


Pilot Project on Nature-based Climate Solution (NbCS) aquaculture in Thailand

Rice–fish Culture

in Maha sarakham province, Thailand

Malasri Khumsri
Departement of Fisheries

Introduction

Nature-based Solution is policy of Department of Fisheries, Ministry of Agriculture and Cooperatives

Statements of Department of Fisheries

5 KEYS

STRATEGIC AREAS FOR AQUACULTURE TRANSFORMATION IN THAILAND

Dr. Thitiporn Laoprasert, Deputy Director-General of the Department of Fisheries, delivered the Statement on strategy for Aquaculture Transformation at HLM 3 in Shanghai, China, 1-2 July 2025

MOU Signing between DoF and AIT on Collaboration on Making Nature-Based Climate Solution in Aquaculture GeNA Project, 13 March 2025

Enhancing Production Efficiency

- Improve infrastructure and adopt modern technologies
- Apply Nature-based Solutions (NbS) for sustainable environmental management

Developing High-Quality Aquatic Breeds

- Use high-quality broodstock and genetically strong seed
- Boost production, shorten culture periods, and enhance disease resistance in key species (e.g., Giant freshwater prawn, Shrimp, Tilapia)

Knowledge Transfer via Smart Farmers Program

- Support technology and data use for efficient farm management
- Promote energy-efficient aquaculture practices

Promoting Sustainable Aquaculture & Product Value

- Add value to by-products (e.g., fish silage, hydrolysate)
- Encourage organic aquaculture and large-scale systems
- Reduce costs and upgrade GAP standards to international level

Strengthening Biosecurity in Aquaculture Farms

- Implement Progressive Management Pathway for Aquaculture Biosecurity (PMP/AB)
- Apply Biosecurity & Rapid Response initiatives to ensure safe, high-quality products
- Developing High-Quality Aquatic Breeds

Driving Aquaculture Transformation through Innovation and Financing for Sustainability

Pilot project on Gender in Nature-based Climate Solutions in Aquaculture in Thailand: Rice-Fish Culture

> **"Women play vital roles in Rice–Fish Culture, their contributions must be Recognized, Valued, and Rewarded."**

Objective

- To empower women across production stages and promote eco-friendly aquaculture, with pilot results informing a gender monitoring framework.
- To advance gender equality and social inclusion in NbCS aquaculture (Rice-Fish Culture)

Activities

- Initial National Stakeholder Meeting

- Gender Analysis

- Training of Women farmers

- Support Fish & Feed & Technical

- Monitoring of Rice-Fish Culture and Technical Advice

- Gender monitoring schema

5 Domains of Gender monitoring schema

A. Climate change/ environment
Perceptions of farming practices, inputs and benefits and climate change adaptive

B. Attitudes towards NbCS practice
- Benefits (income & food security)
- Mutual benefits – rice <-> fish
- Environment impacts
- Fish culture management
- Rice field inputs
- Rice–Fish Production

C. Awareness and Roles in rice-fish culture
Farmers' interactions, interest in rice–fish, and their recognition as leaders in NbS aquaculture.

D. Image of change
Change in control, turning points, and time use.

E. Agency
Who influences agency; Decision making; How/ when does it change?

A gender monitoring schema to ensure equitable benefit-sharing of NbCS aquaculture (Rice-Fish Culture between women and men

Gender Issues Identified

- Land ownership
- Access to information and extension services
- Access to financial support
- Access to technical knowledge/project
- Registration in aquaculture system

Maha Sarakham province

Sites selection

- 2 Districts
  - Kosum Phisai
  - Phayakkhaphum
- 31 Target farmers
  - 10 farmers from Kosum Phisai
  - 21 farmers from Phayakkhaphum

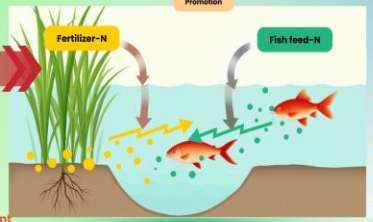
Women's Knowledge and Contributions

- Understanding of the micro-environment
- Observations on Climate change impacts and adaptation

