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Promoting Gender Integration in Southeast Asian Fisheries Frameworks



Southeast Asian Fisheries Development Center

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Heeding the call of the United Nations through the 1995 Beijing Declaration and Platform for Action aimed at achieving greater equality and opportunity for women in development, as well as the 2015 UN Sustainable Development Goal 5 to “achieve gender equality and empower all women and girls” by 2030, the Southeast Asian Fisheries Development Center (SEAFDEC) has been promoting the integration of gender in the development programs on Southeast Asian fisheries, especially after the adoption in 2001 of the ASEAN-SEAFDEC Resolution and Plan of Action on Sustainable Fisheries for Food Security for the ASEAN Region, and the sequel Resolution and Plan of Action on Sustainable Fisheries for Food Security for the ASEAN Region Towards 2020 adopted in 2011. The said action of SEAFDEC was enhanced later in 2016, with the adoption of the Joint ASEAN-SEAFDEC Declaration on Regional Cooperation for Combating Illegal, Unreported and Unregulated (IUU) Fishing and Enhancing the Competitiveness of ASEAN Fish and Fishery Products which includes among others, the resolution to “intensify capacity building and awareness-raising programs...”

Although these instruments did not explicitly give specific focus on the integration of gender in fisheries, the SEAFDEC Council of Directors in early 2017 supported the initiative of SEAFDEC to promote gender integration in fisheries considering that this forms part and parcel of the sustainable development of small-scale fisheries in the region. However, as the issues on gender approaches remain unclear to many countries in the region, it has become necessary for SEAFDEC to provide forum to discuss these aspects thoroughly. Thus, through the SEAFDEC-Sweden Project, SEAFDEC is able to promote gender awareness in the region through training at project and regional levels, as well as through workshops and consultations. This led to the inclusion of gender aspects as one of the many strategies for Sustainable Development of Fisheries Towards 2030 under the Resolution on the Future of SEAFDEC adopted by the SEAFDEC Council in November 2017, paving the way for the recognition of the importance of gender equality in the fisheries and aquaculture sector.



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C O N T E N T S

Many countries in Southeast Asia have been promoting gender equality in their programs after the adoption of the Beijing Declaration, especially in fisheries. However, it was only recently, that this aspect was given much attention, because of the need to assess the applicability of the FAO Voluntary Guidelines for Securing Sustainable Small-scale Fisheries in the Context of Food Security and Poverty Eradication or SSF Guidelines. In fact, SEAFDEC convened the Regional Technical Consultation in 2016 to develop the Regional Approaches for Securing Sustainable Small-scale Fisheries in the Southeast Asian Region, which included discussions on Gender and Social Development to enhance gender awareness. As a result, the SEAFDEC Council of Directors during its Fiftieth Meeting in March 2018, endorsed the SEAFDEC Gender Strategy under the SEAFDEC-Sweden Project “Support for the Integration of Gender Perspectives in Fisheries within SEAFDEC and Its Member Countries,” as means of providing the framework that would facilitate the efforts of SEAFDEC in integrating gender in its future programs and projects, under the context of the ASEAN perspective.

This issue of *Fish for the People* is dedicated to gender and development in the ASEAN context. This could only be the starting point, because as we achieve the SDG 5 in 2030, Gender and Social Development will have already gone a very long way in the Southeast Asian region, and by then, gender equity in fisheries shall have already been attained.

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FISH for the **PEOPLE**

Call for Articles

is a policy-oriented special publication of SEAFDEC. Now on its 16th year, the Publication is intended to promote the activities of SEAFDEC and other relevant fisheries concerns in the Member Countries. We are inviting contributors from the SEAFDEC Departments, Member Countries, and partner organizations to submit articles that could be included in the forthcoming issues of the special publication. The articles could cover fisheries management, marine fisheries, aquaculture, fisheries postharvest technology, fish trade, gender equity in fisheries, among others. Written in popular language and in layman’s terms for easy reading by our stakeholders, the articles are not intended to provide detailed technical and typical scientific information as it is not a forum for research findings. Please submit your articles to the Editorial Team of Fish for the People through the SEAFDEC Secretariat at fish@seafdec.org. The article should be written in Microsoft Word with a maximum of 10 (ten) pages using Times New Roman font 11 including tables, graphs, maps, and photographs.



Paving the Path to Gender Equality in Fisheries Policies and Practices in Southeast Asia

Bhawana Upadhyay

Women play multidimensional roles in households and communities along with their male fishing counterparts. Of the total population depending on capture fisheries, 47% are women (World Bank, 2012). According to current estimates from major fish producing countries, women comprise 46% of the labor force in small-scale capture fisheries related activities, including pre- and post-harvest work (The WorldFish Center, 2010; Kusakabe, 2017).

Based on the review of literature of key developments with regards to gender issues in fisheries in Southeast Asian countries, this paper suggests to include a diagnostic gender analysis in future fisheries research and development endeavors. It also recommends systematic channeling of resources to improve gender equity in fisheries and to ensure capacity development to improve the bargaining power of women throughout the various nodes of fish value chain.

Gender mainstreaming in natural resource management has increasingly become an important approach in addressing gender disparities in policies and practices for many research

and development organizations. However, gender experts and independent evaluators argue that achieving gender equality in research and in mainstream development programs have been a high hanging fruit for long. According to Gopal *et al.* (2017), evaluations of gender in major research, development, and environment funding institutions revealed the long and hard road for gender equity. Each evaluation concluded that while some progress had been made in mainstreaming gender, progress was slow and major challenges had not been addressed (GEF, 2017; ADB, 2017; CGIAR-IEA, 2017).

The fisheries sector is no exception. Kleiber *et al.* (2017) showed that presently, women are not only active in fisheries decision-making but are also often invisible in most fisheries statistics, information on gender barely exist or less developed, and women's interests are excluded from national policies in countries all over the world, regardless of respective national record on gender equality in society. Many of the current national fisheries policies are based on early global fisheries instruments, such as the Code of Conduct for Responsible Fisheries, which were silent on gender equality (FAO, 2012).

As a result of strong advocacy by some non-governmental organizations and women's groups for inclusion, nevertheless, some national fisheries policies have lately tended to recognize women's roles. Yet even in these cases, financial resources may not be allocated, and/or expertise is not available to address the needs (Gopal *et al.*, 2017). This paper tries to unfold how gender issues in fisheries policies and practices have evolved, and the current issues and challenges in Southeast Asia.

The women in fisheries - from invisible to visible

The first Global Workshop on Women in Aquaculture with the vision of recognizing the increasing role played by women in the development of aquaculture was organized in 1987 in Rome, Italy by the Food and Agriculture Organization (FAO) of the United Nations. The key issues identified in the Workshop that required attention were on the importance of education of women, to increase their awareness to various issues in fisheries, provision of credit facilities, and the need to develop women-friendly technologies (Gadagkar, 1992).

In 1994, the Partnership for Development in Kampuchea (Padek) held a National Symposium on Women in Fisheries in Cambodia, which was successful in bringing awareness and putting forward the changes that required developmental and strategic approaches. The Symposium ended with two key recommendations, 1) development of a country resource paper on women in Cambodia, covering agriculture and fisheries; and 2) organization of a regional seminar on Women in Fisheries in the Indo-China countries (Nandeeshha and Heng, 1994).

In 1995, a workshop was organized by United Nations Development Programme (UNDP) to prepare a background paper on Women in Asian Fisheries for presentation at the Beijing Conference. This was the time when the Network of Aquaculture Centres in Asia-Pacific (NACA) magazine, *Aquaculture Asia*, featured articles on women in fisheries (NACA, 1996a; NACA, 1996b). These efforts were helpful in setting up priorities for addressing issues on gender in fisheries at the Fourth World Conference on Women in Beijing, China (Nandeeshha and Hanglomong, 1997).

Subsequently, the Regional Seminar on Women in Fisheries in the Indo-China Countries was held in 1996 calling for urgent attention to be directed towards gender issues in the fisheries sector, and suggesting the formation of national networks in the region in order to strengthen the activities at the national level (Nandeeshha and Hanglomong, 1997). The Seminar not only brought together interested participants from Indo-China countries, but also attracted the involvement of regional and international organizations like the International Center for Living Aquatic Resources Management (ICLARM)-The WorldFish Center, Asian Institute of Technology, NACA, etc. In addition, a suggestion was made for the participation

of women in various training programs and the provision of credit to help women initiate activities within their fields of expertise and trade (Williams *et al.*, 2001). The participants then felt that the experience and the impact created at the Mekong region should be shared at the Asian level. Thus, there was a strong recommendation to organize an international seminar on women in Asian fisheries in upcoming Asian Fisheries Forum, where the Asian Fisheries Society (AFS) and ICLARM were identified as the most suitable institutions to stimulate this effort.

Based on the recommendations, AFS in coordination with ICLARM held two successful symposia— the International Symposium on Women in Asian Fisheries in 1998 in Chiang Mai, Thailand and the Global Symposium on Women in Fisheries in 2001 in Kaohsiung, Taiwan (Williams *et al.*, 2001). The Global Symposium on Women in Fisheries recognized the role of women in aquaculture while highlighting the need to sustain production from capture fisheries. It also highlighted the economic contributions of gender to fisheries with emphasis on understanding how gender affects the operations of the sector and what actions and policies could empower the different groups. The Symposium concluded that more research needs to be done to understand fisheries regulations, policies, and plans, and how these could be enhanced by embedding gender and other human dimensions (Choo *et al.*, 2006). A resolution was made in the Symposium to shift the





focus from women in fisheries to gender and fisheries with a view to addressing the issues more holistically.

Inclusion of gender in fisheries

The focus from women in fisheries shifted to gender in fisheries in 2001. Thereafter, the Global Forum on Gender and Fisheries was held in 2014 in Penang, Malaysia. One of the key messages from the Forum was to enhance the fisheries regulations, policies, and plans, primarily to embed gender and human dimensions by mainstreaming gender in all fisheries activities and supports. This was the time when women's roles in fisheries sector in Asia gained much more attention and acceptance. It was recognized that, while men were engaged in fishing activities on their boats, women were heavily involved in small-scale fisheries related activities. From that time on, it has become imperative to consider women's roles in small-scale fisheries' policies and development programs with the aim of improving their livelihoods (Needham, 2011).

As gender issues in general and women's roles in small-scale fisheries in particular started gaining momentum in Southeast Asia, many international and regional organizations slowly started to devise strategies for the inclusion of gender in fisheries development programs. For example, the four-year program Regional Fisheries Livelihoods Programme for South and Southeast Asia (RFLP) started taking initiative in documenting the practical application of incorporating gender in fisheries programs and projects in 2009-2013 (FAO, 2018). RFLP was funded by the Kingdom of Spain and executed by FAO in collaboration with the national agencies responsible for fisheries in six countries – Cambodia, Indonesia, Philippines, Sri Lanka, Timor-Leste, and Viet Nam. Its aim was to improve the livelihoods of small-scale coastal fisheries communities, while contributing to sustainable management of aquatic resources. RFLP has worked on five main outputs, which are 1) co-management; 2) safety at sea and vulnerability reduction; 3) post-harvest and marketing, 4) livelihoods strengthening and diversification; and 5) micro-finance services. Also, RFLP had gender mainstreaming as an important crosscutting issue in its implementation.

In 2010, the Workshop on Best Practices for Gender Mainstreaming in the Fisheries Sector held in Siem Reap, Cambodia brought representatives from various international organizations, government institutions, academia, researchers, and practitioners from the Southeast Asian region to discuss the design and contents of a field manual on how to incorporate gender in all phases of small-scale fisheries development projects. The field manual "Mainstreaming Gender into Project Cycle Management in the Fisheries Sector" provided the rationale, concepts, and approaches concerning mainstreaming gender equality and the role of women in the fisheries sector, the problems they face and possible empowerment opportunities (Arenas and Lentisco, 2011). It also highlighted the tools for gender analysis in fisheries development projects and offered guidance on how to integrate gender aspects at various stages in the project cycle. The manual is available in English, Vietnamese, and Thai languages. Besides the field manual, RFLP developed gender mainstreaming strategy for the RFLP to share knowledge and provide guidance to other projects and programs by sharing the process of gender mainstreaming in the RFLP and the lessons learned.

Finally, RFLP mainstreamed gender into all of its activities across all countries. Some of the outcomes were groundbreaking in the gender and fisheries policy sector. For example, with RFLP support and advocacy, the Government of Sri Lanka has revised its Fisheries and Aquatic Resources Act No. 2 of 1996 which did not allow women to be members of Fisheries Committees. This represented an unprecedented opportunity for women to become legal members of Fisheries Committees and to participate in fisheries planning and management. Likewise in Viet Nam, RFLP teamed up with the Women's Union to hold workshops to raise awareness of gender issues among members of fishing communities. The involvement of a large number of men (approximately 40%) helped dispel the impression that gender was women's business and led to far more useful discussions on gender roles in the community.

