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## Gender in Myanmar's small-scale aquaculture sector



NETWORK ACTIVITIES GROUP



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# Introduction

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Myanmar is one of the world's top 15 fish producing nations, and in 2017 annual production reached 2.90 million metric tons according to data from the Fisheries and Global Information System (FIGIS) of the Food and Agricultural Organization (FAO). Fish is the most important source of animal protein in Myanmar, with average per capita consumption estimated at 21.1 kg/year (Needham and Funge-Smith 2015). However, population growth, overexploitation, environmental degradation and climate change have all led to a decline in capture fisheries. This threatens to exacerbate food security issues in Myanmar, Asia's third-poorest country, where 32% and 9% suffer moderate and severe malnutrition, respectively (UNDP 2011).

Aquaculture could meet the growing fish demand and improve income and food security in Myanmar (Belton et al. 2015; WorldFish, IRRI and IWMI 2014). Currently, farmed fish accounts for a small-proportion of consumption in Myanmar (22%) compared with other Asian countries, such as Thailand (80%) and Bangladesh (55%). This proportion is increasing with the development of the commercial aquaculture sector, which is characterized by large-scale operations (Belton et al. 2015). However, the expansion and commercialization of small-scale aquaculture has been limited by weak infrastructure and restrictive land use policies (Belton et al. 2015). Development of Myanmar's small-scale aquaculture sector would be particularly effective for improving the livelihoods of vulnerable groups, including women and poor households in rural areas. Small-scale aquaculture requires relatively limited land and water resources, and it can be integrated as part of mixed resource management strategies. In addition, low investment technologies are accessible to poor women and men, and fish production provides dual income-nutrition benefits.

WorldFish's objective for Myanmar's MYCulture program is to improve food and income security in the country's Ayeyarwady Delta and Central Dry Zone regions through the development of small-scale aquaculture (ponds smaller than 2000 m<sup>2</sup>). To ensure maximum and equitable distribution of the benefits from small-scale aquaculture, the technical component of the program was complemented by a gender and nutrition benchmark study (Box 1). The aim of the study was to gain an in-depth understanding of existing gender norms and social relations that may influence project outcomes and how they affect men and women differently. Insights from the study will inform gender-transformative approaches to support more effective and sustainable initiatives by addressing the underlying drivers of gender imbalance. This program brief draws on the findings of the study and other research to describe and discuss gender in Myanmar's fisheries sector, specifically in small-scale aquaculture.

## **Box 1. The gender and nutrition study**

WorldFish implemented this benchmark study in partnership with the DoF, GRET, the Network Activities Group (NAG) and PACT. GRET is an international development NGO that works from the grassroots level through to policymaking to provide durable, innovative responses to challenges of poverty and inequality. NAG is a Myanmar-based NGO that focuses on creating inclusive networks and collaborative partnerships to empower communities and develop sustainable livelihoods. PACT is one of the longest serving international NGOs in Myanmar. Its focus is on strengthening education and governance at the community level. The study was implemented in two communities in the Ayeyarwady Delta region and two in the Central Dry Zone region. The communities were selected through various steps such as a desk review and scoping visits to represent the socioeconomic conditions in the different agro-ecologies of each region. Agro-ecologies in the Ayeyarwady Delta are delineated as freshwater and brackish water zones, while in the Central Dry Zone they are defined as year-round water availability or seasonal water availability. The Ayeyarwady Delta and Central Dry Zone are two of Myanmar's poorest regions. For the study communities in both regions, the average poverty incidence was far higher (74% and 61% respectively) than the national average (25%). The study was carried out between 27 April and 2 June 2016, during which group interviews and key informant interviews were undertaken with 79 female and 78 male participants.

# Potential benefits of gender-inclusive small-scale aquaculture

Promoting gender inclusion in Myanmar's small-scale aquaculture sector would have a range of widespread benefits. Involving women would increase adoption of small-scale aquaculture technologies, which have been less widely adopted than capture fishery innovations. Small-scale aquaculture can improve household food security by increasing the availability and accessibility of fish as well as smoothing consumption fluctuations associated with capture fishery seasonality, and surplus catch can be processed and stored to cope in times of scarcity. Targeting women is the most direct way to improve household nutrition because they are the ones responsible for purchasing, preparing and allocating household meals. Small fish are suited to small-scale aquaculture technologies, and when consumed whole (head on and gutted) they provide more nutrients than large fish. They have high production rates, are self-recruiting and can be harvested regularly.

