Call for Proposals

Desk review on gender and NbCS aquaculture systems

1. Introduction

The project aims to identify context-specific gender-responsive monitoring schema for Nature-based Climate Solutions (NbCS) on aquaculture. Noting that there are a number of gender analysis on climate change impact and adaptation as well as gender monitoring schemes that are already available, the project will build on this knowledge and develop a gender-responsive monitoring schema for NbCS on aquaculture in the context of Southeast Asia. Based on desk review of the aquaculture systems and gender monitoring schemes, the project will develop a gender monitoring schema for NbCS and apply it to three pilot projects in Southeast Asia, namely, seaweed culture in the Philippines, and rice-fish culture in Thailand and Cambodia.

2. Background

Women play a large role in fisheries and aquaculture in Asia, however, their roles are often not recognized (Kusakabe and Thongprasert, 2022). Lack of sex-disaggregated and gender data in aquaculture is well-documented (FAO, 2020; UNIDO, 2021; Satapornvanit et al. 2016). Although major efforts have been made to document women's engagement in fisheries through the *Illuminating Hidden Harvests* project (FAO et al., 2023), the same has not been attempted for aquaculture. Some sex-disaggregated farm employment data are reported to FAO (FAO 2023), but records are limited for small-scale aquaculture enterprises, particularly those integrated with agriculture and other rural activities (Phillips et al., 2016).

Nature-based climate solutions for aquaculture can cover various aquaculture practices including seaweed and algae production (which has a carbon fixing function), rice-fish production (which fixes carbon as well as decreasing the production of methane), extensive pond mixed aquaculture (which utilizes the ecological cycle). Although women's roles are recognised to some extent in NbCS aquaculture, women's engagement is not monitored and evaluated in rigorous ways and is likely to be shifting as both are undergoing transitions under economic, climate and social changes. The gendered impacts of climate change in aquaculture are particularly under-recognised and cannot be monitored unless baselines are established.

NbCS requires us to review and rethink how we view cost-benefit as well as value our investment (Wyrwol, 2022). It calls for a drastic change in how we protect and restore ecosystems and innovate adaptation strategies. Such changes in the conceptualization of development approaches are an opportunity to push for changes in social norms and structure for gender equality. To support such action and measure its progress requires effective monitoring and evaluation.

To realise the full benefits of NbCS in aquaculture, many of the existing systems will need to be transformed. For example, many forms of seaweed farming cannot be assumed to be a climate change "quick fix" (Troell et al., 2022). Tropical eucheumatoid (*Kappaphycus* and *Eucheuma*) culture has reached a particularly problematic period due to climate change, genetic bottlenecks, diseases, market and economic issues – especially in the massive vertically-integrated colloids industry (Hurtado et al., 2017). Technological and other interventions are

needed to improve the performance of tropical seaweed farming. Similarly, improved and more effective solutions for climate change in rice-fish farming are required (FAO, 2018). Transitions often create new challenges for those people involved and invested in the current systems, such as the women engaged in seaweed and rice-fish farming.

Much of the NbCS in aquaculture in Southeast Asia is carried out by women. Examples include rice-fish farming in countries such as Cambodia and Vietnam, seaweed farming in many coastal areas in Indonesia, Philippines and in Thailand, mangrove planting in Cambodia, Thailand, Vietnam, Indonesia and the Philippines, crab banks and clam culture in the Philippines, Thailand, and Indonesia; and the extensive and semi-intensive aquaculture systems in all the Southeast Asian countries. Many of these culture systems are semi-commercial, or subsistence and so receive little focus for technology development. These are also often remnants of traditional systems of food production (like the alternate rice-fish culture system) that have stood the test of time though there have been adaptations and changes with local knowledge playing a key role in their sustenance. Some of these aquaculture systems are NbCS because they are ecologically based and low in investment and technology such as extensive aquaculture systems. Some include more technology and investment such as clam culture and seaweed production.

Given the engagement of women and the multiple potential climate and household benefits, for a NbCS to be socially and environmentally effective, women must be involved in planning and designing the project. Several criteria have been developed to assess NbCS and how specific, planned aquaculture activities meet the criteria (Hughes, 2021; Nanou, 2022). Studies have also looked at how aquaculture related NbCS addresses societal challenges, reconciles economic and ecological targets, together with present and future needs, and the well-being of stakeholders and local communities (Le Gouvella et. Al., 2022). Le Gouvella et. Al (2023) also applied the IUCN Global Standard for the NbCS self-assessment tool to two aquaculture case studies, i.e., in Zanzibar and Indonesia, and looked at their potential positive and negative contributions related to aquaculture development.