One of the lessons learnt from RFLP was to recognize women's roles as an integral element of development actions relating to small-scale fishing as women played dominant role in the key RFLP thematic areas related to post-harvest and livelihoods. Therefore, gender aspects in small-scale fisheries should not be an afterthought (Lentisco, 2012; FAO, 2016). **Table 1** below presents chronology of key developments related to gender in fisheries.

SEAFDEC Initiatives on Mainstreaming Gender in Fisheries

Recognizing women fishers as separate stakeholders in resource management, SEAFDEC implemented the Integrated Coastal Resource Management (ICRM) Project over the period from 2003 to 2009 with pilot sites in Thailand, Cambodia, and Malaysia. The ICRM Project supported the

Table 1. Chronology of events related to gender and fisheries

Year	Event and/or regional program/project	Research
1987	First Global Workshop on Women in Aquaculture	<ul style="list-style-type: none"> • Raised awareness on various issues in fisheries, provision of credit facilities and women-friendly technologies
1994	National Symposium on Women in Fisheries in Cambodia	<ul style="list-style-type: none"> • Country resource paper on women in Cambodia developed, covering agriculture and fisheries • Recommended to organize a regional seminar on women in fisheries in the Indo-China countries
1995	Asian Level Workshop on Women in Asian Fisheries	<ul style="list-style-type: none"> • Background paper on women in Asian fisheries developed for presentation at the Beijing conference • The magazine, Aquaculture Asia, of NACA featured articles on women in fisheries
1996	Regional Seminar on Women in Fisheries in the Indo-China Countries	<ul style="list-style-type: none"> • Called for an urgent attention to gender issues in the fisheries sector • Suggested to form national networks in the region • Recommended to organize an international seminar on women in Asian fisheries in the upcoming Asian Fisheries Forum (AFF)
1998	International Symposium on Women in Asian Fisheries	<ul style="list-style-type: none"> • Recognized the role of women in aquaculture • Highlighted the need to sustain production from capture fisheries and women's roles in fisheries and aquaculture
2001	Global Symposium on Women in Fisheries	<ul style="list-style-type: none"> • Resolution made to shift the focus from women in fisheries to gender and fisheries • Recommended to undertake more research to understand fisheries regulations, policies, and plans
2003-2009	Integrated Coastal Resource Management Project (ICRM)	<ul style="list-style-type: none"> • Supported women's groups to create alternative livelihoods to increase income, achieve food security, and to reduce overfishing by diversifying the occupation
2004	Global Forum on Gender and Fisheries	<ul style="list-style-type: none"> • Recommended to enhance the fisheries regulations, policies, and plans to embed gender and human dimensions in all fisheries activities
2007-2010	Fund on the Promotion of One Village, One Fisheries Product (FOVOP)	<ul style="list-style-type: none"> • Involved women's groups and the youth in the institutional set up of the fisher's groups
2009-2013	Regional Fisheries Livelihoods Programme for South and Southeast Asia (RFLP)	<ul style="list-style-type: none"> • Developed gender mainstreaming strategy for the RFLP
2010	Workshop on Best Practices for Gender Mainstreaming in the Fisheries Sector	<ul style="list-style-type: none"> • Developed tools for gender analysis in fisheries development projects and a field handbook on how to integrate gender aspects at various stages in the project cycle
2011	ASEAN-SEAFDEC Conference on Sustainable Fisheries for Food Security for the ASEAN Region towards 2010	<ul style="list-style-type: none"> • Adopted the ASEAN-SEAFDEC Resolution on Sustainable Fisheries for Food Security for the ASEAN Region towards 2020. The resolution asserted to strengthen the capacity of relevant stakeholders and harmonize the initiatives that support fisheries communities and governments, with a special focus on women and youth
2014	Thirty-first Session of the FAO Committee on Fisheries (COFI)	<ul style="list-style-type: none"> • Endorsed the voluntary guidelines for securing sustainable small-scale fisheries in the context of food security and poverty eradication (SSF Guidelines) • Sought attention towards the need to secure rights and access to resources within the broader framework of human rights-based and gender equality approaches to small-scale fisheries development
2015	Southeast Asia Regional Consultation Workshop on the Implementation of SSF Guidelines	<ul style="list-style-type: none"> • Emphasized on the implementation of SSF Guidelines and identification of implementation challenges
2017	Expert Workshop on Regional Approach for the Implementation of SSF Guidelines	<ul style="list-style-type: none"> • Clarified the application of human rights-based and gender equality approaches and some concepts of SSF Guidelines and their implication in the context of small-scale fisheries governance and development in Southeast Asia
2017	Special Meeting of the SEAFDEC Council	<ul style="list-style-type: none"> • Recognized the importance of small-scale fisheries, welfare of labor in fisheries, safety at sea, and gender equality in fisheries and aquaculture by adopting Resolution on the Future of SEAFDEC: Vision, Mission, and Strategies Towards 2030

women's groups in Thailand, Malaysia, and Cambodia to create alternative livelihood opportunities to increase their incomes, achieve food security, and to reduce overfishing by diversifying their occupations (Ruangsivakul *et al.*, 2011). ICRM also helped the women in its project sites to play active role in community-based savings and financing groups to have an easy access to microfinance for their new ventures (SEAFDEC, 2007).

Likewise, the One Village, One Fisheries Product (FOVOP) project was implemented by SEAFDEC in 2007-2010, and funded by ASEAN Foundation through the Japan-ASEAN Solidarity Fund, with the objective of improving the livelihoods of fisheries communities in the ASEAN region. FOVOP took the initiative to involve women and youth in the institutional setup of the fishers' groups (Wongsanga and Sulit, 2010).

In June 2011, during the ASEAN-SEAFDEC Conference on Sustainable Fisheries for Food Security for the ASEAN Region towards 2020, the ASEAN-SEAFDEC Member Countries adopted the Resolution and Plan of Action on Sustainable Fisheries for Food Security for the ASEAN Region Towards 2020, which asserted towards strengthening the capacity of relevant stakeholders and harmonizing the initiatives that support fisheries communities and governments, with a special focus on women and youth. In 2014, the Voluntary Guidelines for Securing Sustainable Small-Scale Fisheries in the Context of Food Security and Poverty Eradication (SSF Guidelines), were developed through a global, concerted effort and endorsed at the 31st Session of the FAO Committee on Fisheries (COFI).

The SSF Guidelines took a wide-ranging perspective of small-scale fisheries livelihoods and draw attention to the need to secure rights and access to resources within the broader framework of human rights-based and gender equality approaches to small-scale fisheries development. This was followed by the Southeast Asian Regional Consultation Workshop on the Implementation of the Voluntary Guidelines for Securing Sustainable Small-Scale Fisheries in the Context of Food Security and Poverty Eradication, which was co-hosted by the Ministry of Marine Affairs and Fisheries (MMAF) of the Government of Indonesia and FAO in collaboration with SEAFDEC and the Bay of Bengal Large Marine Ecosystem (BOBLME) Project in August 2015 in Bali, Indonesia. Considering the current challenges of implementation of SSF Guidelines, an Experts Workshop on Regional Approach for the Implementation of SSF Guidelines was convened in September 2017 in Bangkok, Thailand. Hosted by the SEAFDEC-Sweden Project, the Workshop helped to generate a great deal of dialogue among key stakeholders, donors, and regional and national organizations. One of the key outputs of the Workshop was a policy brief on Applying Human Rights-based and Gender Equality Approaches to Small-scale Fisheries in Southeast Asia.

During the Special Meeting of SEAFDEC Council on 15 November 2017, the SEAFDEC Council of Directors also recognized the importance of small-scale fisheries, welfare of labor in fisheries, safety at sea, and gender equality in the fisheries and aquaculture by adopting the Resolution on the Future of SEAFDEC: Vision, Mission, and Strategies Towards 2030.

Way Forward

Gender issues in fisheries across Southeast Asia have been evolving since late 1980s, primarily highlighting on concerns related to women in aquaculture. Although the Gender in Aquaculture and Fisheries Section (GAFS) of the Asian Fisheries Society (AFS) was officially founded in January 2017, the AFS has been active in promoting the importance of gender dimension in fisheries and aquaculture early on. With the formation of GAFS, AFS became the first fisheries and/or aquaculture professional society to establish a section devoted to gender issues in fisheries and aquaculture.

The main paradigm shift happened during the Global Symposium on Women in Fisheries in 2001 in Taiwan with the well coordinated efforts from the AFS and WorldFish Center. During such Symposium, a resolution was made to shift the focus from women in fisheries to gender and fisheries with a view to addressing the issues more holistically. In addition, RFLP also shared the lessons learnt highlighting experiences from Southeast Asian countries and provided



a framework and approach for gender mainstreaming in the fisheries sector.

Though the female workforce, particularly in the small-scale fisheries sector is increasing, extensive research works with gender perspective covering issues like safety at work in fish value chains, technology and innovation, food and nutritional security, governance and rights, climate change, disasters and resilience, etc. are sporadically documented. For example, women in value chains are often considered as invisible instead of being active in a wide range of harvest and post-harvest activities both in capture fisheries and aquaculture. The State of the World Fisheries and Aquaculture affirms that much more needs to be done to secure fair livelihoods for women in the fish value chains (FAO, 2016).

The need to mainstream gender into policies and programs across different food production systems is also gaining importance considering the gender specific contributions that can be made to ensure food and livelihood security across nations (The WorldFish Center, 2010). However, often times gender studies in relation to fisheries revolve around men's and women's access to and control over resources and the community perception about gender differentiated roles and responsibilities. Issues like gender in food security, nutrition, legal rights, labor and processing opportunities for fair livelihoods, and resilience in disasters are yet to be dealt with in depth particularly in the context of Southeast Asia.

A special issue of Asian Fisheries Science Journal, which comprises papers presented in the Sixth Global Symposium on Gender in Aquaculture and Fisheries (GAF6), suggested that there are primarily seven areas that have not received adequate attention in fisheries sector, *i.e.*, violence against women, fish processing, impacts of changes in resources and climate on women, linkages between fisheries, aquaculture and agriculture, household impacts of women's success in technology adoption, how to transform gender relationships and norms, and the effect of global processes on gender relations in the fisheries sectors (Williams *et al.*, 2006; Gopal *et al.*, 2016; Williams, 2017).

This missing gap offers an opportunity for relevant donors, stakeholders, and countries in the Southeast Asian region to include a diagnostic gender analysis in their fisheries research and development endeavors. Inclusion of such analysis will help generate evidence-based gender data to support targeted policy and development actions towards reducing gender gap while improving gender equity in fisheries

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The Importance of Gender in Fisheries: The USAID Oceans Experience

Arlene Nietes Satapornvanit

In the fisheries sector, gendered divisions of labor and the invisibility of many actors, particularly women workers, and migrants, may lead to policies and programs that ignore people's needs and welfare, including social protection. One of the reasons why gender has been long overlooked by the fisheries sector is the perception that it is a masculine industry. However, fisheries research has shown that the sector is not only a domain for men, but also it has a heavy participation of women (Sison *et al.*, 2002; Kleiber *et al.*, 2014; Satapornvanit *et al.*, 2016). Although capture fisheries have been associated with men, women also contribute significantly in post-harvest, processing, and marketing (Williams, 2008; Weeratunge *et al.*, 2010). Women often have varied important roles such as onshore laborers, traders, buyers, and financiers in small-scale fisheries in the Southeast Asian region.

A number of international and regional organizations recommended that gender issues in the fisheries sector should be addressed, such as through the implementation of guidelines like the FAO Voluntary Guidelines for Sustainable Small-Scale Fisheries (FAO, 2017), Convention on the Elimination of All Forms of Discrimination against Women (UN, 1979), UN Sustainable Development Goals (UN, 2015), USAID Gender Equality and Female Empowerment (USAID, 2012), and the Committee on World Food Security (CFS). The CFS urged States to ensure that fisheries policies and interventions should promote gender equality and should take care not to result in negative impacts on women (CFS, 2015). In addition, the CFS also recommended that the FAO Committee on Fisheries should develop policies to guide member states on the implementation of gender equality and economic contributions. More importantly, development assistance programs were required to be more gender-aware and to give priority to initiatives that promote gender equality.

A number of development organizations have developed policies around gender equity and have incorporated gender equality into their developmental goals. The Gender Equality and Female Empowerment Policy of the U.S. Agency for International Development (USAID) takes notice of the fact that “*Societies with greater gender equality experience faster economic growth, and benefit from greater agricultural productivity and improved food security*” (USAID, 2012). This facilitated the inclusion of a specific goal in the United Nations’ 2030 Sustainable Development Goals (SDG): SDG 5, which aims to achieve gender equality and empower all women and girls (UN, 2015).

