

Organic Shrimp in Degraded Mangroves – A Sustainable *Ecofarm* Initiative

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Introduction

- Indonesia hosts the world's largest and most diverse mangroves, yet many are vanishing.
- Mangroves are vital to coastal ecosystems, offering biodiversity, carbon sequestration, and natural protection against erosion and storms.
- However, in Batu Bara, North Sumatra, rapid deforestation and unsustainable land use — including oil palm plantations (Fig.1A) and conventional shrimp farming (Fig.1B) — are threatening their survival.
- To support both local communities (Fig.1C) and sustainable mangrove ecosystems (Fig.1D), we must reconcile food production with ecosystem conservation.

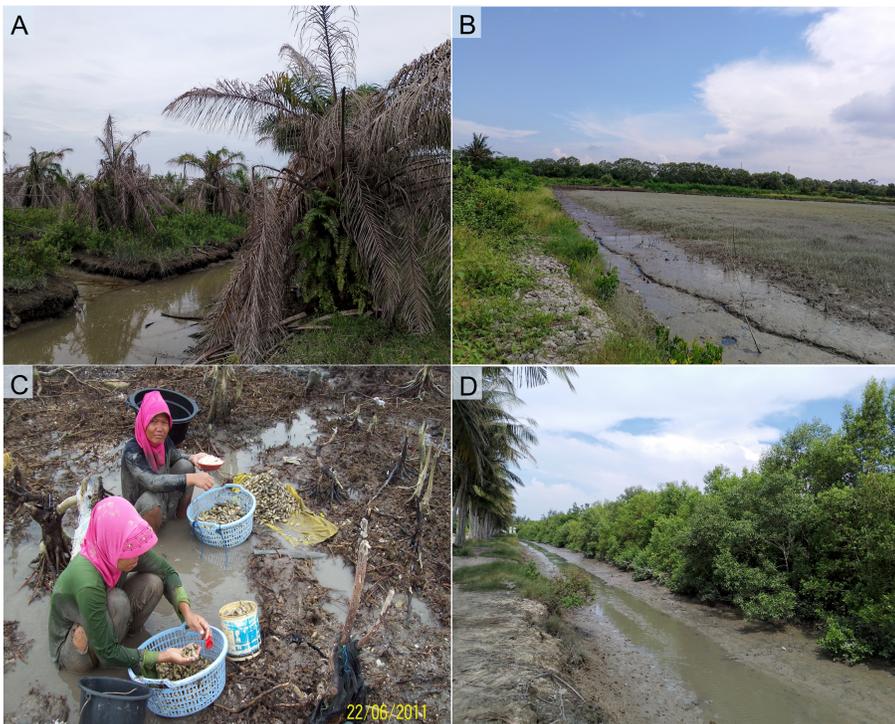


Fig. 1. Mangrove forest targeted as the site for the Organic Shrimp initiative in Batu Bara, North Sumatra, Indonesia.

Methods (How it works the Eco-farming process)

Step 1: Site & Ecosystem Survey



Map mangroves, test water, record biodiversity.
Aim: Assess environmental baseline.

Step 2: Community Assessment



Surveys and group talks with local farmers & fishers.
Aim: Understand needs & practices.

Step 3: Pilot EcoFarm Setup



Build model ponds with shrimp, mangroves & filter species.
Aim: Test eco-farming design.

Step 4: Farmer Training



Train farmers on eco-farming, mangrove care & waste use.
Aim: Build capacity.

Step 5: Policy & Market Study



Interview buyers, check policies, explore certification.
Aim: Connect to markets & legal support.

Step 6: Monitoring & Feedback



Track water, yield, income & community response.
Aim: Measure success & improve.

Project Objectives

Boost incomes through Organic shrimp & eco-mangrove farming



Restore ecosystems & protect biodiversity in Batu Bara



Increase blue carbon through mangrove restoration



Export EU-certified organic shrimp



Stakeholders That Can Impact Effectiveness / Implementation

No	Stakeholder	What They Do / Decide	Why It Matters	Influence
1	Local Farmers & Fishers	Join training, adopt eco shrimp-mangrove farming	Core to implementation, success depends on them	★★★★★★
2	Village & District Govt	Approve land use, support community programs	Can enable or block access, permits, support	★★★★★★
3	Impact Investors / Donors	Fund training, infrastructure, restoration	Without them, project can't run or grow	★★★★★★
4	Buyers / Shrimp Traders	Decide whether to buy eco-certified shrimp	Affects income and sustainability of farmers	★★★★★★
5	ITB & collaborating partners	Lead research, training, and pilot design	Ensures quality, credibility, capacity building	★★★★★★
6	Certification Bodies	Approve organic shrimp standards	Needed for better prices and market access	★★★★★★
7	Mangrove NGOs / CSOs	Support restoration, community outreach	Help mobilize people, provide local knowledge	★★★★★★

Acknowledgement