

Wetlands International Indonesia / Yayasan Lahan Basah

Best Management Practices (BMP) for Associated Mangrove Aquaculture (AMA)

Terms of Reference (ToR)

1. Introduction

Indonesia's immense coastline is home to some of the planet's most crucial mangrove forests. These coastal forests provide a multitude of ecological and socioeconomic benefits, including coastal protection, carbon sequestration, biodiversity conservation, and support for fisheries. However, Indonesia's mangroves are facing unprecedented challenges, including deforestation, conversion to aquaculture ponds, and the impacts of climate change, leading to significant degradation and loss. Mangrove degradation and loss have changed the biophysical structure and functions of valuable coastlines, decreasing the ecosystem services mangroves used to provide and emitting carbon back to the atmosphere in the process.

Recognising the invaluable benefits of mangrove, there have been many restoration efforts undertaken by various stakeholders across the country. However, such good intentions have not been successful to regrow the degraded and lost mangroves, predominantly due to the lack of science-based methods, poor project planning and lack of local engagement¹. Moreover, it requires a considerable length of time to restore the deforested and lost mangroves, certainly through successful restoration efforts. Indeed, reflecting to the failed restoration efforts is as useful as learning from the successful ones to improve the practices.

To achieve the objective of successful mangrove rehabilitation, there is an urgent need for effective and inclusive rehabilitation strategies. This necessitates the development of innovative and effective restoration guidance that promotes more sustainable and impactful approaches to mangrove restoration. Specifically, this effort will focus on the Associated Mangrove Aquaculture (AMA) method, an integrated approach that combines mangrove restoration with sustainable aquaculture management to support climate change adaptation, disaster risk reduction, a sustainable blue economy, sustainable development, and biodiversity conservation. Crucially, the development of these best practice documents will integrate innovative gender-sensitive practices, recognizing the distinct roles and knowledge of women in mangrove management and rehabilitation. These approaches are particularly relevant within the Indonesian coastal context, where traditional rehabilitation efforts have often yielded limited success due to a lack of understanding of natural processes, a focus on monoculture planting, and the exclusion of women's perspectives. By creating accessible and practical resources that actively engage and empower women, this initiative aims to directly support the objective attainment of Wetlands for Resilience (W4R) program, empowering local communities, government agencies, and practitioners to implement effective mangrove rehabilitation and restoration, ultimately contributing to the resilience and prosperity of Indonesia's coastal regions.

¹ Beeston, M., Cameron, C., Hagger, V., Howard, J., Lovelock, C., Sipho, J., Tonneijk, F., van Bijsterveldt, C. and

van Eijk, P. (Editors) 2023. Best Practice guidelines for mangrove restoration.

2. Purpose

To provide a comprehensive and stepwise references that guide practitioners, from government agencies, NGOs, community groups, private sector, and academics in implementing Associated Mangrove Aquaculture (AMA) approach. This documentation aims to consolidate proven techniques, lessons learned, and adaptive management approaches that support sustainable, ecologically sound, and community-inclusive rehabilitation of mangrove ecosystems.

3. Objectives

- Capture lessons learned from the preparation, implementation, and monitoring of AMA, covering ecological, social, economic, institutional, and capacity-building aspects.
- Identify the strengths, limitations, and suitability of AMA, including its ecological benefits, economic viability, social acceptance, and feasibility for local communities.
- Identify challenges and barriers encountered throughout the preparation, implementation, and monitoring of AMA, including technical, ecological, social, economic, institutional, financial, and capacity-related challenges.
- Identify strategies and practical solutions to address the challenges encountered during the preparation, implementation, and monitoring of AMA, including measures to strengthen community capacity and long-term sustainability.
- Identify capacity-building needs and good practices required by communities, practitioners, government, and other stakeholders to effectively implement, monitor, and replicate AMA.
- Generate evidence-based recommendations to support the integration of AMA lessons and capacity-building needs into relevant Indonesian policies, programmes, and institutional frameworks.

4. Scope of Work

The consultant will:

Preparation:

- Outlining the BMPs documentation design and methodology.
- Conduct literature review on AMA practices, initial information gathering in AMA practices based on Yayasan Lahan Basah (YLBA) lessons learnt, other practices, and relevant guidelines related with AMA approach.

Content Development:

- Develop a narrative on BMPs based on the agreed design.
- Conduct serial discussions with YLBA staff members and relevant stakeholders, encompassing communities and practitioners on the AMA approach, ensuring the narrative is drawn upon existing experiences and practices.
- Present results and incorporate feedback from internal and external reviews to improve the BMPs document.
- Finalize the Best Management Practices (BMPs) document by integrating feedback and recommendations received through the review process.
- Present BMPs document on dissemination activities held by YLBA to mangrove rehabilitation practitioners.