Improve → Climate -resilient

Expected benefits

- Increased income
- Enhanced food security
- Improved sustainability



Advantages of rice–fish culture

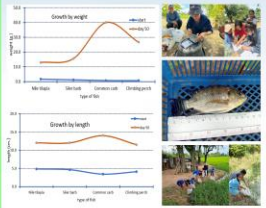
Increase Rice–Fish Production

Production inputs supported by DoF

- 7,000 fingerling/farmer
- 2 Bages of pellets feed/farmer

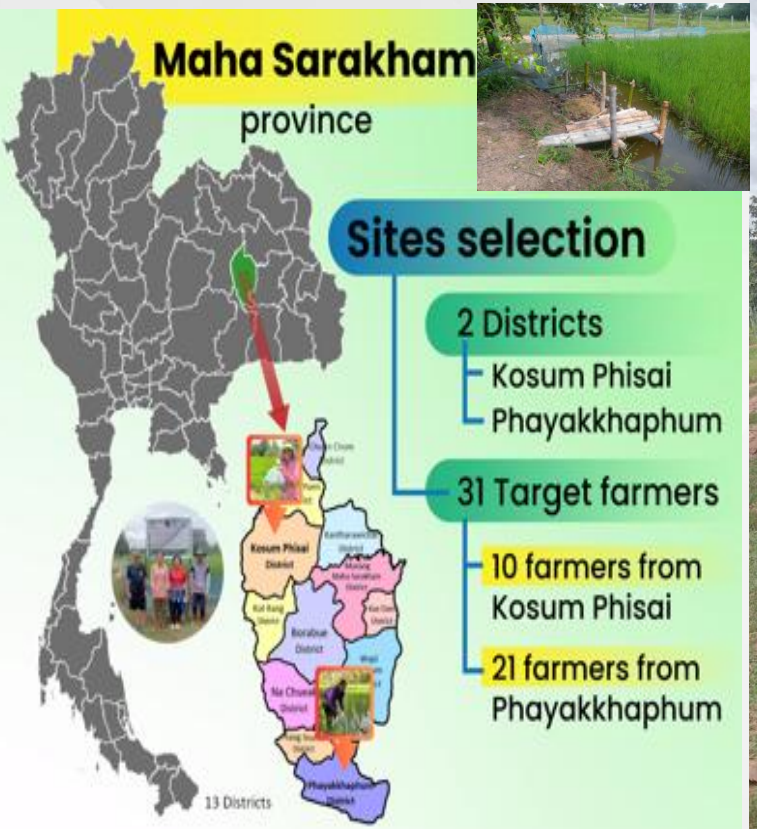
Nile tilapia	2,000 fish
Common carp	2,000 fish
Silver barb	2,000 fish
Climbing perch	1,000 fish
Fish feed pellets	2 bags

Regular Technical Support and Monitor of Fish & Rice by DoF Staff



Gender involved in NbCS, local knowledge, ecosystem management

Project target selection



Project area information

- Pilot project is located in the Northeastern of Thailand
- Most area has a flat landscape typical
- Chi River is important river that contributing to agriculture and fishing activities

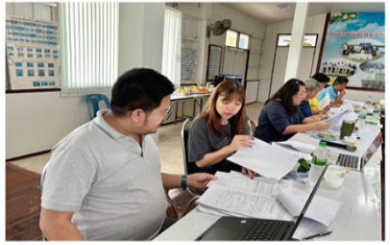
Calendar of Rice Fish Culture in Mahasarakam province

	Activity period												Gender participation	
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Male	Female
1. Prepare the plot													✓	
2. Rice transplanting				←	→								✓	✓
3. Paddy field management					←	→	→	→	→	→			✓	
4. Fertilizer application						←	→	→					✓	
5. Weeding						←	→						✓	✓
6. Buy fish fry						←	→							
7. Release fish fry						←	→						✓	
8. Feeding fish							←	→	→	→				
9. Fish harvest											←	→	✓	✓
10. Sale fish											←	→	✓	✓
11. Fish processing											←	→		