There are several natural entry points for gender integration within the fisheries sector, such as in research, policy development, project design and implementation, education, extension, capacity building, markets and trade, and media and communications. What is needed is an understanding of what constitutes gender equity and equality (see **Box 1**) and how these could be achieved in the context of fisheries.

Box 1. Simplified gender terminologies

- **Sex and gender** - sex is biologically determined, more constant across time and cultures; gender is socially ascribed, and changes across time and culture.
- **Gender analysis** - a process of gathering and analyzing sex-disaggregated information in order to understand gender differences and to identify major issues that contribute to gender inequalities. It uncovers how gender relations affect a development problem, and examines the differences in women's and men's lives, including those which lead to social and economic inequity for women. The ultimate aim is to achieve positive change, particularly for women who are mostly at a disadvantage.
- **Gender equality** - a state in which the allocation of resources, programs, opportunities, and decision making is equally given to women and men so they have the same, and could also refer to the state or condition in which women and men have equal enjoyment of their human rights, socially valued goods, opportunities, and resources.
- **Gender equity** - is the fair allocation of resources, programs, opportunities, and decision-making to both women and men without discrimination on the basis of sex, as well as addressing any imbalances or inequities in the benefits available to both sexes. To ensure fairness, compensation must be considered to cover economic, social, and political disadvantages that prevent women and men, boys and girls from operating on a level playing field.
- **Gender sensitive** - awareness of the ways people think about gender, so that individuals rely less on assumptions about traditional and outdated views on the roles of women and men.
- **Gender mainstreaming** - a strategy which makes women's as well as men's concerns and experiences a vital aspect of the design, implementation, monitoring, and evaluation of policies and programs at all levels and spheres *i.e.*, political, economic, and societal, in order that women and men can benefit equally, and inequality is not continued or promoted.
- **Gender integration** - taking gender aspects into account in program design, implementation, monitoring, and evaluation, to compensate for gender-based inequalities.
- **Gender responsive** - recognizing and addressing the particular needs, priorities, and realities of women and men so that both of them can equally benefit, with gender-sensitive indicators to track progress in closing the gender gap.
- **Gender-sensitive indicators** - indicators disaggregated by sex, age, and socio-economic background, which are designed to determine changes in relations between women and men over a period of time.

Source: Arenas and Lentisco, 2011; IGWG, 2016; March *et al.*, 1999; UNDP, 2007



Women tuna buyers checking the quality of fish at the fish port in General Santos City, Philippines

USAID Oceans' commitment on gender integration

The USAID Oceans and Fisheries Partnership (USAID Oceans) encourages equal participation and access to program activities by women and men in interviews, meetings, trainings, technology development, research and testing, and as resource persons. As it has been established that women are oftentimes the most disadvantaged in fisheries, USAID Oceans tries to engage with women's groups and associations in various activities to increase their capacity for leadership and empower them to realize their roles as important components in the fisheries value chain and in their communities. To further gender integration, USAID Oceans tries to give opportunities to stakeholders with gender and/or women empowerment strategies, particularly women's/gender groups, networks, and private sector partners. USAID Oceans has also worked with local stakeholders to co-draft the Ecosystem Approach to Fisheries Management (EAFM) plans, particularly strengthening the plans' gender components to balance social well-being with ecological well-being, supported by good governance.

USAID Oceans and SEAFDEC joint gender programs

The importance of a gendered approach to project implementation was recognized in the conception and design of the USAID Oceans, a collaborative project between the Southeast Asian Fisheries Development Center (SEAFDEC) and the USAID Regional Development Mission for Asia, which is working on the ways and means of combating illegal, unreported and unregulated (IUU) fishing and promoting sustainable fisheries management among the ASEAN Member States (AMSs) and the Coral Triangle Initiative on Coral

Reefs, Fisheries, and Food Security (CTI-CFF) countries. As part of its strategy, the USAID Oceans has woven gender interventions throughout its activity structure. Gender integration has been included in the design of the activity since the beginning, with strategies set in place to enable a biodiversity and fisheries activity focusing on technology development and fisheries management to apply a gender lens during its implementation.

In promoting the program's strategic approach, USAID Oceans established two learning sites in Indonesia and Philippines, and conducted gender analyses of the fisheries value chains in these two sites. The analyses conducted by the National Network on Women in Fisheries in the Philippines (WinFish), and the Sam Ratulangi University (UNSRAT) in Indonesia, employed USAID's Gender Dimensions Framework overlaid with a gender-responsive value chain analysis framework (Mayoux and Mackie, 2008). The findings of the analysis enabled the program to understand the gender differentials across various nodes of the value chain, identify gender-related key data elements to be captured by the program's electronic catch documentation and traceability system (eCDTS), collect sex and/or gender disaggregated data, and provide inputs to capacity building activities, interventions, and communication materials. The analyses also looked at existing national and local gender initiatives, identified strategic areas of intervention, and provided recommendations for various stakeholders to promote gender equity in fisheries (**Table 1** and **Table 2**).

Way forward

For development practitioners, fisheries management experts, and as participants in fisheries initiatives, assessing the impact of the USAID Oceans' work in gender in fisheries is important



A small-scale woman trader buys fish from fishermen and sells them to a wholesale trader in Kiamba, Sarangani, Philippines

so that further improvements or corrections could be made. In addition to human welfare drivers, there are also increasing market incentives to responsible fisheries, as consumers are interested in seafood products which give considerations to human welfare such as gender and social equity, women empowerment, and human well-being. It is therefore necessary

for the fisheries industry, including government, private, and the civil society sectors, to be equipped in this aspect of human welfare, particularly in the gender dimension. Such actions must ensure that women, youth, and other marginalized groups are benefitting from improvements brought about by sustainable fisheries initiatives, such as the USAID Oceans.

Table 1. Summary of recommendations for stakeholders in Indonesia to promote gender equity in fisheries

Stakeholders group	Policy	Research	Actions/Interventions
Local and national government	<ul style="list-style-type: none"> Supporting the formation of women fisher and fish processor groups, and developing women-friendly policies and procedures particularly in financing, marketing of products, and business permits issuance to encourage women in fisheries entrepreneurship Advocacy for women-friendly and safe workplaces in fisheries, and development of local ordinances to ensure that women and youth involved in fisheries work feel safe in their communities and workplaces 	-	<ul style="list-style-type: none"> Capacity building and extension among women stakeholders in fisheries on relevant skills Recognition of and provide incentives to fisheries businesses and establishments where gender equality and women empowerment are being upheld. Information drive and extension of regulations on gender equality, and women empowerment, fisheries regulations and relevant information Provide financial support for start-up businesses by women
Private sector/fisheries industry	<ul style="list-style-type: none"> Develop and adopt a gender equality policy in the companies to ensure women are not excluded in recruitment, promotion, being part of the board of directors, salary increases, opportunities for capacity building, travel, among others 	-	<ul style="list-style-type: none"> Development and/or implementation of the gender equality policy of the company Support the formation of groups of small-scale women fish processors and provide them with technical skills Provide opportunities to women small-scale fish processors to supply the companies with their products
Research institutions	<ul style="list-style-type: none"> Advocate for gender sensitive research methods to be able to extract sex and gender disaggregated data 	<ul style="list-style-type: none"> Understanding women's and men's roles and relationships in the fisheries sector Women-friendly and appropriate technologies for fish processing Documentation of gender-sensitive indigenous technical knowledge for sustainable fishing practices 	-
Civil society, NGOs, associations	-	-	<ul style="list-style-type: none"> Develop or support networking of women's groups to enable them to contact each other to gain experiences, share skills, obtain information on various fisheries related activities including market opportunities, prices, resources, and financial aids/supports
Development assistance agencies	<ul style="list-style-type: none"> Promote gender integration among development partners and project proponents Prioritize assistance to organizations and projects with gender integration strategies 	-	<ul style="list-style-type: none"> Support the initiatives that promote gender equity and women and youth empowerment in fishing and coastal communities through provision of start-up capital, training, sharing of information, and other activities related to coastal community empowerment

Source: UNSRAT (2017)

Table 2. Summary of recommendations for stakeholders in the Philippines to promote gender equity in fisheries

Stakeholders group	Policy	Research	Actions/Interventions
Local government units (LGU)	<ul style="list-style-type: none"> Formulate, adopt, and institutionalize a gendered tuna development plan or roadmap, addressing the practical and strategic gender needs identified in the gender analysis Include the attendance of heads of organizations in basic gender sensitivity trainings and on eCDTS/EAFM in the application requirements for renewal of fishing licenses and permits 	<ul style="list-style-type: none"> Conduct impact studies on eCDTS/EAFM related topics as basis for planning and intervention 	<ul style="list-style-type: none"> Include women in the policy making and program development bodies/units Capacity building, information campaigns, and orientation of women fishers on the eCDTS and EAFM and relevant skills information Give recognition or incentives to women's groups/individuals who advocate greater participation of women Officially designate a focal person for Gender and Development in the LGU
National government	<ul style="list-style-type: none"> The mandatory use of Harmonized Gender Development Guidelines (HGDG) tools in the review and enhancement of existing policies and programs related to fisheries Inclusion of women/gender in fisheries (e.g., eCDTS/ EAFM) in the national R&D agenda 	<ul style="list-style-type: none"> Provide support to research translation and technology transfer activities Engage State Universities and Colleges (SUCs) to conduct study on how to use the latest information technology to strengthen flow of information along the tuna value chain 	<ul style="list-style-type: none"> Strengthen collaboration with similar and counterpart institutions in the international scene, particularly on the role of women in fisheries management Capacity building activities on various topics as needed
Private sector	<ul style="list-style-type: none"> Local resolutions that will open traditionally male-dominated work spaces to women who are capable of performing the work. Details will include provision of women-friendly tools and equipment, among others 	<ul style="list-style-type: none"> Benchmark eCDTS/EAFM strategies and mechanisms in other areas in order to be able to design a gendered framework and mechanisms in the implementation of eCDTS/ EAFM at the local level 	<ul style="list-style-type: none"> Capacity building and Information, Education and Communication (IEC) campaigns to promote gender awareness/sensitivity on the importance of work-life balance in the workplace, on fishery standards, rules, and regulations in the local and international markets, as well as gender policies and issues Provision of better working conditions for women that address their practical and strategic needs to improve their productivity and welfare Full implementation and compliance to laws such as the RA 7877 (The Anti-Sexual Harassment Act of 1995)
Research institutes	<ul style="list-style-type: none"> Lobby for the inclusion of gender in fisheries and aquaculture as a separate and major research area under the Philippine Harmonized National R&D Agenda that is spearheaded by the Department of Science and Technology 	<ul style="list-style-type: none"> Conduct of research on topics such as a gendered database by fishery product/sector and gender relations within the household and in the work sphere 	<ul style="list-style-type: none"> Provide the expertise and technical assistance to LGUs, national agencies, and private sectors for capacity building activities
Civil society, NGOs, associations	<ul style="list-style-type: none"> Lobby for gender-responsive policies and regulations at all government levels in order to protect the rights and welfare particularly women workers in the tuna industry, including measures regarding mandatory provision of protective gears for workers 	<ul style="list-style-type: none"> Design women-friendly programs that are dovetailed to address the multiple and inter-sectional situations of women in the tuna value chain Develop a social insurance scheme for seasonal, contractual, and/or self-employed workers/fishers 	<ul style="list-style-type: none"> Organize more women's groups in the villages for them to be empowered and own their successes in the industry, to represent women in policy making, project identification/design, implementation, and monitoring Mentor the women by conducting capacity building and skills training activities on off-the-sea livelihoods in order to provide a wider option to women Monitor the compliance of stakeholders to gender policies and labor laws and regulations

Table 2. Summary of recommendations for stakeholders in the Philippines to promote gender equity in fisheries (Cont'd)

Stakeholders group	Policy	Research	Actions/Interventions
Development assistance agencies	-	<ul style="list-style-type: none"> • Document the success stories for possible replication • Conduct intercountry research to widen the perspectives on women and fisheries 	<ul style="list-style-type: none"> • Coordinate with local players so that interventions are more targeted to the needs of the women and men stakeholders • Conduct capacity building to include introduction of women-friendly fishing gears and technologies from other countries; and facilitate/introduce international collaborative gender-related projects • Encourage sharing of data and skills on best practices in gender integration

Source: WinFish (2017)

As the seafood industry and social development are closely linked together, the human dimension in fisheries development must be excluded. Fisheries management and development approaches should be inclusive of a gendered approach, rather than gender blind and uninformed on the impacts of actions on the well-being of women and men. Through individual work, awareness of gender equity in the fisheries sector and the benefits of women's involvement, especially in decision-making could be raised.