Women's involvement in small-scale aquaculture may also increase household incomes. Surplus catch can be sold and the benefits would accrue directly to women because of their role in fish processing and selling. Processing adds value to fish, but households in the study communities rarely have surplus catch to process. Processing techniques include sun-drying, salting, smoking, making fish balls or fermenting into fish paste. By increasing local fish availability, small-scale aquaculture may also indirectly benefit other households by reducing market prices and food expenditures.

Engaging in fisheries and aquaculture gives women greater financial independence and decision-making power within households (Nandeesh 1996). Empowering women, along with the associated improvements in knowledge sharing and female involvement in livelihood activities and decision-making, is beneficial to households and has positive impacts on local and national economies (Morrison 2007). Small-scale aquaculture is a suitable entry point for empowering women because ponds can be constructed in backyard plots where women have greater access and control over resources than in main farmland areas, and small-scale aquaculture can be integrated with domestic responsibilities.

## Success story: Improving household nutrition through integrated mola-vegetable production in small-scale aquaculture

Mr. Win Zaw Ko, his wife, Thandar Aung, and their three daughters are a farming family in the Daedayae Township in the Ayeyarwady Delta. They used to culture tilapia in their 121 m<sup>2</sup> household pond. However, in July 2016, after receiving training from the MYNutrition project on household nutrition, the family switched to combined mola-vegetable culture. They stocked their pond and a nearby creek with mola and rohu and started cultivating watercress and chill on the embankments. Mola is highly nutritious and is particularly rich in vitamin A, but it is not conventionally considered an aquaculture species in Myanmar.

The project assisted the family with stocking the water bodies, provided a net and gave them training on management techniques, including how to retain broodstock so that ponds replenish themselves.

Win Zaw Ko and Thandar Aung never used to consume mola. Now they harvest and consume mola every two weeks and eat fresh vegetables daily. The family began cooking the fish gutted, though with the head on to maximize the nutritional benefits, and within 6 months they reported an improvement in their daughters' health. The family now promote combined mola-vegetable culture within the community, and they are proud to share information on household nutrition. Win Zaw Ko and Thandar Aung hope to expand their small-scale aquaculture activities to provide a source of income.

By Aye Aye Lwin, project manager, WorldFish

# Gender constraints to small-scale aquaculture

The benchmark study identified a number of socioeconomic factors that limit women's engagement in and benefits from small-scale aquaculture in Myanmar.

## Social norms and traditional gender roles

Social norms and traditional gender roles have a strong influence on social structures and women's involvement in decision-making and livelihood activities in Myanmar. For instance, in study communities, social expectations of men as "good farmers" or "good fishers" involved them seeking new knowledge and skills and earning income. The traditional view of men as the main income providers is associated with them having greater entitlements to important household assets, such as land, and maintaining control over them. Consequently, men dominate livelihood decisions, such as whether to adopt small-scale aquaculture. In fact, in study communities, men rarely consult their wives when deciding on household livelihood strategies.

Comparatively, as "good wives" or "good mothers," women are expected to fulfill domestic duties and to "assist" their husbands in livelihood activities. The social norm of women playing a supporting role to the men's lead livelihood role is evident in small-scale aquaculture. This sector is considered a male domain because men are almost entirely responsible for the primary activities of pond preparation, stocking and harvesting. However, this disregards the importance of postharvest activities and routine management, such as mending nets and feeding fish, which are carried out by women.

Women's responsibilities are very time intensive, and their working hours are longer than men's, which leaves little time for leisure or socializing and limits their ability to engage in income-generating activities, such as small-scale aquaculture. Although it is becoming increasingly acceptable for women to earn incomes, they still engage in far fewer off-farm activities than men. Furthermore, women are paid less than men for comparable work. For instance, in the study communities it was reported that women could be paid as much as 60% less than men for rice paddy labor. Pay discrimination was attributed to men using more energy to do their work than women.

