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Expanding the horizons for women in fisheries and aquaculture

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Introduction

Women are present in all phases of fish production, processing and distribution, and contribute to the generation of wealth, the preservation of aquatic ecosystems, and the maintenance of households and communities in rural and coastal regions. They make up half the workforce and play a prominent role in fisheries and aquaculture economies around the world (Food and Agriculture Organization of the United Nations [FAO], 2018; The World Bank, 2012). Yet their work goes unrecognized in official statistics, sector policies and development programs. The FAO only collects statistics on the primary fish production sector, in which women make up only 14% of workers, as estimated from returns by a limited number of member countries. FAO does not collect data on the secondary sector that employs many more women, and statistics on small scale fisheries where women are more numerous than in industrial fishing are relatively poor (FAO, 2018). Global and most national fisheries policies are gender-blind. The 2014 Voluntary Guidelines for Securing Sustainable Small-Scale Fisheries (VGSSF) in the Context of Food Security and Poverty Eradication was the first major fisheries instrument to incorporate gender equality (Biswas, 2017). The most relevant Sustainable Development Goal (SDG), number 14, which focuses on Life Below Water is one of the few SDGs not to contain gender targets (United Nations Entity for Gender Equality and the Empowerment of Women [UN Women], 2018).

Women face many inequities in wages and access to productive resources, technology and markets. Despite decades of research documenting women’s economic contributions, collective action to advance women’s interests and rights, and more recent institutional efforts to mainstream gender inclusion in fisheries development programs, achieving gender equality and women’s empowerment in this sector remains a challenge (Gopal et al., 2017). This Special Issue advances previous research that focused more on the gender division of labor in fisheries and aquaculture economies toward a
wider and deeper analysis of how gender constructs and unfolds in multiple dimensions of the sector.

The seven papers in this Special Issue of Gender, Technology and Development (GTD) on Gender and Fisheries focus on gender and gender relations contextualized within changing fisheries and aquaculture settings. The resulting technological and institutional changes come from different drivers, such as climate change, competitive trading relations, newly introduced fishing gears, new resource management regimes, and the need for suitable feminist research methodologies. The papers examine questions about technology, innovation, organization and empowerment by looking at: research methods to situate and understand the position of women along fish value chains and in local and regional political economies; whether innovation and planned interventions actually bring desired change in existing gender dynamics; whether technologies actually empower and benefit women; and whether collective action actually results in equitable distribution of benefits. The papers also consider social experiments and experiences taking place in the sector that can provide learning opportunities for others to emulate, and consider whether a research methodology can be considered a feminist research approach.

The papers are largely drawn from those presented at the 7th Global Conference on Gender in Aquaculture and Fisheries on ‘Expanding the Horizons of Women in Fisheries and Aquaculture’ in 2018.1 To augment the insights from the papers, our discussion also refers to some of the other work presented at the Conference as well as other studies that have been published elsewhere.

Situating women in the value chain is a first step to understanding their roles, experiences, pressures and opportunities. Even women engaged in the primary (harvest and cultivation) segments of the value chain may be overlooked and undervalued. The seaweed value chain presents particular challenges for women’s livelihoods. Much of the world’s seaweed production is labor-intensive and cultivated on small-scale farms on which many women work. The markets are distant and the producers seldom have any say in price formation while it is clearly known that lucrative export markets exist for the product. In Zamboanga Peninsula, southern Philippines, Ramirez, Narvaez & Santos-Ramirez used the framework for rapid appraisal of fisheries management systems (RAFMS) within the value chain context to guide a study of seaweed farming and local trading. This study accepts as true the assumption that producers do not equitably benefit in the seaweed value chain even before the product is exported to valuable markets. The enterprises are family ventures and women contribute to them through their unpaid family labor. The study also found that ‘the estimation of the value added along the part of the seaweed value chain […] shows that the gains of the farmers are minimal compared to the profits of the other players’. Poor quality and inadequate supply of planting material, inadequate information and poor networking are also observed as factors limiting producers’ access to better returns.

Although women are important in the primary segments of some value chains such as that for seaweed, in many countries women dominate in the secondary fish value chain segments, in post-harvest processing and marketing nodes. Despite this numerical dominance, their contributions and needs are often overlooked as national
development programs prioritize harvesting and production. In addition, social restrictions such as hierarchial husband-wife relations may also define what women do, as shown in a study of women's engagement along the fish value chain of small-scale fisheries in Malawi (Manyungwa, Hara, and Chimatiro, 2019). Women subjected to social pressures within the household experience greater difficulty than widowed or divorced women in participating as gear owners, fishing crew and market intermediaries. Studies in India of fish value chain labor found that women fisherfolk are often confined to home-based processing work as husbands or other male family members prevent them from undertaking fish marketing or other remunerative work outside the home (Hapke, 2001; Hapke & Ayyankeril, 2004). Around Lake Chapala, a large inland water body in Mexico, a recent study of the local division of labor in the fish value chain, including fish filleting, found that it is influenced by fishing and other sources of male income, and how value chain activities and household economies are structured. Whether women or men, or both, take up processing jobs depends on other available economic activities, and the value placed on processing work (Pedroza-Gutiérrez, 2019).