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Recognizing Gender Roles in the Fisheries Value Chain: local fishing communities of Thailand in focus

Jariya Sornkliang, Rattana Tiaye, Thana Yenpoeng, Varuntorn Kaewtankam,
and Jasmine Pholcharoen

Recently, the Southeast Asian Fisheries Development Center (SEAFDEC) through its Training Department (TD) has been advocating gender equality in its programs and activities by making sure that the knowledge gaps and opportunities for women and the youth could be identified as well as their capacity needs in order to attain gender equity in fisheries in the future. In the Resolution on the Future of SEAFDEC: Vision, Mission and Strategies Towards 2030, which was adopted by the SEAFDEC Council of Directors during its Special Council Meeting in November 2017, the Strategies which would be used by SEAFDEC as basis for the development of its programs and activities in the future, included a provision *viz*: to recognize the importance of small-scale fisheries in the Southeast Asian region, SEAFDEC should promote gender equality in the fisheries and aquaculture sector. Such promulgation had therefore facilitated the adoption by the SEAFDEC Council of Directors during the Fiftieth Meeting of the SEAFDEC Council in March 2018, of the SEAFDEC Strategy “*Support for the Integration of Gender Perspectives in Fisheries within SEAFDEC and its Member Countries*,” which was developed through the SEAFDEC-Sweden Project “*Fisheries and Habitat Management, Climate Change and Social Well-being in Southeast Asia*.” Under such initiative, the SEAFDEC Gender Working Team (GWT) was established comprising technical staff from TD. The activities of the SEAFDEC GWT started with the two-year (2017-2018) regional field study on gender in fisheries in collaboration with partners, which aims to explore the gender patterns in coastal and marine resources management in the Southeast Asian region. Initially implemented in Cambodia, Myanmar, and Thailand, the study intends to collect field data to be used in analyzing the gender issues as well as the structural causes of gender inequities and inequalities in the fisheries sector of Southeast Asia.

Gender is one of the many forms of social differences in our society, the others being class, caste, age, ethnicity, race, etc. (MFF, 2018). In analyzing the gender perspectives in local fishing communities, it should be understood that as a social difference, gender is also a form of power relationship that creates gender-based hierarchies and inequalities, among others (MFF, 2018). Gender inequality is present when the roles of women and men in all sectors of society vary not only in terms of participation in economic endeavors but also in decision-making, and when the behaviors, aspirations and needs of men and women are expressed variably (ILO, 2000). Since it has become necessary to address the concerns on gender equality for the sustainability of fisheries, especially small-scale fisheries which dominate the fisheries sector of the Southeast Asian region, SEAFDEC has therefore implemented

activities that take into consideration the new paradigm in sustainable small-scale fisheries development that aim for gender equity in the fisheries sector.

At the global level, concerns on gender inequality in fisheries are now being addressed by incorporating gender considerations in the FAO “*Voluntary Guidelines for Securing Sustainable Small-Scale Fisheries in the Context of Food Security and Poverty Eradication*” or SSF Guidelines for short. The Guidelines “*calls for equal participation of women in decision-making processes and organizations, appropriate technologies, and supportive policies and legislation; and encourages the compliance with relevant international human rights law and the development of monitoring and evaluation systems to assess the impact of legislation, policies and actions for effectively addressing and mainstreaming gender issues in programs and activities*” (FAO, 2015).

ILO (2000) defined gender equality as the state when men and women have equal access to resources and opportunities, as well as control over the resources. In this regard, the promotion of gender equality and empowerment of women would involve the adoption of policies on gender mainstreaming, which is defined as “*...the process of assessing the implications for women and men of any planned action, including legislation, policies or programs, in all areas and at all levels. It is a strategy for making women’s as well as men’s concerns and experiences an integral dimension of the design, implementation, monitoring and evaluation of policies and programs in all political, economic and societal spheres so that women and men benefit equally and inequality is not perpetuated. The ultimate goal is to achieve gender equality*” (UN, 2002).

Nonetheless, FAO (2013) prescribed that “*gender mainstreaming is not only a question of social justice but is also necessary for ensuring equitable and sustainable human development. The long-term outcome of gender mainstreaming will be the achievement of greater and more sustainable human development for all.*”

As a first step in gender mainstreaming, gender analysis should be carried out to be able to explain the mechanisms that result in gender inequality and the ways with which social groups of men and women act and change their existing roles, relationships and processes in their own interest. Gender analysis is a systematic way of examining the differences in: the roles and norms of women and men, as well as those of girls and boys; the social groups of men and women based on

caste, class, age, race etc.; the levels of power held by men and women, and their needs, constraints, and opportunities; and the impact of these differences in their lives. Specifically, the SSF Guidelines promulgates that gender equality is achieved in the entire fisheries value chain.

In this context, fisheries value chain refers to “*all the activities and services – from input supply to production (capture fisheries and aquaculture farming), processing, wholesale, and finally, retail,*” and FAO (2015) advocated that the role that women play in the post-harvest sub-sector and support improvements should be made part of the whole fisheries value chain, which are to be considered in carrying out any gender analysis. Moreover, since the statistics on the number of women involved in the whole fisheries value chain including the entire fisheries-related works are not readily available, it is necessary to collect data and information on gender, to be able to qualify and quantify the important roles that women play in the fisheries sector. Through such data, the multidimensional nature of work undertaken by women in fishing communities could be captured so that policies could be formulated with such realities in mind (ICSF, 2018).

The Regional Field Study on Gender in Fisheries

Under the SEAFDEC-Sweden Project, TD through the SEAFDEC GWT implemented in 2017 the two-year Regional Study on Gender in Fisheries (2017-2018) in collaboration with the International Union for Conservation of Nature (IUCN) through the Mangroves for the Future (MFF) and the Stockholm Environment Institute (SEI) of Sweden with funding support from the Government of Sweden. The regional study is aimed at exploring the gender patterns in coastal and marine resources management, and improving one’s understanding of the roles that women and men play in environmental decision-making as well as the structural challenges that prevent the equitable opportunities for men and women in the coastal and marine fisheries sub-sectors in Southeast Asia. The project was initially implemented in three SEAFDEC Member Countries: Cambodia, Myanmar, and Thailand.

With study sites in Kep Province in Cambodia, Kawthaung Province in Myanmar, and Trat Province in Thailand, the study made use of gender analysis as a tool to assess the roles of women and men in fishing activities. A questionnaire was used to interview the sampled men and women in coastal fishing communities and compile the necessary data. Specifically in Kep Province, Cambodia (Fig. 1), sixty coastal households in Thmey Village, Sangkat Prey Thom; and Okra Sa Village, Sangkat Okra Sa, were involved in the study of which the household leaders were interviewed. In Myanmar, 80 persons from Pu Lone Tone Tone Village, Kawthaung Province (Fig. 2) were interviewed. The village is in an island located in the southernmost part of Myanmar connected to the main land



Fig. 1. Study sites in Kep Province, Cambodia: Thmey Village, Sangkat Prey Thom; and Okra Sa Village, Sangkat Okra Sa
Source: Google Maps; FAOSTAT, 2018a



Fig. 2. Study site in Kawthaung Province, Myanmar: Pu Lone Tone Tone
Source: Google Maps; FAOSTAT, 2018b

by a wooden bridge. The population of the village is about 1,000 households and their main livelihoods are fisheries and agriculture. Eighty percent of the villagers are engaged in exploiting the fisheries and other natural resources along the coastal areas and marine waters (DoF, 2016).



Fig. 3. Study site in Trat Province, Thailand: Mairoot Sub-district, Klong Yia District
Source: Google Maps; FAOSTAT, 2018c

The study site in Thailand is in Mai Root Sub-district in Klong Yia District of Trat Province (**Fig. 3**) in the eastern part of the country. It is adjacent to the Thailand-Cambodia border bounded by Bunthad Mountain and close to the Gulf of Thailand. A total of 91 respondents were interviewed, which comprise 10% of the total fishing households in the study site.

Roles of men and women in fisheries activities

Analysis of the roles of men and women in fisheries and their levels of participation in the whole fisheries value chain could only be done for the pilot activity in Mairoot Sub-district, Trat Province, Thailand, considering that data validation is still ongoing in the other study sites, *i.e.* in Cambodia and Myanmar, in view of some delays in data compilation. As a result, the data collected from Ban Klong Manow, Ban Ruam Suk, Ban Mai Root, Ban Huang Bon, Ban Nong Muang, and Ban Huang Som (**Fig. 4**) had been analyzed in details. Summary of the participation of women and men in the fisheries value chain in the project sites, more particularly in Mairoot Sub-district had been extracted from the compiled data.

Data collection in Mairoot Sub-district was carried out by the SEAFDEC GWT in cooperation with the Sustainable Development Foundation (SDF) of Thailand and local fisheries staff, from 10 to 21 October 2017. The results



Fig. 4. Households in Mairoot Sub-District where respondents were obtained for the study

Table 1. Involvement of respondents in various livelihoods from Mairoot Sub-district, Trat Province, Thailand in various livelihoods

	Female	Male	Total
Fisheries and fisheries-related activities	12	14	26
Agriculture	5	7	12
Business (middlemen)	3	4	7
Casual labor (in Thailand)	10	5	15
Casual labor (outside Thailand)	3	11	14
Business owner	10	5	15
Employee	1	1	2
Total	44	47	91



indicated that the respondents have been involved in various livelihood activities as shown in **Table 1**. The compiled data were validated in a subsequent workshop attended by all the stakeholders in the community.

As shown in **Table 1**, the numbers of women and men engaged in fisheries-related activities were almost the same, as well as in the other types of livelihood activities. However, the roles of men and women, especially in terms of access to properties and services (**Table 2**) indicated that men have more access to properties and services (14 out of 17) than the women although the latter have the same access with men, in terms of finances and insurance, with women having more access to

Table 2. Level of access and control of women and men in properties and services: Mairoot Sub-district, Trat Province, Thailand

	Men	Women	Both
Land: access	20.00	16.00	64.00
Ownership	56.00	24.00	20.00
Control	29.17	25.00	45.83
Land of house: access	27.27	12.12	60.61
Ownership	55.17	24.14	20.69
Control	25.93	22.22	51.85
House: access	14.52	17.74	67.74
Ownership	46.43	41.07	12.50
Control	24.56	24.56	50.88
Car: access	26.92	19.23	53.85
Ownership	43.48	36.96	19.57
Control	16.00	28.00	56.00
Money: access	11.84	11.84	76.32
Ownership	19.72	16.90	63.38
Control	23.44	15.63	60.94

Table 2. Level of access and control of women and men in properties and services: Mairoot Sub-district, Trat Province, Thailand (Cont'd)

	Men	Women	Both
Loans from Banks: access	33.33	16.67	50.00
Ownership	34.78	17.39	47.83
Control	34.78	13.04	52.17
Loans from SMEs: access	31.71	24.39	43.90
Ownership	24.24	30.30	45.45
Control	18.18	27.27	54.55
Lending money: access	27.66	25.53	46.81
Ownership	22.50	20.00	57.50
Control	17.50	27.50	55.00
Insurance: access	23.40	23.40	53.19
Ownership	21.43	23.81	54.76
Control	19.05	26.19	54.76
Hospital: access	17.57	8.11	74.32
Control	16.67	7.58	75.76
Employment - labor: access	46.67	33.33	20.00
Control	40.00	26.67	33.33
Fishing gear: access	60.00	3.33	36.67
Ownership	70.00	10.00	20.00
Control	62.07	6.90	31.03
Fishing boat : access	68.97	6.90	24.14
Ownership	79.31	13.79	6.90
Control	75.86	0.00	24.14
Fishing boat engine: access	71.43	3.57	25.00
Ownership	75.00	14.29	10.71
Control	75.86	0.00	24.14
License: access	87.50	12.50	0.00
Control	87.50	12.50	0.00
Seed: Access	42.86	14.29	42.86
Ownership	42.86	14.29	42.86
Control	46.15	15.38	38.46
Generator-Engine: Access	66.67	0.00	33.33
Ownership	66.67	0.00	33.33
Control	66.67	0.00	33.33

the land where their house is built. Men claim ownership in 12 out of 17 aspects of properties and services while women own only the money borrowed from SMEs and insurance. Therefore, men own almost all of the properties and could access almost all of the services; and have control in 12 out of 17 properties and services while women have control only in 4 out of 17, with women and men having equal control only in their residential house. In general therefore, men own, have access to, and control almost all of the properties and services in the fishing communities.

The SEAFDEC GWT also compiled the information on the reproductive and productive roles of women and men in Mairoot Sub-district (**Table 3** and **Table 4**). The said

compilation took into consideration the ILO (1998) definition of *reproductive role* which includes not only biological reproduction but also care and maintenance of the work force and future work force in the households; as well as that of *productive role* which refers to work done for payment in cash or in kind, and includes market production.

With respect to the reproductive roles of men and women, it can be observed in **Table 3** that while men do mainly house maintenance and fish processing for household consumption, women do most of the other household chores or reproductive roles. However, men and women perform together in some reproductive tasks such as planting vegetables and grazing of animals/livestock. Since women are involved in 6 out of 10 reproductive tasks while men only do 2 out of 10, therefore, women are over-burdened with respect to doing the reproductive tasks. This could be because women are more familiar with many reproductive tasks than men, although men are more knowledgeable in terms of grazing animals/livestock and planting vegetables as well as house maintenance and fish processing for household consumption.

