum on Goat, Poultry, and Dairy was developed by the FFS expert of the NPMU. A convergence meeting on the

implementation of FFS on livestock was conducted on August 29, 2023, at 4:00 PM,

under the chairpersonship of the Project Director of Watersheds cum DPNO, Green-Ag Project, Mayurbhanj. The meeting was attended by the CDVO, ADVO, BVOs, as well as members of GLIU and SPMU.

5.15. Field School (FS) on Green Landscape Governance

The Field School on Green Landscape Governance consists of three modules that encompass diverse aspects and information related to natural resources and their governance at the local level. The capacity building of SPMU, GLIU, and CRPs have been successfully completed.

The FFS sessions on green landscape governance were conducted for all VIC (Village Implementation Committee) members at the village level. All three modules of the Farmers Field Schools (FFS) on green landscape governance were covered, with a total of 769 members (426 males and 343 females) from May 2023 to July 2023.

5.16 Study and State Policy Dialogues

The project team in Similipal Landscape used various platforms State Level Technical Committee (SLTC), Technical Support Group (TSG) to brainstorm and identify specific topics for the studies and policy dialogues relevant to the state and Similipal biosphere.

6 study topics and 4 State Policy Dialogue topics have been approved in the State Steering Committee (SSC). The team is engaged with four government and ICAR institutions for conducting two studies and two Policy dialogues.

Approved topics of Studies and State Policy Dialogues

Studies

- 1. Assessment of water yield ecosystem services affecting agriculture practices and on farm livelihoods in Similipal Tiger Landscape, Odisha
- 2. Studies on Indigenous Traditional Knowledge (ITK) and Biodiversity (BD) conservation.
- 3. Study on nutritional analysis & microbial diversity associated with local land races of selected crops and commodities in Similipal landscape
- 4. Study on impact of conservation agriculture production systems (CAPS) on soil fertility, productivity and economics in Similipal biosphere
- 5. Studies on incentives for environment friendly agriculture

6. Studies on alternative energy sources for maintaining sustainable forest ecosystem

State Policy Dialogues

- 1. State Policy dialogue on Agrobiodiversity Conservation and promotion of indigenous varieties.
- 2. State Policy dialogue on promotion and conservation of indigenous livestock breeds.
- State policy dialogue on developing Odisha Holistic Land Utilization Policy" in line with draft National Land Utilization Policy with due consideration to land capability classification and other state specific concerns
- 4. State Policy Dialogue on "Mainstreaming biodiversity into agriculture sector for increased food and livelihood security".

5.17 Green Eco clubs:

Thirty-one primary and secondary schools with eco clubs have been mapped in the priority villages for the implementation of various awareness programs through these platforms. Budgetary provisions have been approved through the GLMP in the TSG meeting. The first draft brochure on the Eco Club has been developed and shared with the NPMU, and further revisions are underway based on the input from the NPMU.

6. IEC and Media Gallery

To foster a comprehensive understanding of the Green-Ag Project and its methodologies among diverse stakeholders at the State, District, Block, and Community levels, an array of communication and Information, Education, and Communication (IEC) materials have been meticulously crafted. These materials have been developed following extensive consultations with the National Project Management Unit (NPMU). The team has translated the English versions into Odia Language for wider distribution in the landscape. The range of materials includes:

- Brochure on Green-Ag in English and Odia
- Fact sheet of Green- Ag Project in English and Odia
- Brochure on Village Implementation Committee (VIC) in English and Odia
- Handouts elucidating Kharif Paddy practices in Odia
- Brochure detailing the Control Breeding Programme of indigenous Cows in English and Odia

- Handouts on preparation of Organic manures like Jeevamruta, Panchagavya, Handikhat, and Neemastra in English and Odia
- State Level Project Inception Workshop report
- Landscape Level Inception Workshop report
- State Communication Plan of Odisha
- Free Prior Informed and Consent (FPIC) report
- Consolidated report of Community Consultation
- Handoutson the Community Consultation process for preparing the Green
 Landscape Management Plan in Odia
- Handouts on Landscape Governance in Odia
- Template for Household surveys in Odia

Sign board of the Green-Ag project is installed at strategic location in every village to inculcate a sense of ownership among the community.