Despite the constraints of a community's social practices and economic circumstances, women fish workers around the world exhibit tremendous resilience and entrepreneurial initiative. Women in Mexico’s second largest wholesale fish market, the Mercado del Mar in Guadalajara, mobilize family networking, develop their managerial skills, and manage to thrive in a productive urban economy that supports the rise of powerful women (Pedroza-Gutiérrez, 2019). In southern India, women fish traders face a number of disadvantages in a market system dominated by men and patriarchal norms and ideologies, but they forge numerous strategies to circumvent gendered power dynamics and adapt to economic change (Hapke, 2001).

Williams (2019) recommended building on the insights from situating women in the value chain and linking gender and fisheries studies to the fisheries and global political economy through a feminist political economy research agenda that could also support activism.

Within communities in which fish value chains are embedded, women are sometimes targeted as the subjects for development assistance by virtue of their perceived income and empowerment needs. In these communities, do the innovations and planned development interventions bring desired change in gender dynamics? Reviewing 20 projects supporting women’s development, Choo and Williams (2014) concluded that most achieved empowerment only at the welfare or welfare-to-access levels, and for some the level of access achieved was fragile; women soon reverted back to the welfare level. Many coastal and fisheries projects do not even implement their planned gender elements, as Stacey et al. (2019) found when they reviewed 20 alternative livelihood projects carried out in Indonesia. Although women were included in many project activities, 40% of the projects had no identified gender approach and only two (10%) used a gender transformative approach that challenged gender norms and gender relations and empowered women beneficiaries. Lawless et al. (2019) found that local gender norms in three coastal villages of Solomon Islands tended to circumscribe the livelihood diversification of women compared to
men. Thus, the evidence that local gender norms and gender blind development often thwart desired change suggests that more work is needed for gender transformative approaches to be adopted to achieve the change.

Transformative changes can be brought about by several means, including planned interventions by institutions. Cole et al. present an empirical study conducted in the Barotse Floodplain, Zambia which utilizes Participatory Action Research (PAR) to test improved post-harvest fish processing technologies together with a comparative assessment of two approaches to address gender barriers. The study compares a gender accommodative (practical gender needs approach [PGNA]) with a gender transformative approach (gender-transformative communication [GTC] + PGNA). The former recognizes gender barriers and works ‘around’ these barriers, while the latter engages with and reduces gender barriers. The authors report that the use of a transformative approach has led to greater gains compared to using an approach that accommodates existing gender norms and power relations. The authors underscore the importance of using a gender transformative approach together with technical innovations, in this case, post-harvest loss reducing technologies, for programs to achieve gender equality and women’s empowerment.

An emerging body of research on gender, technology, innovation, and adaptive capacity demonstrates the ways in which innovation, adaptive capacity and technology adoption are deeply gendered processes (see Cohen et al., 2016; Locke, Muljono, McDougall, & Morgan, 2017; Ravera, Martín-López, Pascual, and Drucker, 2016; Smucker & Wangui, 2016). Men’s and women’s practices and capacities differ based on local institutional factors. These studies suggest that innovations are not just about technological and productivity gains but must also generate broader benefits for the women who use them and challenge gender dynamics. The process of innovation introduction is just as important as the characteristics of the technology itself and is not dissociable from the socioeconomic and cultural context within which it takes place.

Two papers included in this Special Issue explore whether technologies actually empower and benefit women. A gendered case study from Zanzibar (Tanzania) by Brugere, Msuya, Jiddawi, Nyonje and Maly combines empowerment strategies along with introducing a new farming technology, and Short, Mussa, Hill, Rowcliffe, and Milner-Gulland address the gendered uses and outcomes of mosquito net fishing in northern Mozambique.

In Zanzibar seaweed farming is mainly carried out by women. They face several challenges including climate change impacts (variations in sea temperature and salinity, disease incidence), low yields, lack of appropriate technology, economic inefficiencies, and social and cultural constraints. A new technology, that of tubular nets for culture in deeper waters to address climate-induced challenges, was introduced through an innovation-cum-empowerment approach. The innovation had brought with it other challenges like needing to learn to handle boats and swimming, which go against local traditions for women. Women’s empowerment is linked to cultural factors as much as it is linked to socio-economics, and these have to be taken into account before and after the introduction of innovations for effective technology diffusion and desired impacts to happen. The authors argue that innovation diffusion
frameworks must be geared toward a comprehensive analysis of gender dynamics in innovation adoption and, if used in combination with gender analysis and complementary concepts such as power and transformation, they offer a compelling way forward for the study of women’s empowerment through technology introduction and adoption. Though desired effects on livelihoods could not be delineated definitively owing to the short duration the experiment has been in progress, the innovation had ‘… increased women’s self-esteem and feeling of independence. Very importantly, and uniquely owing to the nature of the nets themselves which require women working together to seed the nets, as well as set them at sea, lift them and harvest them, tubular nets have increased seaweed farmers’ social capital in a way that was not possible before…’. Challenges still remain and lessons are yet to be drawn for wider resonance within technology adoption and gender transformative agendas.

