



Joyful Nessa, one of the successful fish rearers through sustainable aquaculture in Assam.  
Farmer Institution: Lajuki SHG, Manikpur block, Chirang, Assam, India



# Empowering Fish Farmers Through Sustainable Aquaculture

Sustainable Aquaculture for Food and Livelihood (SAFAL)



# Sustainable Aquaculture for Food and Livelihood (SAFAL)

On behalf of the German Federal Ministry for Economic Cooperation and Development (BMZ), the Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH implements the Indo-German Development Cooperation Project 'Food Security through Integrated Aquaculture' (EIAA) in cooperation with the Ministry of Fisheries, Animal Husbandry and Dairying (MoFAHD), Government of India. EIAA is part of the Global Programme on Sustainable Fisheries and Aquaculture (GP Fish) under the Special Initiative "Transformation of Agricultural and Food Systems" by BMZ. The project is locally known as "Sustainable Aquaculture for Food and Livelihood", hereafter referred to as SAFAL.

The project aims to increase the production of fish from sustainable aquaculture along with the associated increase in income and demand for labour. The political and institutional framework conditions for the implementation of sustainable and resource-saving aquaculture shall be improved while complementing various Indian government schemes, especially the Pradhan Mantri Matsya Sampada Yojana (PMMSY).



The project promotes the availability and access to fish as a nutrient-rich food, contributing to Sustainable Development Goal (SDG) 2 (Zero Hunger) as well as to SDG 1 (No Poverty) through productivity enhancement activities, improved business skills and promotion of income generating activities for small-scale fish producers, Farmer Producer Organisations (FPOs), multipliers and policymakers.

**OBJECTIVE:** Improving food security by enhancing fish production and income levels from sustainable and resource-saving aquaculture in ponds.

## More Fish



Kilogram fish production has increased

## More Income/Jobs



Average income has increased in selected value chains

## FAO Measures



Sustainable and resource-efficient aquaculture policy inputs are integrated in policies and programmes of government



# Partner Organisations

## Government Partners



Ministry of Fisheries, Animal Husbandry and Dairying (MoFAHD), Government of India (National Lead); State Departments of Fisheries, Assam and Odisha

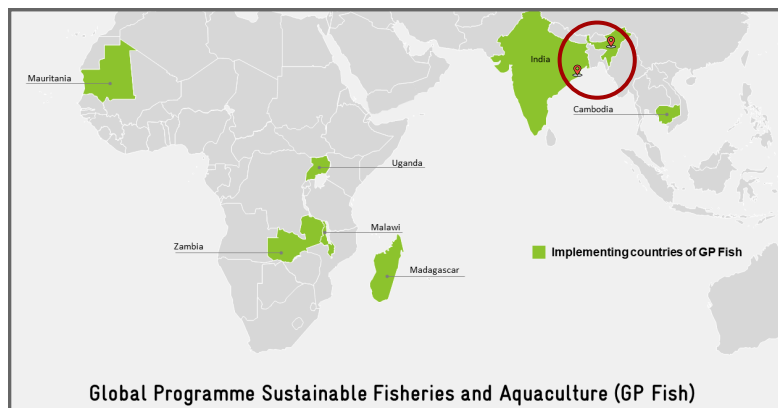
## Project Partners (Assam)