On the productive roles of men and women, **Table 4** shows that men do most of the tasks (7 out of 13) while women are mostly involved only in three (3) productive tasks, while both men and women share the same level in two (2) tasks. This is considering that men are more knowledgeable than women in

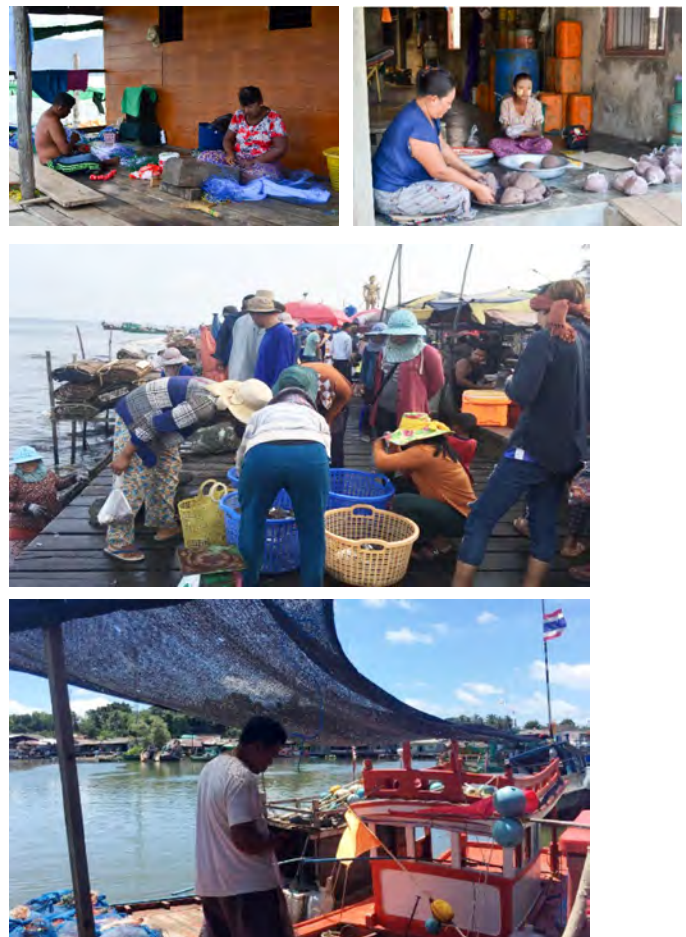


Table 3. Reproductive roles of men, women, boys, and girls in fisheries activities: Mairoot Sub-district, Trat Province, Thailand

Reproductive Roles	Men	Women	Both	Boys	Girls	Both
Child care	5.97	34.33	59.70			
Care of sick or elder persons in family	11.11	47.22	41.67	0.00	0.00	0.00
Cooking	5.19	70.13	23.38	0.00	1.30	0.00
Cleaning	5.41	71.62	21.62	0.00	1.35	0.00
Finding wood for fuel	33.33	66.67	0.00	0.00	0.00	0.00
Planting vegetables	28.57	23.81	38.10	4.76	4.76	4.76
Grazing animals/livestock	28.57	14.29	57.14	0.00	0.00	0.00
Community activities	20.90	38.81	40.30	0.00	0.00	0.00
House maintenance	75.76	1.52	22.73	0.00	0.00	0.00
Fish processing for household consumption	60.00	20.00	20.00	0.00	0.00	0.00

Table 4. Productive roles of men, women, boys, and girls in fisheries activities: Mairoot Sub-district, Trat Province, Thailand

Productive Roles	Men	Women	Both	Boys	Girls	Both
Agriculture	31.58	21.05	36.84	5.26	5.26	0.00
Fisheries	59.38	15.63	21.88	0.00	3.13	0.00
Fishing around mangrove areas	37.50	12.50	50.00	0.00	0.00	0.00
Fish processing	0.00	43.75	43.75	0.00	12.50	0.00
Aquaculture	0.00	0.00	100.00	0.00	0.00	0.00
Finding forest products	33.33	11.11	55.56	0.00	0.00	0.00
Selling: fish	35.29	35.29	29.41	0.00	0.00	0.00
fruits	28.57	57.14	14.29	0.00	0.00	7.14
forest products	25.00	25.00	50.00	0.00	0.00	0.00
others (sweets)	0.00	33.33	66.67	0.00	0.00	0.00
Prepare fishing gear	74.19	9.68	16.13	0.00	0.00	0.00
Clean fishing gear	90.32	3.23	6.45	0.00	0.00	0.00
Fix and repair fishing gear/cage	66.67	9.09	21.21	0.00	3.03	0.00

agriculture, fisheries, livestock, ecotourism (guide, boat driver, and cooking), and other fishing activities. However, both men and women are knowledgeable in aquaculture, selling fish and forest products. In terms of their productive roles, men are over burdened than women because the activities usually involve heavy works that are meant for income generation.

Roles of gender in the fisheries value chain

In Mairoot District in Thailand, the women and men are both involved in every step of the fisheries value chain (Fig.

5). Many respondents indicated that some wives (10%) go fishing with their husbands because the fishing ground is not far from their homes. Before fishing, both women and men work together in mending the fishing gears, and the wives prepare their meals while the husbands prepare the fishing gears and boat, and maintain the engine of the fishing boat. After fishing, both men and women clean the fishing gears and sort the fish on land. For fish processing both women and men help each other, especially in making shrimp paste as a business venture, because men's strength is needed in some processes. The women sell the fish at local market, and both women and men sell fish to middlemen.

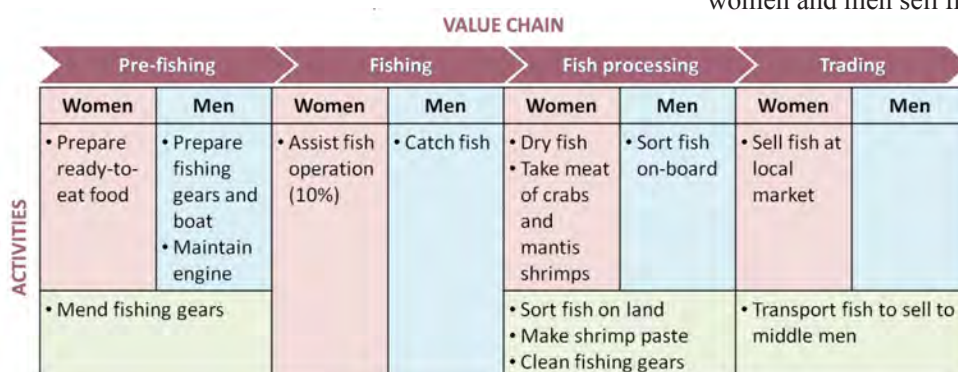


Fig. 5. Roles of women and men in fisheries value chain: Mairoot Sub-district, Trat Province, Thailand

Recommendations

In Thailand, women participate in the fishing activities that take place along the coastline which is not far from their homes, because they want to stay close to their house. When not fishing, the women dominate in activities that support fishing, such as preparing food for their families especially for their husbands to take with them as they go fishing, mending and repairing the fishing gears, and sorting fish landed by their husbands. Moreover, women also participate in economic activities like fish processing and marketing.

However, in order to get a real picture of the actual role of men and women in fisheries activities, particularly in the whole fisheries value chain, data compilation in the other study sites should be completed, after which such data should be validated. From the data, the trend of the roles of women and men in fisheries could be established, and the picture of the gender situation in the three study areas is constructed. Moreover, in order that the picture would reflect the situation in Southeast Asia, the study should be replicated in the other Southeast Asian countries as well. With the data compiled from the initial three study sites, further analysis should be made especially in terms of the capacities and vulnerabilities of men and women in the fishing communities, taking into consideration their skills, the status of the productive resources, and the hazards that impede them from the efficient utilization of the resources. This should also include an analysis of the conservation efforts being carried out by men and women in their communities. Furthermore, the analysis should also include the social structure that influences the relationship between men and women in the fishing communities, especially their ability to promote changes in their communities in order to attain gender equity in fisheries. There is also a need to analyze the vulnerability of men and women and their capacity to cope with the impacts of climate change on the fishery resources and their fishing activities.

Conclusion and Way Forward

Taking into account the experience in Mairoot Sub-district, Trat Province, Thailand, and from the analysis, the roles of men and women in fisheries could be divided by physical conditions, and as for their roles, it appeared that men are seen as fishers and women as fish processors and traders. This indicates that men and women have their respective roles to play in the value chain and are important in each component of the value chain. In most cases however, only the role of men is recognized while those of women remain invisible. It is therefore expected that through this study, the role of women in the fisheries sector would be appreciated, recorded, and valued. The SEAFDEC-Sweden Project would continue to support the activities of the SEAFDEC GWT, especially in the monitoring and evaluation of the programs and activities in the Southeast Asian region that take into consideration the results of this regional study on gender in fisheries development.

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Mapping Gendered Spaces for Sandfish Resource Management in Guimaras, Philippines

Jee Grace B. Suyo and Jon P. Altamirano

Women and men utilize spaces differently and have differential access to resources because of norms and values attached to certain places. In fisheries, the contributions of women are either overlooked or considered less valuable compared to those of men. Women often assume more traditional and supporting roles and attach lesser economic values to their activities. These gender dimensions were analyzed as part of the project on the sea ranching of sandfish (*Holothuria scabra*) in the Province of Guimaras, Philippines. The project was initiated by the SEAFDEC Aquaculture Department (AQD) and supported by the Australian Centre for International Agricultural Research (ACIAR) in 2015-2017 with a two-fold aim of enhancing the population of *H. scabra* stocks while providing a supplemental livelihood to the coastal communities reliant on fishery resources. The study highlighted the importance of analyzing the roles of women and men in the fisheries sector for the management of sandfish and other fishery resources in the intertidal zone.

The gender spatial analysis, on one hand, was intended for understanding the fishing activities of the women and men and their involvement in sandfish collection and trade. This information would serve as essential references for resource management planning.

Sandfish juvenile production for sea ranching

Sea cucumbers are highly-priced sea food commodity especially in the Chinese market but its high demand caused the rapid decline of wild populations due to overfishing worldwide (Purcell *et al.*, 2013; Anderson *et al.*, 2011). The sandfish or *H. scabra* is among the most preferred and depleted tropical sea cucumber species, particularly in the Philippines (Choo, 2008). Fortunately, the technology for hatchery production is established and the responsible sea ranching of this species has shown good prospects in enhancing populations in coastal areas (Juinio-Meñez *et al.*, 2017).

A gender-oriented spatial analysis formed part of the Sandfish (*Holothuria scabra*) Sea Ranching Project at Pandaraonan, Nueva Valencia, Guimaras, Philippines (Fig. 1) implemented in 2015-2017 by SEAFDEC Aquaculture Department (AQD) in collaboration with the Australian Centre for International Agricultural Research (ACIAR). The project was based on the concept of releasing hatchery-bred juveniles, produced from locally-sourced adults, into the wild to be harvested upon reaching the desired size (Leber, 2013), and is mainly aimed at enhancing the local population of *H. scabra* for ecological enhancement and to support the livelihoods of the communities.



Fig 2. The sea cucumber hatchery at SEAFDEC Aquaculture Department in Tigbauan, Iloilo, Philippines

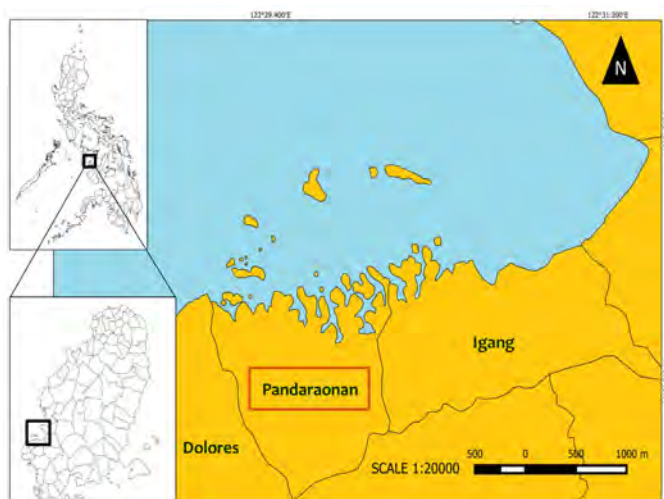


Fig. 1. The Sandfish Sea Ranching Project site in Pandaraonan, Nueva Valencia in Guimaras, Philippines



Fig 3. Sea cucumber nurseries at the Igang Marine Station of SEAFDEC/AQD at Nueva Valencia, Guimaras, Philippines

Sandfish juveniles for sea ranching were produced at the SEAFDEC/AQD sea cucumber hatchery (Fig. 2) using only locally sourced wild sandfish breeders from Pandaraonan and adjacent coasts for spawning. Hatchery rearing lasted up to 45 days, after which the juveniles at early stage of development were transferred to sea-based floating nurseries at the Igang Marine Station (IMS) of SEAFDEC/AQD (Fig. 3) before they were stocked at the adjacent sea ranch site in Padaraonan.