## Lack of services and support

Development of small-scale aquaculture in Myanmar has been impeded by a lack of technical support. Extension services relevant to small-scale aquaculture are very limited and only available through NGOs; the various DoFs provide none, and staff from the Department of Agriculture are not trained in basic aquaculture techniques. Past aquaculture initiatives, such as those introduced by NGOs in the Ayeyarwady Delta after cyclone Nargis, were implemented with little technical expertise or ongoing support and therefore had limited livelihood benefits. Furthermore, the findings of the study highlight that the limited opportunities and support available in the past have not directly benefitted women. Postharvest activities, traditionally the domain of women, are an important value-adding stage of the value chain but have rarely been the focus of extension services or development initiatives. There are now some initiatives, such as the EU-BMZ-funded Myanmar Sustainable Aquaculture Programme (MYSAP), working on postharvest activities as part of a value chain approach with the potential to increase female engagement in and benefits from fish value chain development.

## Limited understanding of social context

There is a lack of sex-disaggregated data in fisheries and aquaculture in Myanmar, including qualitative and quantitative information on gendered roles, gender relations and women's specific needs and barriers. Consequently, understanding of the context, causes and implications of gender imbalances is limited, and the information needed to successfully realize gender equality and equity objectives, such as government policy or NGO development initiatives, is not available.

Failure to employ such information to design gender-responsive approaches to extension services and project design can make innovations inaccessible or inappropriate for women, who may only benefit indirectly. Women in the study communities said extension service schedules were incompatible with their daily routines and responsibilities, so they were dependent on informal sources of communication and systematically excluded from new technologies and up-to-date information. The expectation and invitation of "household heads" to attend extension service activities further lead to the underrepresentation of women, because headship is traditionally ascribed to men in dual adult households.

## Resource access and availability

Limited land and financial resources can be a barrier to small-scale aquaculture. In the study, female-headed households were typically in the poorest socioeconomic group; the majority did not own land and had limited financial and labor resources. Women are believed to head roughly 21% of households in Myanmar. This proportion is increasing and is higher in urban (27%) than rural areas (19%) (UNDP 2011). As discussed above, in male-headed households with

land resources women conventionally have limited access to and control over livelihood assets. Women and men also receive different financial support in the form of credit and loans. Women in the study communities had better access to financial support from NGOs, but these were often not specified for particular activities and therefore spent on household utility. Comparatively, men were more often the beneficiaries of government support targeted at specific livelihood activities.



Five o'clock in the morning at the San Pya fish market Yangon: young women scrape rohu carp fillets to remove flesh for marketing.

# Next steps: Toward gender equality

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Successful development of gender-inclusive small-scale aquaculture in Myanmar will require interventions that address the constraints identified above that characterize gender inequality in the sector. The benchmark study identified nine recommendations for implementation.

## Preliminary social analysis

There is no “one size fits all” solution for improving gender equality, and interventions must be context specific to address particular drivers, achieve desired outcomes and target vulnerable groups. Therefore, effective gender-inclusive aquaculture strategies will be dependent on prior gender-sensitive social analysis to provide in-depth understanding of gender norms and issues in aquaculture and fisheries.

## Development of the postharvest sector

Small-scale aquaculture development that includes a focus on postharvest activities would be more gender inclusive. Investment in processing technologies would directly target the activities of women, reducing postharvest losses and adding value to fish products. Improved marketing opportunities would also directly benefit women by increasing their income.

## Introduce gender-responsive technologies

Women’s active engagement in other stages of the value chain, including managing and harvesting fish, could be enabled through the introduction of gender-responsive technologies. For example, technologies that can be constructed in the homestead, such as WISH<sup>1</sup> ponds and backyard dike vegetable gardening (which can also increase income from vegetable production) may reduce the resource access, decision-making and time constraint barriers that currently limit women’s involvement in small-scale aquaculture. Chan Myaung<sup>2</sup> fish culture may be particularly suited to landless female-headed households. Development of the small-scale aquaculture sector to include gender-responsive technologies will require a better understanding of women’s interests, needs and barriers and account for these in technology development and implementation.