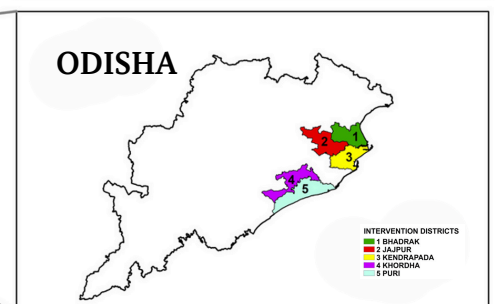
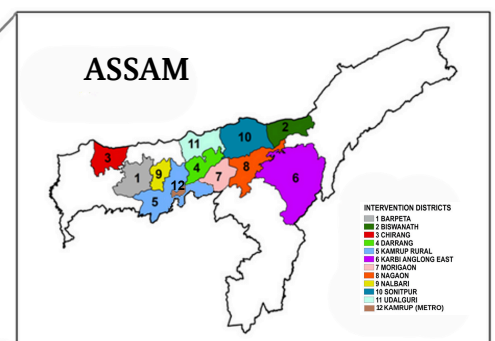
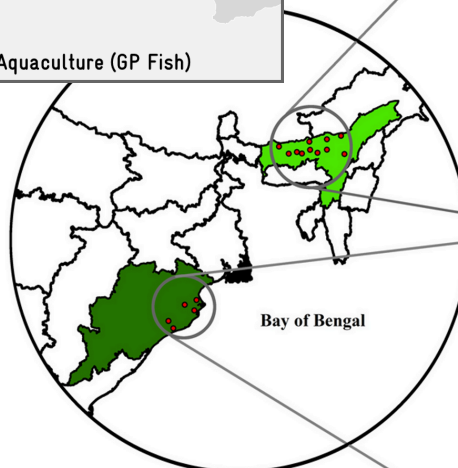
## Project Partners (Odisha)



# Where we work



## INDIA



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# Project Highlights

Project duration: May 2021 to July 2025

## GOVT SCHEMES: PMMSY AND STATE SCHEMES

- PMMSY and State Livelihood Mission
- Improve the reach out and access to schemes via Community Information Centers and Satellite Centers for FPO members.
- Facilitate forward and backward linkages.
- Strengthen Farmer Institutions for the development of sustainable business models.



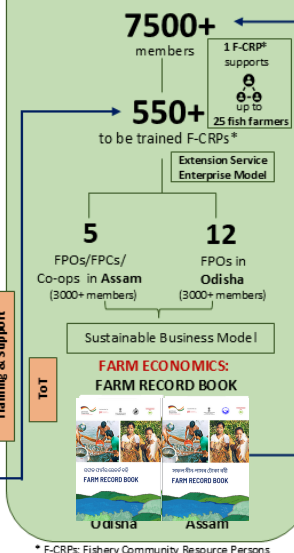
Capacity Building of DoF officials and block staffs, Assam and Odisha

## POLICY DIALOGUE AND ADVISORY: MULTI STAKEHOLDER PLATFORM (MSP)



- MSP Secretariat formed in Assam and Odisha.
- Support policy-level decisions at the state level.

## REPLICABLE & SCALABLE MODEL BUILDING



## AQUA ENTREPRENEURSHIP INITIATIVE

1000

Aqua-Entrepreneurs identified



17

FPOs

11

Assam districts

5

Odisha districts

## QUALITY ASSURANCE AND NATURAL FARMING: PGS CERTIFICATION

Participatory Guarantee System (PGS) for freshwater sustainable aquaculture; implemented with 500 women farmers in Morigaon district, Assam to promote natural farming of IMC.



Convergence with PGS India to incorporate freshwater aquaculture into their operational manual.

## KNOWLEDGE PRODUCTS (CO-CREATED)



- Trainers Manual
- Farmers Handbook
- IEC Materials
  - Posters
  - Flipbooks
  - Pamphlets



Comprehensive Training & Support

# Synergy Initiatives



Biodiversity



Knowledge continuity



Nutrition



Farming as Business



Energy



Self-Employment

Project 'NERAQ'<sup>1</sup>, GIZ India

APART<sup>2</sup> (Fishery)

WorldFish

Department of Fisheries, Assam, Assam State Rural Livelihood Mission (ASRLM)

Project 'PSWP'<sup>3</sup>, GIZ India

Project 'ERADA'<sup>4</sup>, GIZ India, Department of Fisheries, Bihar, JEEViKA, MGNREGS.

2022

2023

- Assam State Fishery and Aquaculture policy inputs for management of natural water bodies.
- Use of knowledge products and support in training activities and capacity building.