Remarks: Some farmers fish will be harvested until April next year

Pilot Project Activities implementation

Initial National Stakeholder Meeting



Gender Analysis






Training of women farmers

Fish & Feed & Technical Support











Regular monitoring of Rice-fish and Technical Advice

Gender monitoring schema based on 5 domains









Training, and distribution of fish and feed and monitoring

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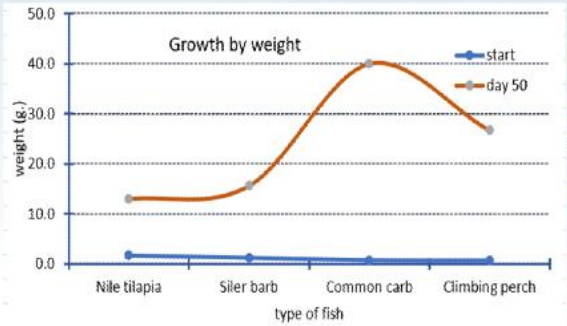

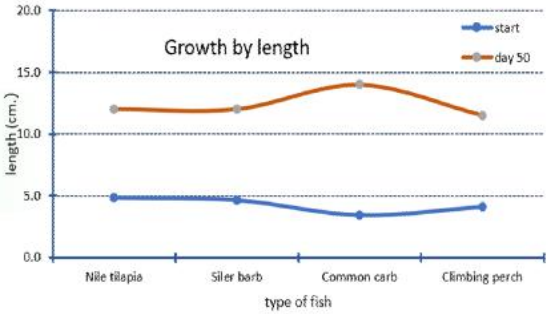

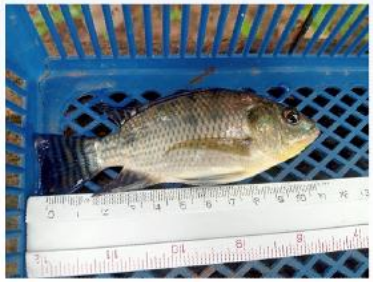

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Water management

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Natural Food

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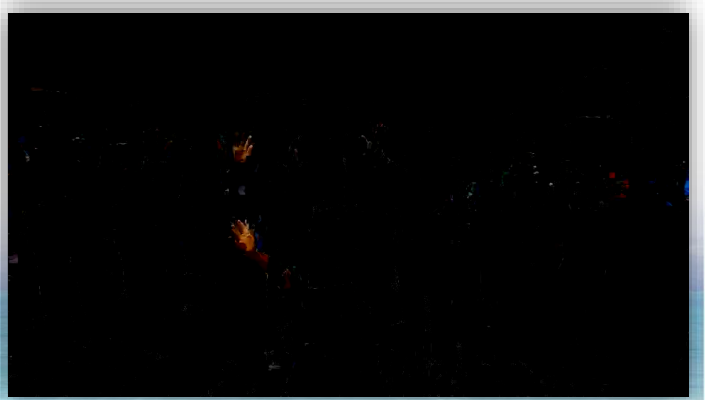
Climate solution

Monitoring of Rice-Fish Culture



Changes in Women Roles in Rice-Fish Culture

GREATER ROLE IN PRODUCTION AND MANAGEMENT

More actively in all stages of rice – – fish farming, from production to processing and marketing

ACCESS to Knowledge, New Skills, and Technology

Training and technology access provide women with more opportunities for learning and self-development via social media

Women and Men have more knowledge and skill for Climate Change resilient and adaptation

Enhanced Confidence and Leadership Capacity

Women will gain more recognition as managers or group leaders, with greater opportun- ties to take part in decision-má.ing

Thank you

GeNA Gender in NbCS Aquaculture
AIT Asian Institute of Technology
GAF
CIRD Cambodian Institute for Research and Rural Development
University of the Philippines VISAYAS
IDRC · CRDI International Development Research Centre
in partnership with Canada