In a study in Northern Mozambique, Short et al. characterize and present a case study of Mosquito Net Fishing (MNF) within the small-scale fisheries in Cabo Delgado. They challenge the assumption of harm posed by MNF to the fishery by using a gender lens to view the different ways women and men fishers deploy the net. Gender-disaggregated data were collected from six villages associated with the Our Sea Our Life fisheries co-management development project. Work was also undertaken to understand temporal landmarks, which include local and political history and other key events. The article discusses the potential impact of MNF and compares the ‘Chicocota’ form used by men in subtidal and intertidal zones with coral reefs to ‘Kutanda,’ the form used by women in intertidal zones, in terms of its risk of recruitment overfishing and knock-on impacts at the ecosystems level. The authors argue that the ‘Kutanda’ fishing was unlikely to have a great impact on its catch species due to their high productivity and low vulnerability. However, the ‘Chicocota’s target overlaps with other legal gears, which target commercially important species for men fishers. Therefore the Chicocota’s use competes for fishing grounds and fish with other gears men use, unlike the use of the Kutanda. Due to the micronutrient provision of their catch and its likely low ecological impact, the authors argue for the ‘Kutanda’ MN fishers, who are predominantly women, to be included in the co-management rather than be subject to an outright exclusion. They also suggest including women in the governance structure if their increased use of the ‘Chicocota’ is substantiated. The study flags the importance of rigorous investigation of MNF and its gendered dimensions, which may differ across systems or locations. It finally suggests future studies explore the influences of current and future management scenarios across the gender divide for an equitable inclusion of MNF.

Collective organization is considered an essential strategy for actors with common needs to claim their rights and achieve an equitable distribution of benefits. The diversity of situations and the lessons from women in fisheries groups are valuable, especially when those groups have been sustained over long periods (Alonso-Poblaçión & Siar, 2018). For example, women seaweed gatherers in the small fishing community of Coliumo in southern Chile formed an all-women union in order to obtain Territorial Use Rights for Fisheries under fisheries management arrangements introduced in 1997. They experienced both cooperation and conflicts arising from their union (Gallardo-Fernández & Saunders, 2018). In Japan, women’s fisheries groups within the local Fisheries Cooperative Associations (FCAs) began in the mid 1950s and have undergone a long evolution. They changed from focusing on social issues to
environmental protection and the promotion of fishery products, and are now engaged in entrepreneurial activities that can revitalize their aging communities and may pave the way for full membership of the FCAs (Soejima & Frangoudes, 2019).

Pena, McConney, Simmons, and Selliah use a suite of methods looking at women and their engagement in a postharvest fishery organization, the Central Fish Processors Association (CFPA), established in 2005 in the Barbados flyingfish fishery. They observe that although gender inequality exists within the fish value chain in Barbados, the engagement of women and girls in various roles was reported to be increasing. Women members of CFPA depend on the fishing sector with a high portion of their income derived directly from processing, selling fish and fish supplies as well as fishing. Their motivation for forming and joining the Association was for better working conditions and for their rights in the fish markets as their membership in the Association enhanced their position in the market. Women also benefited from improvement in market facilities provided through collective action by the organization. Through training and networking opportunities, women benefited individually as well as collectively. They shared ideas to improve their marketing and profits, personal and workplace hygiene, and adherence to food safety standards. Furthermore, women gained self-confidence as well as recognition locally and internationally. However challenges that plague most organizations like poor participation in meetings, poor communication between the leadership and members, and not all voices within being heard equally, were observed here as well. The effectiveness of collective action in fisheries organization depends on the participation and cohesion among group members.