- Knowledge transfer and adoption of knowledge products for 4 FPCs under APART intervention areas.
- Training and capacity building of selected aqua entrepreneurs from intervention areas.
- Awareness programme on Small Indigenous Species (SIS) nutrition and carp-mola polyculture.

- Tripartite MoU, 2023 on establishment of Aquaculture Business School (ABS) for empowering farmers on business decision making and risk handling.
- 1700+ women fish farmers trained by 15 ABS trainers in FY 24-25.

- Incorporation of Decentralised Renewable Energy (DRE) models in Assam State Fishery and Aquaculture policy.
- Training on DRE technologies to CRPs and Aqua-entrepreneurs.
- Multi-Stakeholder Platform (MSP) development support.

- Publication on carp-mola polyculture
- Training of CRPs and CRP Trainers on nutritional health benefits of SIS and economics of carp-mola polyculture
- Exposure visits to WF-SIS hatcheries

- Contextualisation of knowledge products and translation of IEC materials to Hindi language for easy adoption.
- CRP model in Araria district, Bihar and training of CRPs as per Assam model.

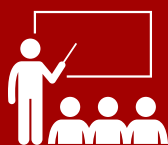
<sup>1</sup> Project 'Protection and Sustainable Management of Aquatic Resources in the North-Eastern Himalayan Region of India (NERAQ)', GIZ India

<sup>2</sup> Assam Agribusiness and Rural Transformation Project (APART)

<sup>3</sup> Project 'Promotion of Solar Water Pumps (PSWP)', GIZ India

<sup>4</sup> Project 'Enhancing Rural Resilience Through Appropriate Development Actions (ERADA)', GIZ India

# Project SAFAL Approach



## Knowledge adoption and sustainable tools

Through dynamic resource kiosk on Sustainable Aquaculture (Community Information Centre-CIC and Satellite Centre-SC), the project co-created knowledge products (Farmers Handbook, Trainers Manual, Farm Record Book, Didactics), IEC materials, digital tools, 2D animated videos and board games.



## Financial sustainability and FPO business model

Supported capacity building of Board of Directors (BODs) of farmer institutions, initiatives for development of sustainable business models of FPO/SHG/PG/Co-operatives, and enhancing service delivery and extension services through Community Resource Persons (CRPs).



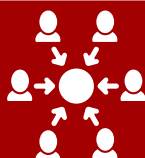
## Aquaculture entrepreneurship

Creation of platform for training and handholding, linking for convergence with government and financial institutions to enhance production and creation of new jobs in the fish value chain thereby contributing to total protein production.



## Community Resource Person (Self-financed extension service workers)

Development of Aquaculture Service Providers (ASPs) or CRPs along with trainers for sustainable aquaculture, who are also stakeholders of farmer institution and owners of seed bank as an empowered driving force.



## State-level Multi-Stakeholder Platform (MSP)

Formation of Secretariat to explore challenges and finding tested solution in aquaculture sector. The platform also function as an advisory role in the State Department to support state policy-level decisions.



## Participatory Guarantee System (PGS) Model

An innovative drive to incorporate freshwater aquaculture in PGS India guidelines through PGS (natural farming) model development among 500 women fish farmers in Assam.



## Development of decision making tools

Blockwise pond mapping, land use pattern, pond area estimation, and estimated conversion of agricultural land to pond will help fish farmers to make informed decision to improve their current aquaculture practices.