Timely efforts are taken to update event and important activities details through Green-Ag Project's website and the Departmental websites for larger dissemination of the information.

Snapshots of IEC Materials









7. Budget and Expenditure

To ensure the seamless implementation of project activities, a comprehensive Annual Work Plan and Budget has been developed for the financial years 2019–2020, 2021–2022, 2022–2023, and 2023–2024. This plan has been meticulously prepared in collaboration with the National Project Management Unit (NPMU), the Food and Agriculture Organization (FAO), and subsequently approved by the State Steering Committee (SSC).

For effective and timely execution, a detailed breakdown of expenditures planned on a monthly and quarterly basis. This meticulously structured expenditure plan is closely monitored and adjusted as needed. The present annual work plan & Budget (AWPB) 2023-24 with a budget outlay of 7.33 crore is approved by SSC and in implementation. Breakdown of the budget and expenditure for each year is provided below.

8. Field Visit of FAO RAP officials, Green- Ag, Odisha

Dr Sheila Wertz-Kanounnikoff, Senior Forestry Officer and Lead Technical Officer (LTO), Mr. Pierre Ferrand, Agriculture Officer (Agroecology) and alternate LTO for Green-Ag project from FAO RAP along with Mr R.B. Sinha, National Project Director and Dr Divya Shah, NRM & Biodiversity Specialist, NPMU visited Odisha from 4th – 8th September 2022.

During the visit, the FAO team met various officials at state and district level and discussed various issues pertaining to the project. The officers with whom discussion held included Dr.Arabinda Kumar Padhee, IAS, Principal Secretary, Department of Agriculture and Farmers' Empowerment; Mr.Hemant Kumar Panda, Director, Soil Conservation and Watershed Development; Mr Prasant Kumar Patnaik, Director, IMAGE, Mr.Vineet Bhardwaj, IAS, Collector and District Magistrate-cum-Chairman, TSG, Mayurbhanj, Mr. T Ashok Kumar, IFS, Field Director, Similipal Tiger Reserve, and Mr. B.S. Kalo, Project Director Watersheds cum district project nodal officer, Green-Ag, Project, Mayurbhanj. The FAO team also held discussion with the GLIU and the SPMU teams.

The team visited four villages, Kadamsule (Kaptipada block), Nabara (Udala block), Sansule and Godipokhari, and (Shamakhunta block) in the landscape to understand the landscapes, review the project implementation progress including FPIC and interact with the communities to understand the problems being faced by them, their concerns and also the expectation of communities from the project.





Annexure – 1

Brief findings from the geospatial analysis are as follows:

- **Deciduous Forest** is the **largest** category of land use in the Landscape area, followed by Cropland, Current Fellow, Wasteland and others.
- From the year 2009 to 2019, there has been a significant reduction in area under wasteland (4156 Ha.), Deciduous Forest (3106), and cropland (1763 Ha.). At the same time, the area has increased under Scrub forests (4377 Ha), Forest plantations (2192 Ha.), and Agricultural Plantation (1033 Ha.).
- Most of the built-up area is observed in Udala and Baripada tehsils. The net change in the built-up area is an increase of 531 Ha between 2009 and 2019.
- Overall **forest area** is increased by 3255 Ha. between 2009 to 2019 where marginal **decrease** in area is reported in evergreen and deciduous forests.

The overall area under **ponds** and **dams** has been **increased** by 820 Ha. between 2009 to 2019. Most of this increase has been shown in Bisoi and Kaptipada tehasils of the project landscape.

Annexure - II

Brief findings from the secondary literature review are as follows.