Understanding the gendered space

Space can be regarded as both absolute (*e.g.* measured in units of distance) and conceptual (*e.g.* measured in terms of the values and perceptions attached to a location) in the sense that the physical components of an area are highly interconnected with the non-tangible elements that operates therein. The use of space is influenced by the relations between women and men and the cultural expectations of femininity and masculinity (Knox and Marston, 1998). The mobility of women and men is determined by the norms and values that are projected into places. Building on this, gendered spaces pertain to a place where gender expressions are either permitted or forbidden.

This spatial emphasis allows the display of power and control by one gender to the other and maintains the societal codes of modesty and honor (Fenster, 1999). In coastal communities, women and men have differential access to the fishery resources because of cultural factors that assign limits to each gender. It should be noted, however, that the women across cultures are involved in most aspects of fisheries even

though they are not formally recognized in statistics (Zhao *et al.*, 2013). The women in the Philippines accounted for 10% of the fishing population (Philippine Statistics Authority, 2016) which may not be a reflection of the actual number of women engaged in fisheries as the figure did not take into account the informal roles the women played in capture and post-harvest fisheries. Siason (2001), for instance, reported that the women were highly involved in marine fisheries production, particularly in net mending, processing, and marketing of catch. These activities were done in addition to the “reproductive roles” of women, *e.g.* household chores.

As part of the effort in bridging the knowledge gap on the involvement of women and men in fisheries, a socio-economic assessment and spatial analysis of the areas utilized by women and men in Pandaraonan were conducted. This initiative aimed to examine the gender differences in fishing activities, the involvement of the women and men in sandfish *H. scabra* collection and trade, and to determine how these factors affect the willingness of the community in engaging in the sandfish sea ranching project. The assessment was deemed necessary in order to ensure that the concerns of the stakeholders were taken into account, particularly in resource management and spatial planning.

Initiating community engagement

Community engagement was the crucial part of the establishment of the sea ranching site to ensure that the communities were involved in each decision-making process – from planning, site selection, sea ranch operation, security,

to monitoring of stocks. Two major activities were conducted to obtain information related to the current status of the community and the use of the coastal zone. One of which was a series of focus group discussions (FGDs) and baseline surveys to collect information on the socio-economic status of the households who were involved in fishing or fishing-related activities (Fig. 4). The FGDs were conducted with 60 households and surveys were done using a semi-structured questionnaire that contained questions on the households' socio-demographic characteristics, knowledge of the coastal and marine resources, and awareness of the *H. scabra* sea ranching project. This group of people was purposively selected because they were the ones who were highly involved in the collection and trade of sandfish.



Fig. 4. Focus group discussions and household surveys with the community in Pandaraonan, Nueva Valencia in Guimaras, Philippines



Fig. 5. Mapping workshops to identify the areas utilized by women and men in the coastal zones of Pandaraonan, Nueva Valencia in Guimaras, Philippines



Alongside the discussions and surveys, a series of workshops was also done to map out the areas being utilized by the women and men and to understand their involvement in fisheries (Fig. 5). In the mapping exercises, the women and men were asked to indicate in a map the areas that they use for fishing, gleaning, and other livelihood activities such as farming and charcoal making.

Among the different livelihoods indicated in the map, the workshop focused on fishing and gleaning as these were the two major livelihoods pertinent to the sandfish sea ranching. Fishing and gleaning were conducted within the same area where the sea ranch is located and they were the groups of people who were most involved in the collection and trade of *H. scabra*.

Women: The invisible gender?

As shown in Table 1, all of the men respondents identified fishing as their main source of income whereas 27% of the women said that they were earning from non-fishing activities. Most of both genders have secondary sources of income ranging from casual labor, operation of small business, and fishing-related activities such as gleaning. The income between women and men were significantly different, with men earning 36% higher than the women. It is interesting to note that during the interview, the wives attached a little value to their contribution to their husbands' fishing activities. Most of the women considered their involvement in fishing as an extension of their household responsibilities. The wives

Table 1. Socio-economic profile of women and men in Pandaraonan, Nueva Valencia, Guimaras, Philippines

	Women (n=30)	Men (n=30)
Primary sources of income		
Fishing	73%	100%
Non-fishing (e.g. farming, charcoal making)	27%	0%
Secondary sources of income		
Casual labor	39%	86%
Small business ventures	22%	9%
Fishing-related activities (e.g. gleaning)	39%	5%
Average income per month (US\$)		
Primary	41.88	59.86
Secondary	31.40	55.33
Total (as reported)*	73.28	115.19
Adjusted income, accounting women's involvement in fishing	62.07	77.96

* Significant at 0.05 level
 US\$ 1= PHP 46.29 (exchange rate in April 2016)

who sell the catch of their husbands, for instance, would report the income obtained from the activity as solely the earnings of their husbands and not as a joint wife-husband income. The men, however, were particular at identifying their fishing activities, including the vending of their catch, as exclusively their own income. In order to find a gender balance in the earnings of the women and men, each of their responses were carefully examined and an estimated value were deducted from the husband's income if the wife signified an involvement in a particular aspect of fishing. For instance, if a wife mentioned that she vends the catch, the earnings are divided between the wife and the husband. In doing this, the statistical differences in the reported income of the women and men were negated.

In terms of the respondents' fishery profile, there were no significant gender differences in terms of average fishing experience and the reported average catch per trip. However,

Table 2. Fishery profile of women and men in Pandaraonan, Nueva Valencia, Guimaras, Philippines

	Women (n=30)	Men (n=30)
Average no. of years spent fishing	26 (±17)	33 (±14)
Average fishing trip duration (no. of hours)*	3 (±2)	5 (±3)
Average catch per trip (kg)	2.6 (±2)	3.5 (±3)
Membership in fisheries organization*	57%	90%
Membership duration (average no. of years)*	1.1 (±2)	5.3 (±8)

*Significant at 0.05 level
 Numbers in parenthesis () are Standard Deviation

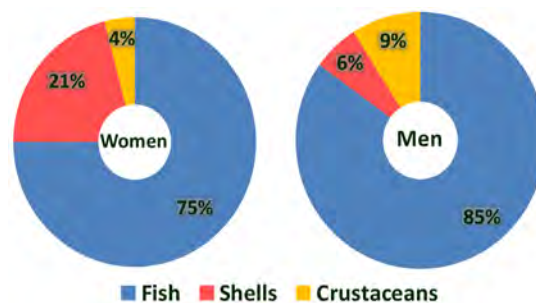


Fig 6. Ratio of catch composition of women and men in Pandaraonan, Nueva Valencia in Guimaras, Philippines

the average duration of fishing trips of men was significantly longer than the women. This was because women mostly collect resources at the intertidal zone during low tide while the fishing activities of the men were not highly constrained by tidal fluctuations (Table 2). This was confirmed based on the types of resources that the respondents collected. Fig. 6 shows that 25% of the women's catch consisted of mollusks and crustaceans while this only comprised 15% of the resources reported by the men. Though majority of the women's reported catch were fish, these species were mostly obtained from the stationary fishing gears which they operate jointly with their husbands. The discrepancy in income can be traced to the differences in the target species of the women and men. Men tend to target species of high commercial value, have access to a wider area, and could stay longer at sea. Women, on the other hand, had to juggle multiple roles as caretakers and income earners. These differences are further aggravated by the prevailing social norms and values that limit the women's access to the sea.

Despite the women's involvement in fishing, a number of women were not institutionally-recognized. When asked about their organizational involvement, only 57% of the women were members of the local fishers' organization which is 33% lower than the men respondents (Table 2). The average duration of membership is also significantly different between women and men respondents with the latter being in the organization much longer.

Similar to previous studies, the roles of the women in fisheries at the project site were not well-recognized compared to the men because casual jobs like net mending, processing, gleaning, and marketing were perceived as minor fishing activities compared to major active capture fishing. This lack of institutional recognition of the women's roles in the fisheries sector is indicative of the importance placed by the society on men's livelihoods while giving secondary recognition to women.

Gendered spaces on the resource map

The results of the mapping workshops highlighted the activities and areas mostly utilized by the women and men in the community (Fig. 7). The respondents utilized a significant

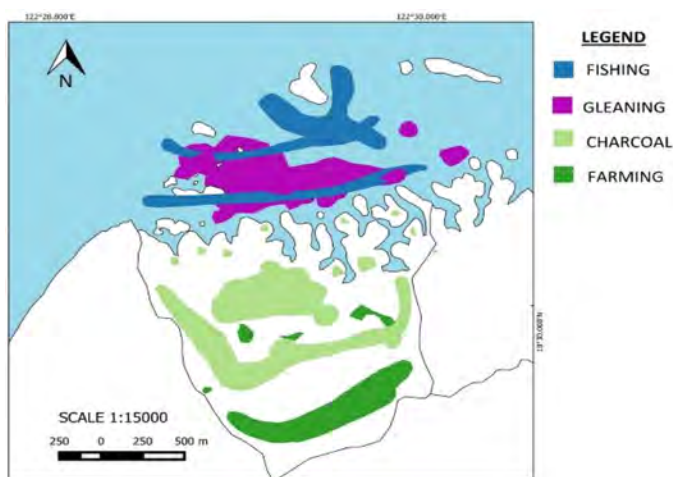


Fig 7. Resource map highlighting the areas utilized by women and men for coastal and upland livelihoods in Pandaraonan, Nueva Valencia in Guimaras, Philippines

portion of the intertidal area for fishing and gleaning during low tide. Most of the stationary gears, *e.g.* fish corral, operate in this site. Although, during lean season where seas are rough, men also fish in the same area using passive gears (*e.g.* gillnet, hook and line).

Women, however, were the ones mostly using the shallow intertidal zone during low tide to collect shellfishes and crustaceans for trade or for consumption. Gleaning was most profitable during spring tides especially during the months from November to February. When asked about their perceptions of the use the coastal zone, women believed that it is not customary for them to engage in fishing in deeper waters. This can be pretty much summarized in the response of one of the women respondents who said that, “*Ang hunasan para sa mga babayi. Ang madalum nga parte sang dagat, para sa mga lalaki.*” (The intertidal zone is for the women. The deeper portions of the sea are for the men).

Women: The pillars of the fisheries sector

When data are not gender disaggregated, it is easy to overlook the differences in women and men’s perceptions and involvement in fishing activities. Moreover, when the analysis focuses on male-dominated activities such as capture fisheries, the involvement of women are subsumed as supporting roles which could lead to the failure to integrate some important gender concerns in policies and programs (Bennett, 2005). The women in Pandaraonan perceived their roles in fisheries as extension of their responsibilities as wives and mothers. They mostly assumed traditional roles as gleaners, fish vendors, and as assistants of their husbands in conducting pre- and post-harvest activities. They were also constrained in shallower areas of the sea, usually in close proximity to their homes. Although the women needed to adhere to a number of conventions, they maintained their ownership of the intertidal zone despite the minimal catch and income they gained from selling mollusks and crustaceans. The reliance of women on

the intertidal zone made them more knowledgeable about the sandfish *H. scabra* as a resource.

All of the respondents were aware of the *H. scabra* sea ranch project, but the number of women who were aware of what sandfish is and engaged in its collection, was significantly higher compared to the men. These findings supported the results of the mapping workshops which showed that the intertidal zone was utilized more by the women, since shallow-water gleaning was conducted only casually by the men during the limited lean fishing months. The women have become more adept at identifying the resources found in these shallower areas than the men. Hence, when asked about their interest of participating in the sandfish sea ranching project, the women were equally interested particularly in attending meetings and doing volunteer work. However, they were less keen in assuming tasks that may require more time or increased physical activity because these entail reduced time for household responsibilities. It was also observed during the major meetings that the attendance of the women has increased over time which showed their growing interest in the project.

Women’s contribution in the fisheries sector are often overlooked, however, an analysis of the condition of the women and men in Pandaraonan, Guimaras showed that the women should be regarded as important stakeholders of the project especially if it involves the utilization of a portion of the area being utilized for gleaning. As efforts on rearing commercially valuable species continues, the women’s fishing activities, regardless of its minimal contribution to the household income, should not be overlooked as an important food source for the households (De Guzman *et al.*, 2016). As the primary user of the intertidal zone, the women’s contribution to resource enhancement projects can be linked to stock security and as knowledge sharers since they are most involved in meetings and project-related discussions.

