

Terms of Reference

Comparative analysis of sustainable shrimp aquaculture models and programs in Indonesia

1. Background

Indonesia is one of the world's largest shrimp producers and exporters, with aquaculture playing an important role in national economic development, livelihoods, and food security. At the same time, shrimp aquaculture has been associated with environmental degradation, including mangrove loss, water pollution, disease outbreaks, and social conflicts. In response, a range of sustainable shrimp aquaculture models, certification schemes, landscape approaches, community-based systems, and public-private partnership programs have emerged across Indonesia.

These initiatives vary in their objectives, operational models, financing mechanisms, environmental and social safeguards, producer engagement strategies, and commercial viability. While many programs demonstrate promising practices, there is limited comparative analysis of their effectiveness, scalability, and long-term business sustainability.

Wetlands International seeks to engage a consultant to conduct a comparative desk-based analysis of sustainable shrimp aquaculture models and programs in Indonesia, supplemented by interviews with practitioners and experts involved in these initiatives.

To strengthen policy relevance and uptake by the Government of Indonesia, the study should explicitly assess how each model/program links to Indonesian policy priorities and regulatory frameworks, including the revitalization of national shrimp ponds under the Ministry of Marine Affairs and Fisheries (KKP), national targets to increase Indonesian shrimp exports, and other relevant policies on aquaculture development, coastal management, mangrove protection/restoration, food security, and smallholder livelihoods.

2. Objective of the assignment

The objective of this consultancy is to:

1. Compare selected sustainable shrimp aquaculture models and programs operating in Indonesia;
2. Assess their approaches, outcomes, strengths, limitations, and enabling conditions; And contexts (social, economic, environmental) to which they are best suited.
3. Analyze whether and how these initiatives have evolved into scalable and financially viable business models; and
4. Identify lessons and recommendations relevant for future sustainable aquaculture programming and investment.

3. Scope of work

Task 1: Inception and methodology

Develop an inception note in close collaboration with Wetlands International outlining:

- Proposed methodology;
- Selection criteria for models/programs to be reviewed;
- Analytical framework and comparison criteria, including scoring/comparison matrices to compare models/programs consistently across agreed environmental, social, economic, financial, policy relevance, and scalability criteria;
- Preliminary list of interviewees;
- Detailed workplan and timeline.

Task 2: Desk review and mapping

An overview of the aquaculture sector Identify and select a representative set of sustainable aquaculture models/programs active or recently active in Indonesia, including but not limited to:

- Overview of legal framework and (inter)national commitments that are relevant for an Indonesian aquaculture context

- Mapping of key Indonesian actors and their roles, including relevant government agencies, private sector actors, producer groups, NGOs, researchers, certifiers, buyers, investors, and financiers;
- Categorization by Indonesian shrimp pond typology, such as traditional/extensive, semi-intensive, intensive, associated mangrove aquaculture, integrated mangrove-shrimp or silvofisheries systems, and smallholder versus commercial/industrial systems;
- Complementary or integrated aquaculture activities in and around shrimp ponds, including seaweed cultivation and mangrove crab production or fattening, and available evidence on what is working, commercial viability, and scaling constraints;
- Certification-based approaches (e.g., ASC, organic, BMPs);
- Community-based and smallholder inclusion models & Public-private partnership programs;
- Assessment of financing and investment schemes, including public funding, private investment, blended finance, concessional finance, CSR/philanthropic funding, impact investment, smallholder finance, and buyer-supported models where relevant;
- Brief overview of shrimp value chains and key market dynamics by species, production model, region, and end market;
- Regional and spatial trends in shrimp aquaculture expansion and mangrove conversion, identifying hotspots across Indonesia using available datasets, where appropriate;
- Mapping of how carbon (storage or reduction) is addressed across the different models;

Compile and review literature: program documents, evaluations, academic articles, grey literature, policy/regulatory texts, investor notes, and relevant market analyses (Indonesia-focused but can include global information).

Task 3: Stakeholder interviews

Conduct semi-structured interviews with relevant stakeholders, such as:

- Program implementers from NGO led operations;
- Aquaculture companies;
- Government representatives;
- Researchers and technical experts;
- Producer associations and sustainability certifiers
- Buyers, retailers, exporters, investors, financiers;

The interviews should validate findings from the desk review and provide insights into operational realities, challenges, and scaling opportunities. The interviews should specifically test the viability and scalability of aquaculture models.

Expected number of interviews: approximately 8-12 stakeholders.

Task 4: Comparative analysis

Develop a comparative assessment of selected models/programs, including:

- Key characteristics and differentiators;
- Comparative strengths and weaknesses;
- Environmental and socio-economic performance and impact;
- Indicators related to land tenure and tenure security, market access and value-chain linkages, disease and biosecurity risk, and infrastructure needs or constraints;
- Institutional and policy enabling conditions;
- Financial sustainability and business case;
- Evidence of scaling and commercial uptake;
- Replicability in different Indonesian contexts.
- Value-chain and market dynamics by region;
- Carbon dimensions of each model;
- The role, performance, and scalability of complementary aquaculture activities;

Task 5: Final report and presentation

Prepare:

1. A draft report for review by Wetlands International, including a list of references used;
2. A revised final report incorporating feedback;
3. A presentation summarizing key findings and recommendations.

4. Expected deliverables

1. Inception Note – Within 2 weeks of contract start

2. Update report with overview of desk study and planned & conducted interviews – End of month 2
3. Draft Comparative Analysis Report (including analytical framework and scoring/comparison matrices) – End of Month 5
4. Final Report – End of Month 6
5. Presentation – End of assignment

5. Reporting and coordination

The consultant will report to Irene Kingma – Senior Technical Officer Coasts & Deltas at Wetlands International and will coordinate regularly with the assigned project team. Regular progress updates will be expected throughout the assignment.

7. Required qualifications and experience

The consultant (individual or team) should demonstrate:

- Advanced degree in aquaculture, environmental management, marine/coastal studies, development studies, or related fields;
- At least 4 years of relevant professional experience in aquaculture and/or sustainable seafood systems;
- Strong knowledge of Indonesia's shrimp aquaculture sector;
- Demonstrated experience conducting comparative studies, market analyses, or program evaluations;
- Some familiarity with sustainability standards, certification systems, and inclusive business models in aquaculture;
- Experience conducting stakeholder interviews and qualitative analysis;
- Analytical and report-writing skills in English;
- Ability to communicate in Bahasa Indonesia is essential.

8. Proposal requirements

Interested consultants should submit:

1. Short technical proposal outlining:
 - Understanding of the assignment;
 - Proposed methodology and approach;
 - Relevant experience;
 - Workplan and timeline.
2. Financial proposal with detailed budget breakdown;
3. CV(s) of consultant(s);
4. Examples of relevant previous work.

9. Evaluation criteria

Proposals will be evaluated based on:

- Understanding of the assignment and methodological quality;
- Relevant technical expertise and experience;
- Experience in Indonesia and sustainable aquaculture;
- Quality of previous work;
- Cost-effectiveness of the proposal.

10. Intellectual property and confidentiality

All outputs produced under this assignment shall become the property of Wetlands International. The consultant shall maintain confidentiality of all information obtained during the assignment unless otherwise agreed in writing.