- According to long-term rainfall data (1901-2000), the average annual rainfall is 1629.9 mm in the district.
- Area under scrub forest has increased from 103 sqkms (2005-06) to 189 sqkms (2015-16) in the district.
- According to the Agriculture Census, the net sown area has decreased by 6580 ha between 2005-06 and 2015-16 in the project blocks.
- According to Agriculture Census, the area under irrigation has decreased from 22.3% to 17.3% from 2005-06 to 2015-16 in the project blocks.
- Area under HYV has increased significantly from 35.4% to 68.6% of the total crop area between 2001-02 to 2011-12 in the district.
- Overall use of chemical fertilizers for both HYV and non-HYV crops has increased i.e., 78.6% to 90.7% for HYV crops and 35.6% to 63.8% for other crops in the district.

Annexure – III

Village Implementation Committee (VIC)

SI. No	Name of Block	Name of GP	Name of Village	Total VIC Members	Total Ex	Grand Total
110.	BIOOR		Thage	Members	Members	Total
1	Jashipur	Jashipur	Anukulpur	13	5	18
2	Jashipur	Podagada	Kasipal	9	5	14
3	Jashipur	Podagada	Badjhili	9	3	12
4	Jashipur	Durdura	Begunia	11	11	22
5	Jashipur	Dhalabani	Badsole	11	5	16
6	Jashipur	Matiagarh	Kankadani	13	10	23
7	Jashipur	Jashipur	Jashipur	16	7	23
8	Jashipur	Durdura	Kadalibadihill	5	3	8
9	Jashipur	Durdura	Handipuhan	9	5	14
10	Jashipur	Podagada	Tulasibani	13	4	17
11	Jashipur	Jamdasahi	Padampur	15	4	19
12	Kaptipada	Nududhia	Kukurdima	11	3	14
13	Kaptipada	Nududhia	Pataldiha	11	3	14
14	Kaptipada	Nududiha	Nuagan	15	7	22
15	Kaptipada	Kolialam	Kolialam	13	11	24
16	Kaptipada	Badkhaladi	Nuasahi	11	7	18
17	Kaptipada	Debla	Gandidhar	11	9	20
18	Kaptipada	Debla	Debla	11	11	22
19	Kaptipada	Kolialam	Kadamsul	11	9	20
20	Kaptipada	Pedagadi	Gothopura	7	3	10
21	Karanjia	Batapalsa	Purunapani	11	10	21
22	Karanjia	Miringinendi	Panaspal	11	13	24
23	Karanjia	Miringinendi	Gudidiha	9	11	20
24	Karanjia	Badagaon	Sarada	11	5	16
25	Karanjia	Badagaon	Sanagan	11	4	15
26	Karanjia	Rasamtala	Jharbeda	11	13	24
27	Karanjia	Batapalsa	Batapalsa	11	11	22
28	Karanjia	Badagaon	Badagaon	13	11	24
29	Karanjia	Badagaon	Khandiadar	11	11	22
30	Karanjia	Badagaon	Ranipat	11	8	19
31	Karanjia	Badagaon	Kadamadak	11	5	16
32	Samakhunta	Baunsabilla	Baunsabilla	15	10	25
33	Samakhunta	Kuchilaghati	Godipokhori	13	7	20
34	Samakhunta	Gundihudi	Dangarsahi	13	7	20
35	Samakhunta	Gundihudi	Dudhiasole	15	9	24
36	Samakhunta	Sirishbani	Sudiam	13	9	22
37	Samakhunta	Rangamatia	Badsole	13	10	23
38	Samakhunta	Rangamatia	Sansole	15	13	28
39	Samakhunta	Rangamatia	Sapanchua	15	11	26
40	Samakhunta	Gundihudi	Chandanpur	15	13	28