Since the 1990s, coastal resource and fisheries governance has been subject to social experiments that can provide learning opportunities, including those for gender equality. The Philippines has been a particularly fertile country for new community-based governance models, but these do not all include strong gender elements. However, Dasig’s study of the experiences of women leaders in fisherfolk organizations in Bolinao, Pangasinan, Philippines, shows how collectives like cooperatives and associations that provide women with opportunities to participate in fish value chains and improve livelihoods, also have been promoted for resource conservation and management, as well as to develop personal capabilities. The early development of community-based coastal resource management arrangements in Bolinao was introduced by a non-government organization with a strong ethos of gender equality. Dasig explored the ways women leaders have been able to sustain and influence factors to enable them to continue holding their leadership positions over the long term. Eight women, each with at least ten years in leadership positions in people’s organizations for community-based coastal resource management or federation level councils for such organizations, were recruited and interviewed. The unstructured interview technique allowed women’s voices to be heard with minimum interference from the researcher. Using Thematic Network Analysis, the study unraveled the women’s leadership experiences using the three Filipino words they use – mahirap pero masaya, which means ‘difficult but fulfilling.’ These words provide a backdrop to the three themes with which the author discusses the findings, which are empowerment, motivations, and challenges.

By identifying challenges in male-dominated organizations and through a long process of negotiations, women were able to convince men to increase the women’s
participation in the organizations’ leadership structure. They also faced challenges in managing their social reproduction responsibilities apart from the organizational responsibilities, as well as threats from members and nonmembers of the organization. Nevertheless, they noted family support as one of the key factors for enabling women’s ability to uptake leadership positions. The study provides in-depth insight into the reasons for and ways with which women leaders of Bolinao were able to break into and sustain leadership positions in fisherfolk organizations.

Gender and fisheries research relies on feminist research approaches. One potential method for advancing women’s empowerment through the research process is Photovoice, an innovative research method that is low cost, fast to administer, has high impact and is well suited to community research, enabling participants to tell their stories through talking about photos and commenting on the personal meaning associated with the photos. Pierce examines whether Photovoice can be considered a suitable research methodology for analyzing gender issues in fisheries and aquaculture and is also consistent with a feminist theory perspective. The analysis of the applicability of Photovoice also assesses its safety and ethical protections for participants, whether it can lead to inclusion and the empowerment of women, and whether it can help participants reach decision makers with their views and concerns. She concludes that ‘Photovoice is a suitable research method for use in both developed and developing countries and in working with those from marginalized groups, where many women who work in fisheries and aquaculture are based’. This would then give ‘voice to speak about their lives and perceptions and as a voice to reach decision makers they would normally not get to speak to, to feel valued in their opinions, learn new skills and build social and work-related networks’. The ethical question remains as this is still dependent on the researcher(s). It also does not guarantee that the ‘empowerment’ that the voices give will sustain over time. Participants should also be made aware that actions and changes are not guaranteed even if decision makers are reached.

Photovoice, properly applied, can be a transformative research tool. Initiatives on training in research and assessment methodology also are working to bring well-founded gender tools into mainstream fisheries research assessment approaches. For example, the Rapid Appraisals for Fisheries Management tool (USAID Oceans and Fisheries Partnership, 2019) recently incorporated a gender chapter. This chapter is based on the training handbook on Gender Research in Fisheries and Aquaculture (USAID, Gender in Aquaculture and Fisheries Section, Asian Fisheries Society & Southeast Asian Fisheries Development Center, 2018) that incorporates materials on gender research concepts from GAF7 and its predecessor conference GAF6.

The seven papers in this Special Issue of GTD provide further evidence for the need to anchor research and action in specific local contexts, whether these are local production nodes of seaweed farms embedded in a global value chain, flyingfish processing plants in Barbados, or coastal fisheries management in the Philippines. Change rarely proceeds according to plan. Local social norms can inhibit or even prevent change. Experiments with gender transformative approaches in Zambia, and the persistence of women’s engagement and empowerment as leaders in Bolinao, Philippines, due to founding and support organization effects, give valuable positive lessons. Collective action has great potential to help women but its successes require
dedication, sacrifices and accommodation, and even then do not obviate all tensions among participants. New technologies, such as the tubular nets for seaweed farming in Zanzibar, introduced along with empowerment initiatives, offer hopes of more gender equal benefits. The serendipitous uptake of different forms of mosquito net fishing, by contrast, seems to have generated uninformed backlash against the forms of the gear adopted mainly by women. Feminist research and development approaches, such as Photovoice, can increase equitable outcomes by presenting compelling evidence to influence policies.

In conclusion, though fisheries and aquaculture are not monolithic and encompass a wide diversity with respect to regions and even within countries, strong evidence exists that when women’s work is made visible and valued, when they are able to speak up, be heard, make and influence choices, changes start to take place. Gender in fisheries and aquaculture is an interdisciplinary field that encompasses fisheries science (such as type of fish and gear), natural resources management, economics and trade (including value chain analysis), rights and entitlement to fishing grounds and coastal resources, as well as culture and anthropology (social arrangements and meanings related to fishing), among other disciplines. Research however requires strong gender components and frameworks. This will bring evidence into mainstream academic discourse as there is a need and scope for in-depth studies in the area that will make addressing the challenges women face possible.

Note
1. All GAF7 presentations and special sessions were also described in the overview technical report (Williams et al., 2019).

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