## Business decision making

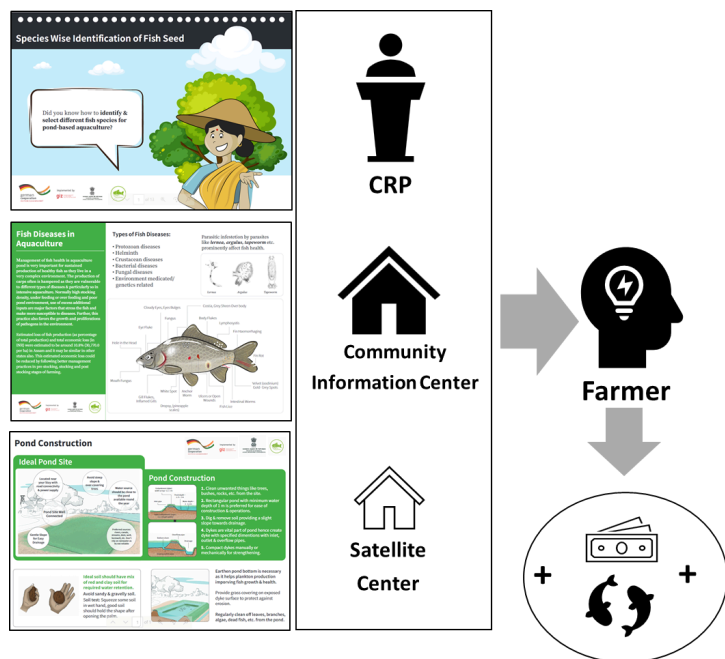
Empowering individuals and communities in business decision-making through Aquaculture Business School (ABS) in collaboration with Department of Fisheries (DoF), Assam and Assam State Rural Livelihood Mission (ASRLM) for improved income and livelihood through tri-partite MoU.



## Cost optimisation

Awareness and training on the use of natural feed and EM (effective microorganism for maintaining availability of planktons) for enhanced production of fish without increasing input cost.

# Knowledge products and IEC materials (co-created)



In a meticulous process, 37 manuals were studied for aquacultural practices and themes. Aquaculture topics were analysed, and didactical effectiveness was evaluated. Collaborative efforts led to the selection of topics, subtopics, and artistic elements for farmers handbook and trainer manuals.

In addition, an informative diadactical sheet and IEC materials were developed.

These knowledge products would go a long way in helping the pond-based fish farmers in their effort to practice sustainable aquaculture in an environment-friendly and profitable manner.



**500+**

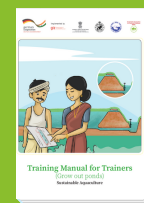
CRPs from Assam and Odisha are trained on sustainable aquaculture practices

Total pond area practicing sustainable aquaculture in India

**1500+ hectares**



**3.3** million kg fish production per year



Co-created knowledge products distributed among 17 Farmer Institutions, 100 Self Help Groups and 43 Producer Groups in Assam and Odisha

## A journey from simplicity to sustainable aquaculture

Rajibananda Gohain from Gereki village in Biswanath district, Assam has been involved in fish farming but could practice it partially because of insufficient knowledge on the subject. He owned 5.3 acres of pond area and wanted to improve the condition of his pond while boosting his revenue stream by means of reasonable fish production. Through his Farmer Producer Company (FPC) in Biswanath district, he came to know about the CRP training programme on sustainable aquaculture practices under the Indo-German development cooperation project, EIAA (locally known as SAFAL), implemented by GIZ GmbH under the guidance of the Department of Fisheries, Government of Assam.

Armed with scientific knowledge of pond management, Rajibananda confidently applied his training and formed a 16-member cluster from his FPC to practice and promote sustainable aquaculture. Under his leadership, Sootea FPC secured a ₹58 lakh scheme under APART project, Department of Fisheries, Government of Assam, for constructing a hatchery and seed bank, purchasing a four-wheeler for fish transport, and building an office. Additionally, the FPC repaid a ₹10 lakh loan from Rang De within six months and acquired a solar freezer through the IGEN-Promotion of Solar Water Pump (PSWP) project synergy with SAFAL, GIZ India.

Rajibananda sourced high-quality spawn from ICAR-CIFA, Odisha, selling it to cluster farmers for a 100% profit. He received good feedback and plans to expand this business soon, recognizing its higher profitability.







Madhab Sahoo, making fish feeds out of locally available raw materials.  
Farmer Institution: Bhargabi Farmer Producer Company, Khorda, Odisha, India

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