Content Coverage

In addition to the listed themes below, content coverage will remain flexible in line with discussions with the YLBA team and relevant experts.

Best Management Practices (BMPs) Documentation

Site assessment and selection, AMA implementation works – Hydrological restoration and natural regeneration, monitoring and evaluation, community engagement and specific regional challenges.

5. Deliverables and Timeline

- The assignment will be carried out in the period from **September 10st to November 15th 2026**.
- The consultancy team's timetable will include the following activities and key milestones:

Date	Activity	Deliverable
07th - 09th Sept 2026	Initial start-up meetings with Coordinator Program and team	• Inception report outlining the BMP development design and methodology, including presentation on this.
10th Sept – 31th Oct 2026	Development of the BMP document	• Interim report documents should be made available. • Undertake field visits and consultations with relevant stakeholders, including communities, practitioners, local government, and other relevant actors, where additional information or verification is required.
01th – 08th Nov 2026	Refining of BMP document	• Final report document, consisting of BMPs document that have been incorporated with feedback and comments from internal and external experts should be made available. • Dissemination of BMP Document
09st – 15th Nov 2026	Finalization of BMP document	• Finalization of BMP Document after Dissemination

6. Required Qualifications and Experience

The Best Management Practice (BMP) documents will be developed by the recruited consultant in close collaboration with designated staffs from YLBA. The consultant should have:

- Experience in capturing best practices and its supplementary materials.
- Experience in sustainable mangrove management, associated mangrove aquaculture, capacity building, and relevant policies and guidelines in Indonesia, or related fields. Strong rigorous and lucid BMPs and training curriculum writing and communication skill.
- Advanced degree in environmental science, ecology, or other related fields.
- Proven track records in BMPs development and its design.
- Experience working with diverse stakeholders.

7. Review Process

Review process will involve technical review committee, consisting of experts with diverse background and expertise relevant to theoretical and practical knowledge in mangrove ecology, rehabilitation, hydrology, and sustainable aquaculture practices. Such experts would likely from academia, research institutions, government agencies, NGOs, and local communities. Reviewers will be given sufficient timeline to thoroughly review the document and deadline for submission. The coordination and communication channels for reviewers to submit feedback and ask questions will use email, online workspace, and virtual meetings.

8. Coordination, Communication, and Reporting

The designated staffs of YLBA will supervise the BMPs document development. Regular check-ins between the YLBA team and the consultant will be conducted to ensure alignment with the activity objectives. During the BMPs document development process, coordination and communication between YLBA team and the consultant will be conducted through the agreed channels, i.e. WhatsApp Group, email, online workspace (repository or Google drive), and virtual or in person meetings. Both YLBA team and the consultant are required to report the work progress and deliverables to the designated staffs of YLBA according to the time schedule above.

9. Budget and Payment

- All operational costs related to field works, face-to-face consultations, stakeholder meetings, and review workshops will be covered separately by the project and should not be included in the fee of consultant.
- Interested candidates are required to submit a detailed CV highlighting relevant experience in developing, documenting, and/or writing Best Management Practices (BMPs).
- Payment will be made in instalments in accordance with the completion of the following key milestones:
 - 20% of the total consultancy fee upon signing of the contract (11th Sept 2026)
 - 20% of the total consultancy fee upon submission of the interim report, including the draft BMP document and its supplementary materials (30 Sept 2026);

- 50% of the total consultancy fee upon submission and approval of the final BMP report and its supplementary documents by the Work Package Lead (31 Oct 2026);
- 10% of the total consultancy fee upon completion of the dissemination activity (15 Nov 2026).

10. Intellectual Property

The ownership of the intellectual property rights to the BMPs document belong to YLBA, with publication right attached to YLBA.

11. Application Process

Interested candidates should submit:

- Detailed CV highlighting relevant experience; A technical proposal outlining:
- Evidence of previous experience in developing or preparing BMP documents, such as samples or copies of BMPs previously developed.

12. Submission Deadline

The offer and inquiries should be sent to admin@wetlands.or.id (cc yaumudraiyardhi@wetlands.or.id dan tyaslestari@wetlands.or.id) no later than 17:00 WIB (Close of Business) on September 03, 2026, and bearing the subject in the email: Consultant – Development of Best Management Practices (BMP) for Associated Mangrove Aquaculture (AMA).