The lack of data as well as a lack of holistic understanding of gender relations in aquaculture leads to serious gaps in monitoring and evaluation schemes that wish to include gender outcomes, including in NbCS aquaculture. Therefore, a large knowledge and implementation gap exists in gender perspectives in NbCS. To address the overlapping knowledge gaps of gender in NbCS aquaculture and gendered climate change impacts, we seek to develop two desk reviews on gender engagement in NbCS in aquaculture.

3. Terms of Reference

3.1 Definition of Output(s) and/or Outcome(s)

The desk review on **women in NbCS aquaculture systems** will identify the key variables that we need to monitor (for different types of aquacultures) focusing on rights, value/commodity chains, and drivers of production. Context specific variables are to be identified. The NbCS aquaculture systems include but are not limited to: rice-fish farming, seaweed farming, mangrove planting and husbandry, crab banks and clam culture, integrated aquaculture system with livestocks/ agriculture, and other extensive and semi-intensive aquaculture systems. It will attempt to answer the following questions:

- How is technology development gender in(ex)clusive in aquaculture?
- What factors can involve women as the main developers or co-developers of technology in aquaculture?
- What income are women currently earning in aquaculture, and how can interventions such as technology development, environmental protection, and economic interventions improve this (FAO, 2013)?
- Are women and marginal groups involved in finding solutions that they want in aquaculture and fisheries management, which will work and for which they must bear some of the cost in implementation? If so, in what ways and how much are they involved?
- As aquaculturists, what is women's potential to advocate NbCS and can it be developed further?

The desk review will provide a clear explanation of the procedure undertaken for the review, the sources of data and literature, and the criteria used for selecting data and literature.

Based on such analysis, the desk review will provide recommendations on critical entry points and opportunities for addressing inequalities and discriminatory practices in NbCS aquaculture systems.

Performance indicator: One desk review produced

Means of verification: One desk review submitted

3.2 Description of Services

The Service Provider will carry out the following activities:

- Develop methodology for carrying out the desk review in the proposal
- Based on the methodology, identify and collect reports, data, articles and other relevant materials
- Cover both published and gray literature from around the world with a focus on SEA
- Identify key criteria which will be used to select the materials for the desk review
- Develop a table of contents for the desk review
- Identify gaps in information
- Consolidate and analyze findings
- Develop recommendations for a gender monitoring scheme on the basis of literature review
- Draft the reports and finalize based on review and comments received
- Share the reviewed literature to the GeNA project management unit using a Google Drive.

3.3 Workplan and Timeframe (Duration)

Activities	**Time**
Letter of intent	November 6, 2023
Submission of proposal	November 17, 2023

Start of project	December 11, 2023
Submit table of contents	January 10, 2024
Submit 1st draft of desk review	February 11, 2024
Review and comments by GeNA team	February 28, 2024
Revision of draft on the basis of comments	March-April 2024
Submission of revised desk review	April 30, 2024
Finalization and acceptance of the final report	May 2024
End of project	May 31, 2024

3.4 Monitoring Mechanisms and Reporting Requirements

The Service Provider, through their Responsible Officer, will provide continuous and regular updates to ensure constant monitoring of progress and to discuss technical issues when needed.

The following deliverables are required from the Service Provider:

- Table of contents by January 11, 2024.
- Draft of the desk review by February 11, 2024.
- Final version of the desk review by April 30, 2024.

4. Minimum Qualifications

- Masters or PhD in gender and/or related fields
- Familiar with gender and aquaculture research
- Familiar with Southeast Asian contexts
- Experience in writing professional / consultancy reports as well as academic papers

Those who are interested are encouraged to send your letter of intent on or before November 6, 2023 to gena-secretariat@ait.asia, followed by a financial and substantive proposal along with a short CV as well as two samples of writing on or before November 17, 2023.

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Satapornvanit, A.N., Derun, Y., Gopal, N. and Villacorta, G. (2016). NACA/USAID thematic studies on gender in aquaculture in Cambodia, Lao PDR, Thailand and Vietnam. Asian Fisheries Science Special Issue, 29: 127–145.

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UNIDO. (2021). Gender analysis of post-harvest fisheries in Cambodia. Phnom Penh, UNIDO.

Wyrwol, Paul. (2022). The role of nature-based solutions for climate change adaptation in South and Southeast Asia, Australian National University.