Way forward

It is essential to analyze the impacts of a resource enhancement project on a macro perspective, especially if it involves multiple stakeholder groups. Socio-economic analysis and gender disaggregation of data are important in order to understand the status of the community and to determine how management decisions can affect the stakeholders. For the *H. scabra* sea ranching project, the viewpoints of the women are being considered in recognition that failure to adequately consider this dimension may result to impaired decision making and reduced sense of ownership and support for conservation initiatives. Knowledge building and increased community engagement helped facilitate the involvement of both women and men in the project. Continuous information, education, and communication (IEC) mechanisms will be put in place to fill in the knowledge gaps about sandfish and other resources, as well as the importance of resource management in sustaining the populations of the wild stocks.

Moreover, knowledge sharing can help in increasing the capacities of the community in managing their resources in order to match the technological advancements being introduced by an external organization. Therefore, it is recommended that local institutions should reconsider formalizing women's membership in fishers' organization for them to have official representation in policies and decision-making.

There has been a growing evidence of women's high involvement in aquaculture and capture fisheries but even though the gender division of labor has changed over time, the prevailing cultural values have been slow in progress (Kusakabe, 2003). Women continued to be less valued than men in terms of decision-making, access to resources, and priorities (Brown and Fortnam, 2018) and the women's wellbeing is sometimes compromised when these cultural values influence policies and governance. The results of this project emphasized the issues surrounding women's and men's access to and perceptions of resources which may have been left unmonitored if gender analysis was not conducted. By bringing into light the overlapping roles of women and men in the fisheries sector, the project can serve as an impetus towards the increased consideration for the integration and mainstreaming of gender into fisheries research and for more gender-responsive governance of the fisheries sector. The outcomes of the project can bridge the knowledge gap on the relationships among gender, environment, and poverty and can serve as one of the initiatives in attaining gender equality as part of the Sustainable Development Goals (SDGs).

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Aiming for Improved Gender Equity in Cambodian Aquaculture

Chin Leakhena, Hav Viseth, Thay Somony, Chin Da, Pel Samnang, and Chhor Bunly

The population of Cambodia in 2018 is about 16 million with an estimated growth rate of 1.63% per annum and gender ratio of 0.96 male/female (24:25 male:female ratio). As a result of the country's civil war in the mid 1970s, about 50% of its population is under 25 years old. The country's population growth, coupled with the need to improve food and nutrition security for the people and to continue to support economic development, implies that the demand for fishery products will also continue to grow. Thus, the fisheries sector is making utmost effort to supply the increasing demand for food fish, and ensuring that the supply will be continuously available for future generations. In the National Socio-economic Development Plan (NSDP) 2014-2018 and the Agricultural Strategic Development Plan of the Ministry of Agriculture, Forestry and Fisheries (MAFF) of Cambodia, the importance of fisheries is recognized considering that it continues to occupy a crucial position in terms of providing nutrition and income to millions of Cambodians. Specifically, the country's Strategic Planning Framework for Fisheries (SPF) 2015-2025 has identified aquaculture as one of the four pillars of development for achieving food security, poverty alleviation, and economic growth, the other three being capture fisheries (inland and marine), trade, and export. In order to attain this goal, the SPF sets a production target of 250,000 MT from aquaculture in 2018, while the National Strategic Plan for Aquaculture Development (NSPAD) of Cambodia for 2016-2030 had designed and set out a clear vision and strategy for the sustainable development of aquaculture to ensure its enhanced contribution to economic growth, food security, and poverty alleviation. The NSPAD also specifies the need to strengthen the roles and functions of women and youth as the main stakeholders of the country's aquaculture sub-sector, not only in the fish production aspect but also in sustaining the stable supply of seeds for aquaculture, processing, and marketing, for their contribution to the country's socio-economic development.

In 2017, the total fisheries production of Cambodia was 856,363 metric tons (MT), which had increased by about 87% from that of 2014 which was 745,315 MT (SEAFDEC, 2017), gaining an average annual increase of about 22%. It should be noted that as of 2014, the country's fisheries production

from inland capture, marine capture, and aquaculture was 505,005 MT, 120,250 MT, and 120,060 MT, respectively (Table 1). While production from inland capture fisheries comprises a variety of freshwater fishes that have not been classified by species, those from marine capture fisheries had been classified only as marine fishes, marine crabs, natantian decapods, marine mollusks, and cephalopods. Production from aquaculture includes freshwater fishes, crocodiles, freshwater prawn, and marine fishes and shrimps, and the sector has shown considerable growth from 50,000 MT in 2009 to 120,055 MT in 2014. Even though the focus in the past years was mainly on small-scale production, the potential of large-scale production is being considered to maintain a stable supply of fish, and the private sector is being tapped for large-scale aquaculture development in the country's inland and coastal areas.

Aquaculture Sub-sector of Cambodia

As with the other Southeast Asian countries, aquaculture system in Cambodia could be divided into mariculture, brackishwater culture, and freshwater culture. While very little information are available on fish production from the country's mariculture and brackishwater culture, freshwater culture conducted in ponds, cages and rice fields has been progressing well making it easier to collect statistical data on fish production. Nonetheless, fish production from the country's aquaculture sub-sector is shown in Table 2.

As reflected in Table 2, freshwater aquaculture is important for the economy of Cambodia considering the abundant freshwater resources that could be tapped for aquaculture development and the role that freshwater aquaculture could play in the country's socio-economic development, especially the benefits that it could give to the rural communities (Chin, 2014). Since very long time ago, culture of fish in cages and pens had been practiced in Cambodia (Pe and Bun, 2005 cited in FiA, 2010) mainly to fatten fishes during the closed fishing season (Nam and Thuok, 1999). The country's freshwater culture therefore started as a fish fattening system using wild caught fingerlings to increase the market price of fish, and it

Table 1. Total fish production of Cambodia from 2009 to 2014, in metric tons (MT)

	2010	2011	2012	2013	2014
Inland Capture	405,000	445,000	528,000	520,000	505,005
Marine Capture	85,000	114,695	110,000	110,00	120,250
Aquaculture	60,000	72,000	90,000	90,000	120,060
TOTAL	550,000	631,695	728,000	728,000	745,315

Source: SEAFDEC (2017a)

Table 2. Fish production from aquaculture in Cambodia (2009-2014), in metric tons (MT)

	2010	2011	2012	2013	2014
Mariculture	---	2,620	---	4,633	7,416
Brackishwater Culture	---	---	---	91	---
Freshwater Culture	---	69,380	---	85,276	112,639
TOTAL	60,000*	72,000	90,000*	90,000	120,060

Source: SEAFDEC (January 2017b), SEAFDEC (2015), SEAFDEC (2014), SEAFDEC (2013), SEAFDEC (2012)

Note: --- indicates that data is not available

* detailed breakdown is not available

was only recently that this practice became more advanced using freshwater fishponds (Chin, 2014).

Although Cambodia has no tradition of culturing fish in ponds like in some Southeast Asian countries, due to difficulties in keeping the pond water during the dry season, the number of freshwater ponds had considerably increased from 3,455 in 1997 to 11,509 in 2004, increasing by 43% in eight years (Nam and Buoy, 2005), and in 2012 this number increased to 53,452 (Chin, 2014). This development was brought about by the priority given to the development of the aquaculture sub-sector to enhance its contribution to the country's food security and poverty alleviation.

Thus, the aquaculture sub-sector of Cambodia (Fig. 1) had since then developed, and in 2012, aside from the 53,452 units of fishponds of which 36% are located in Takeo Province and about 3% in Kampong Speu, Chin (2014) cited that there were 3,883 fish culture cages about 20% of which are found in Pursat, 280 fish hatchery systems (13% in Takeo Province), and 738 community refuge ponds mostly situated in Kampong Speu (about 24%). She added that the main fish species produced through the country's aquaculture sub-sector include: tilapia (*Oreochromis niloticus*), silver barb (*Barbonymus gonionotus*), common carp (*Cyprinus carpio*), silver carp (*Hypophthalmichthys molitrix*), Indian carp (*Labeo*

rohita), mrigal (*Cirrhinus mrigala*), catfish (*Pangasianodon hypophthalmus*), and walking catfish (*Clarias batrachus*), among others.

Aquaculture extension

It is in the country's Aquaculture Extension that women have mostly developed access through their local and central fisheries offices as well as NGOs that implement aquaculture projects. The target women usually avail of special training and hands-on practice in aquaculture planning, hatchery management, and marketing organized by FiA and its partners, particularly through the Japan International Cooperation Agency (JICA) and the USAID Cambodia HARVEST Project. With the knowledge gained from such training, women are able to carry out in-farm and out-farm activities including fish culture, product promotion, and fish seed production, as well as technology extension to other seed producers and fish farmers in their areas. Under the JICA-sponsored Project "Freshwater Aquaculture Improvement and Extension (FAIEX)" implemented in seven provinces of Cambodia from 2005 to 2014 (JICA and NACA, 2015), aimed at increasing aquaculture production by upgrading aquaculture technical awareness of extension officers and transferred to fish farming households, the women actively took part in every step of the aquaculture extension.

Through the process of technology transfer, the extension officers from FiA promoted the aquaculture techniques to local farmers and the qualified farmers were tapped to collaborate with the Project. With the assistance of the extension officers, a model fish farm was established for the Project and used to demonstrate the adoption of sustainable aquaculture techniques. Training that included fish culture and gender equality were conducted for prospective fish farmers including housewives with support from model farmers using some of their aquaculture materials. With the support from FiA extension officers, a fish seed producers' network was formed for the promotion and marketing of fish seeds that involves mostly the women fish farmers.

The USAID Cambodia HARVEST (Helping Address Rural Vulnerabilities and Ecosystem Stability) was a five-year project (2011-2016) under the Global Hunger and Food Security Initiative (GHFSI) and the Global Climate Change



Fig. 1. Administrative Map of Cambodia
(Source: Google Maps)

(GCC) and Biodiversity Program of the United States of America which aims to reduce poverty and malnutrition by diversifying and increasing food production and income for up to 85,000 rural Cambodian households. Under the umbrella of this Program, the Project was meant to develop sound, agricultural-focused solutions to poor productivity, postharvest losses, malnutrition, lack of market access, environmental degradation, and the effects of climate change on vulnerable rural populations. During the implementation of the USAID Cambodia HARVEST, strategic goals had been set to improve food security, strengthen natural resource management and resilience to climate change, and increase the capacity of the public and private sectors and civil society to support agricultural competitiveness. Implemented in Kampong Thom, Siem Reap, Pursat, and Battambang Provinces of Cambodia (**Fig. 1**), the Project had five major components: Agribusiness Value Chains; Aquaculture and Fisheries; Natural Resource Management; Biodiversity and Climate Change, Social Inclusion, Business Development Services; and Capacity Development.

Under the Aquaculture and Fisheries Component of the abovementioned Project, several training courses were organized targeting the fish farmers including housewives before embarking on their respective aquaculture enterprises, more particularly in the areas of aquaculture planning and management that includes pond preparation, stocking (taking into account the carrying capacity of ponds), feeding, water quality, sampling, conditioning, transport; as well as fish seed production and economic analysis. One of the most successful beneficiaries of the USAID Cambodia HARVEST Project is a tilapia hatchery and fish farm in Siem Reap, owned and operated by a husband-wife team. In the operation of the aforesaid fish farm, the wife is responsible for overseeing the different operations of the tilapia hatchery while pond construction and related works were the responsibility of the husband with the wife participating in the planning and marketing (Nyro, 2016). With the equal participation and responsibility of the wife and husband in the operation and management, this fish farm becomes the top fish seed producer and supplier in the whole Province. The fish farm now produces 15 MT of tilapia per cropping and 4,800,000 tilapia fingerlings per year (200,000-300,000 fingerlings/crop and 2-3 crops/year).

Gender Policy and Mainstreaming Strategy

In Cambodia, women have been involved in aquaculture production by about 50% of the tasks, especially in the planning, development and management of the fish farm operations, and the remaining 50% in processing and trading of fish and fishery products from aquaculture (Chin, 2016). As a result, the Fisheries Administration (FiA) of Cambodia recognizes and promotes the role of women in fisheries through numerous studies and publications on gender issues

that have been published. Moreover, FiA has developed the Gender Policy and Gender Mainstreaming Strategy under the umbrella of the MAFF to ensure that women and men share equal responsibilities in the sustainable development and management of fisheries, especially the aquaculture sub-sector. The Gender Policy is grounded on strong foundation complying with national and international requirements, and directed towards gender equality among men and women with special focus on women, in order to achieve equitable human and socioeconomic development. The Gender Policy also promotes gender equity in fisheries to ensure that men and women are equal partners in development that influences the direction of the social and economic changes that affect their lives.