## Increase women’s access and engagement in extension services

The benchmark study found that the exclusion of women from extension services occurs both actively

and unintentionally. Structuring extension service schedules to be compatible with women’s time constraints, setting targets for the proportion of female participants and moving away from the traditional approach of favoring engagement of the household head would all help overcome this exclusion and improve women’s access to formal communication channels.

## Raise the profile of women in small-scale aquaculture

The predominant view that aquaculture is a male domain and that women provide only a supporting role devalues women’s activities and entitlement to benefits and undermines their confidence. Respect for women’s traditional activities in their own right may be strengthened by raising awareness of the value added to fish products through processing and trading activities, and of the physical, mental and economic benefits of household nutrition, all of which are the responsibility of women. Identifying role models of successful women in small-scale aquaculture and providing opportunities for women to demonstrate their capacities in “male” domains can challenge restrictive traditional views and motivate women to become more actively involved.

## Nurture supportive social contexts

Acknowledging gender issues alone will not result in long-term effective change in Myanmar. The root causes of inequalities need to be addressed using gender-transformative approaches that challenge discriminatory and unequal behaviors, perceptions, attitudes and social norms to complement gender-inclusive interventions. Both women and men should be encouraged and educated to better recognize women’s capabilities and contributions to livelihoods. Men would play an important role in supporting and enabling gender equality and should be encouraged to promote women’s empowerment and representation in decision-making and leadership.

## Address health concerns

Maximizing the health benefits of small-scale aquaculture will depend on increasing small fish consumption by children and pregnant and breastfeeding women. This requires overcoming the following health concerns through education and awareness raising: to reduce the risk of intestinal



worms, basic information should be provided on food preparation and the need to ensure that all freshwater aquatic animal products (fish, crabs, shrimp, snails and frogs) are well cooked before eating; fish with easily removed or digestible bones should be promoted to reduce choking hazards; and the health benefits of small fish, particularly for pregnant and breastfeeding women, should be emphasized and misconceptions of health impacts of particular species challenged.

### Break down structural drivers of inequalities

Gender inequalities are perpetuated and even created by practices and beliefs at all social and institutional levels in Myanmar. These structural drivers need to be addressed for on-the-ground interventions to be successful. Stakeholders should work together in partnerships to build coherent gender-equality action plans. This requires multilevel and multisector discussions to build a better understanding of the practices and perceptions that drive structural

inequalities and to mainstream gender equality in Myanmar's government and service provider activities. One example would be to address the imbalance of focus placed on engaging with and meeting the needs of household heads, who are predominantly male and do not necessarily represent the needs of other household members, including women.

### Ongoing monitoring

Quantitative and qualitative data using indicators of access to resources, skills, knowledge, acceptance of technologies, benefits and participation in decision-making should be collected and analyzed throughout the duration of government or NGO initiatives. Sex-disaggregated performance and impact indicators will be key to understanding whether interventions are having positive impacts on gender roles, relations, practices and subsequently norms and to support adaptive learning.



Kengtung market in Eastern Shan State, Myanmar: a range of salted marine fish being marketed 1,100 km from the sea.

## Concluding remarks

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Greater involvement of women in Myanmar's small-scale aquaculture sector offers many benefits, including female empowerment and increased household income and food security. Small-scale aquaculture can be a well-suited livelihood activity for women, particularly if their needs are accounted for in initiatives and the provision of extension services. However, the successful and balanced integration of women throughout the aquaculture value chain will require addressing deep-rooted gender inequalities arising from social norms, traditional gender roles and institutional failures. Thus, gender-inclusive interventions should be supported by gender-transformative approaches to ensure that benefits are long lasting and widespread.

## Notes

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- <sup>1</sup> WISH = Water and Fish: a pond with a plastic liner to hold water in sandy soil areas as a water source for household use and fish culture.
- <sup>2</sup> Small channels for irrigation channels or ditch and dike agriculture that are not traditionally used for fish farming but are well suited to small-scale aquaculture.

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