SI. No.	Name of Block	Name of GP	Name of Village	Total VIC Members	Total Ex officio Members	Grand Total
41	Samakhunta	Gundihudi	Gundihudi	15	10	25
42	Thakurmunda	Hatigoda	Jamudiha	11	4	15
43	Thakurmunda	Hatigoda	Sanmohuldiha	13	4	17
44	Thakurmunda	Padiabeda	Ambabeda	16	6	22
45	Thakurmunda	Padiabeda	Dangasila	13	4	17
46	Thakurmunda	Khandabandh	Khandabandh	9	4	13
47	Thakurmunda	Hatigoda	Kadapani	9	8	17
48	Thakurmunda	Hatigoda	Kaliajiani	11	9	20
49	Thakurmunda	Khandabandh	Baliposi	11	0	11
50	Thakurmunda	Saleibeda	Badmanuidina	11	6	1/
51		Saleibeda	Dangapani	11	5	10
52	Thakurmunda	Hatigoda	Asankudar	9	1	10
53	Thakurmunda	Khandabandh	Bholpada	9	5	14
54	Thakurmunda	Khandabandh	Gourigoda	11	6	17
55	Thakurmunda	Khandabandh	Keloposi	11	9	20
56	Thakurmunda	Padiabeda	Sanrugudibeda	8	4	12
57	Thakurmunda	Padiabeda	Boring	10	4	14
58	Thakurmunda	Khandabandh	Tikarpada	10	0	10
59	Thakurmunda	Kendujiani	Padhiarsahi	11	6	17
60	Thakurmunda	Saleibeda	Jamuposhi	11	3	14
61	Thakurmunda	Saleibeda	Khaparkhai	13	3	16
62	Thakurmunda	Khandabandh	Bhairanibeda	9	5	14
63	Thakurmunda	Khandabandh	Raipada	9	5	14
64	Udala	Bahubandh	Bahubandh	15	3	18
65	Udala	Bahubandh	Nabra	13	7	20
66	Udala	Bhimtali	Jalda	17	5	22
Total				769	442	1211

Annexure – IV

Key findings from community consultations

- Area under agriculture has been decreasing in the project landscape. Main reasons highlighted for this reduction are population growth, construction of roads and other projects, increasing area under the settlement etc. This has led to increased unemployment, reduction in production, reduced income levels, and food scarcity.
- There has been mixed response to the change in area under forests, wherein in some villages, the community has highlighted the increase in area under forests and in others, they have mentioned of the reduced area under forests. Climate change has been highlighted as one of the impacts due to the reduction in the forest area. Increasing wild-life conflicts, lack of availability of fire-woods, and decrease in the availability of NTFP are some of the challenges emerging due to change in forest areas.
- Community in all the villages have mentioned a decrease in grasslands, which has resulted in the reduced area for animal grazing and rearing.
- Changes in the availability of water in major water sources have been revealed by the community. The groundwater table has been depleted, the community faces water scarcity during the summer season. Additionally, in some of the villages increased water pollution has been mentioned due to the throwing of dead animal bodies in water sources, bathing of animals and also due to increased use of chemical fertilizers and pesticides in the field.
- In all the consultations, it has been highlighted that summer temperature has increased, winter temperature has decreased and rainfall has decreased over the period of time due to climate change. These changes have led to different challenges such as extreme weather conditions, irregular rainfall, losses of crops, and the occurrence of newer diseases and pests in the crops.
- Most common NTFPs available in the project landscape are Sal, Mahua, Kusum, Honey, and Resins. Availability of NTFPs has decreased due to deforestation and restriction to access forest areas. Some of the communities, which have got most impacted due to reduced access to forests are Bhumija, Santala,Khadia, Ho, Saunti, Duma, Behor, Bathudi, Kolha, Gonda and Majhi.
- In the project landscape, except in a few villages (where community consultation was done) other villages have Joint Forest Management Committees (JFMCs).

These Committees are playing roles in various activities such as giving permission to collect dry leaf in summer, controlling for grazing of domestic animals, steps to stop forest fires, Prevention to stop tree cutting, steps to improve economic conditions of villagers, making trench bund, and cross bund, stop free supply of wood for cremation etc.