Meanwhile, the Gender Mainstreaming Strategy aims to enhance gender equality in the agriculture sector through active cooperation between women and men to contribute and benefit equally from the activities of all sub-sectors in the agriculture sector in order to address poverty reduction and gender equality. The objectives of the Strategy are to: 1) increase gender awareness among the MAFF staff at every level of the agriculture sector; 2) integrate gender analysis and sex disaggregated targets and data into the planning of the agriculture sector; 3) increase the authoritative possibilities and number of women that have the adequate attributes necessary for leadership positions in the MAFF; and 4) increase the ability of rural women to access and manage resources and agricultural services.

The principle of the Gender Mainstreaming Strategy complies with human rights and entitlements to education, health care, information, and resources. The high correlation between gender equality and socioeconomic development means that one without the other will not achieve improved quality of life for all men, women and children, which is the standard stipulated in the national goals. Due to changing attitudes and practice takes a long-term process, gender mainstreaming is considered as a learning platform where theories and practice synergize to enhance its implementation including the women-specific efforts exclusively targeting the women (Chin, 2016).

Role of Women and Youth in Aquaculture Sub-sector of Cambodia

In a survey conducted by Chin (2015) in 2012 to study the general socio-economic profile of Cambodian aquaculture, focus was placed on Takeo and Kampong Speu Provinces, because while the former has the largest numbers of fish ponds and hatcheries, the latter has the second largest number of fish ponds but with the largest number of community fish refuge ponds (Chin, 2014). In the Cambodian concept, community fish refuge ponds which are usually man-made, serve as stock enhancement and fish conservation measure meant to improve the productivity of rice field fisheries. The rationale behind the construction of fish refuge ponds is to create refuge areas

for fish during the dry season or sanctuaries for broodstock in seasonally inundated rice fields as the areas can hold water throughout the year even if these are disconnected from permanent natural water bodies (Joffre *et al.*, 2012).

The age of women and youth involved in aquaculture varies from 20 to 60 years. The high proportion of their ages falls in the range between 41-50 years (65.50%) with the same percentage for 20-30 years and 31-40 years at 17.75% each (Chin, 2016). Notwithstanding the gap of the ages between women and youth participating in aquaculture, their management capacity is not significantly different due to the additional training that project implementers provided before the enterprise started, *e.g.* the Cambodia HARVEST Project trained the target farmers not only on aquaculture techniques, but also in aquaculture planning as well as marketing.

Educational background of women and youth is an essential factor as it eases the hatchery heads to absorb new knowledge, technologies, and adaptive measures to improve the management of hatcheries and fish farms. The degree of youth's participation in aquaculture production in Cambodia is

influenced by the development and progress of the aquaculture technologies that attract the youth. In contrast, women have limited educational level, as a result of a traditional culture that women should not necessarily go to school as they are considered to work inside the house doing house works only. Moreover, lack of educational materials has also constrained the women and youth in making decisions on modern hatchery operations and as a result, they continue to do the same traditional ways of breeding without any improvements. Recently however, target women and youth received special training on aquaculture planning, hatchery management, and marketing from FiA and its partners particularly JICA and Cambodia HARVEST Project. Hence, their enhanced knowledge can help them to practice in-farm and out-farm activities, *i.e.* planning for fish culture, seeking customers, extending assistance to new fish seed producers and grow-out farmers. The level of involvement of women and youth the Cambodian aquaculture is illustrated in **Table 3**.

Table 3. Participation of women and youth in freshwater fish culture in Cambodia

Aquaculture Activities	Women's Participation	Youth Participation
Decision making to go into fish culture activities	✓	✓
Planning	✓	✓
Construction of fishpond/hatchery facilities	✓	✓✓
Preparation of ponds	✓	✓
Selection of broodstock and transferring	✓	✓✓
Broodstock rearing	✓	✓
Breeding	✓	✓
Spawning	✓	✓
Fry rearing	✓	✓
Fry nursery	✓	✓
Releasing fingerlings	✓	✓
Feed preparation	✓✓	✓
Water quality management	✓	✓
Harvesting	✓	✓
Selling	✓	✓
Marketing	✓	✓

Source: Chin (2016)

Fish seed production

Results of the survey by Chin (2014) also indicated that the number of women engaged in fish seed production is less than that of men at a ratio of 3:20 (women to men). The high proportion of men working in fish hatcheries could be due to the heavy manual work in hatchery operations (FAIEX, 2009). However, in a focus group interview, Chin (2014) gathered that men and women have practically equal roles in actual fish



Participation of men, women, and youth in Cambodian aquaculture

hatchery operations because while men are mostly involved in fish breeding especially in draining water and collecting the fish seeds for sale, the women take care of the materials to be used for breeding, *e.g.* hormones, chemicals, as well as in taking care of the fish fry, *e.g.* feeding, checking water quality, health monitoring, and marketing of the fish seeds, the duties and responsibilities that have not been generally and duly recognized contributing to the increased “invisible” roles of women in aquaculture.



Inducing freshwater fish to spawn

The involvement of the youth in fish seed production is an aspect that should also be recognized even if results of the previous surveys indicated that the youth groups are more concerned with pursuing higher education and different career paths. In fact, results of the survey conducted by Chin (2015) indicated that 26% of the fish hatchery operators belong to the youth group (24-40 years old), 22% to the median group (41-50 years old), and 52% are aged 51-68 years old (elder group). In terms of educational attainment, 26% of the youth group attended school from elementary level up to higher level and vocational training, 22% from the median group, and 52% from the elder group. Educational background is an essential factor in fish seed production as greater understanding is necessary to grasp the new technologies in hatchery operations. Moreover, although women are dynamically engaged in different types of works, *i.e.* in decision making, planning, hatcheries construction, broodstock selection, transferring and weighing, breeding, spawning, fry nursing, packing, transportation of fingerlings, and marketing, the youth as members of families that operate hatcheries, have been working side by side with the women. Additionally, based on their experience, the women are able to serve as advisors to researchers and officers of governmental research institutions, where their involvement in this aspect is higher than that of the youth who have less experience.

Fish pond operations

The FAIEX Project encouraged local communities to culture fish in earthen ponds so that fish would become cheaper

and more affordable in the rural areas, and in good quality as the source is close to their communities. As a result, fish culture operations are carried out in rural communities by all members in the family with men and women doing their equal share. However, the survey of Chin (2015) showed that more men are involved in fish culture operations at a ratio of 13:87 (women:men). This could be because even if women are involved in every step of pond operations, their services are generally not valued and recognized. For example, women take care of the maintenance of the culture ponds, *i.e.* monitoring the fish stocks in terms of health aspects and water parameters of the ponds, feeding the fish, as well as in harvesting and marketing the produce. Aside from on-farm activities, women are also engaged in off-farm duties to augment the family’s income as well as taking care of the daily household chores.

Fish marketing

Interestingly, youth is more active in the marketing of fish (Table 4). Two activities (communication and on-farm dissemination) out of six activities have an equal participation of women and youth. Women would contact customers by phone to explain their products and other related matters. Moreover, women can also serve as trainers to echo aquaculture techniques to fish grow-out farmers. Nevertheless, women extend less effort than the youth does because there are activities that could not be conducted at their homes. For example, fish grow-out farmers are the main customers of the fish seed producers. The fish seed supplier should deliver onsite training course on aquaculture techniques to those who are interested in culturing fish and guide them how to prepare their ponds in actual condition. After delivering the fish seeds, the supplier provides the techniques for fish culture. In some cases, youth and men are more active than women in exploring strategies to promote their fishery products, *e.g.* by training fish grow-out farmers, distributing business cards and promotional leaflets, and advertisement in social media, TV, magazine, and radio.

Table 4. Participation of women and youth in fish marketing

Fish Marketing Activities	Women’s Participation	Youth Participation
Communication and on-farm information dissemination	✓	✓
Training of other fish farmers	✓	✓✓
Distribution of business name cards and promotional leaflets	✓	✓✓
Dissemination of culture activities through social media	✓	✓✓
Follow-up progress of culture activities at fish farmer’s house	✓	✓✓
Dissemination of techniques to students in schools/universities	✓	✓

Source: Chin (2016)



difficulty in accessing hormones, and lack of communication skills to interact with other farmers, local authorities, fisheries officers, and non-government organizations (NGOs). Moreover, the inadequacy of educational materials restricts women and youth from the modern methods in hatchery management and operations. As a result, they tend to continue the same traditional ways for breeding without improvements. In spite of the constraints, women and youth have the same capacity to undertake aquaculture ventures, especially in the aquaculture operations from the starting point to the end of the culture processes.

Way Forward

Gender equality in the fisheries sector in Cambodia particularly aquaculture would be enhanced through active cooperation between men and women to equally contribute and benefit from fisheries (FiA, 2016). Women are the most important source of labor in fish culture and seed production to enhance the aquaculture production of Cambodia. The FiA should therefore consider strengthening its partnership with NGOs and other agencies working on the development of aquaculture to enhance the capacity of women. Moreover, in order to increase the participation of women in aquaculture activities, the recommendations shown in **Box 1**, should also be taken into consideration in order that gender equity would be achieved in Cambodian aquaculture in the future.

Issues and Constraints

The challenges that hinder women and youth to engage in aquaculture in Cambodia are related to cultural, social, and economic aspects. The custom in Cambodia requires that women should fulfill household duties and not involve in social matters. Notably, women are busy with house works that they do not have time to do aquaculture activities. For families living in rural areas, most women lack the necessary technical knowledge because they do not get the opportunity to travel outside their homes to gain and share knowledge with other fish farmers. Furthermore, women feel unsafe to take care of their aquaculture facilities at night and much more stay away from their homes.

The fact that the youth seems to have higher educational level than the women is because of the Cambodian culture that women do not need to go to school because they are supposed to do houseworks. In fact, in fisheries academic institutions, the number of men is more than that of women because Cambodians believe that women should do only office works not requiring higher education, rather than working in the fields.

Women and youth also do not get much involved in aquaculture activities because of the absence of ownership of the fish farms, inadequate support from local authorities, low price of the locally produced fish seeds, high operating costs involved, insufficient knowledge on hatchery techniques, high interest rates on loans, long dry season, insufficient broodstock,

Box 1. Recommendations to improve women's participation in aquaculture

1. Strongly support and encourage women to participate in social aspects particularly in activities related to aquaculture with their respective spouses, neighbors, and other relevant officials
2. Provide special training courses on specific subjects to women who are unemployed
3. Continue promoting and supporting gender programs in schools and universities
4. Collaborate with the Ministry of Women's Affairs and agencies related to women to promote their participation in the aquaculture sector, *i.e.* providing them study tours
5. Create aquaculture network for women and youth with support from the Department of Aquaculture Development
6. Build capacity of women on negotiation skills to defend their products, to make them confident to talk to customers
7. Train fish farmers on Good Aquaculture Practices (GAPs) in order to respond to food safety requirements and if possible, mainstream it to all levels of the Cambodian society
8. Continue encouraging women farmers to be more actively involved by giving awards for development of model farms as well as providing them local and international study tours
9. Produce short drama and/or comedy films to raise the awareness of women in enhancing their involvement in aquaculture development and management
10. Use women' pictures in advertisement billboards, brochures and posters to illustrate the active role of women farmers in aquaculture activities, *e.g.* applying lime in ponds, feeding the fish stocks

Box 1. Recommendations to improve women's participation in aquaculture (Cont'd)

11. Increase farm facilities such as number of fish ponds and number of broodstocks, and encourage children to pursue aquaculture skills and technology training
12. Strengthen and build knowledge on: a) planning fish culture and hatchery enterprises, b) marketing fish seeds and production of table fish, c) hatchery techniques, d) nursery techniques, e) fish culture techniques, and f) establishment of focal points of aquaculture trainers
13. Enhance aquaculture extension by providing study tours, organizing training courses, convening regular meetings with aqua-network
14. Promote aquaculture development via Facebook, TV, magazine, and radio
15. Conduct training courses on aquaculture techniques and provide aquaculture materials to students in universities
16. Combat illegal importation of fish seeds
17. Increase and strengthen aquaculture network
18. Consider other contributions from the commune council by bringing up aquaculture issues in the commune investment program, making available loans for aquaculture with low interest rates, and establishing fish feed factory in Cambodia

Source: FiA (2016)

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Breaking Gender Borders in Philippine Aquaculture: a Case Study in Negros Occidental, Philippines

Joseph Christopher C. Rayos, Athena Angela DLC. Gaffud-De Vera, and Cathleen D. Dela Cruz

A gender case study of housewives engaged in tilapia farming was conducted in January 2018 in Isabela, Province of Negros Occidental in central Philippines. A socio-economic survey was administered to female fish farmers using the face to face interview method with the aid of a structured questionnaire. Fish farming as a livelihood requires strenuous and laborious activities. For these reasons, fish farmers are usually male. The expectation that husbands should provide for the family and wives are left at home to take care of the household has ceased to be the norm. Women have found their niche and have become actively involved in the management, production, and general administration in aquaculture. While poverty cannot be totally eradicated, Filipinos' resiliency opened doors for women to explore their indispensable roles in aquaculture and economic progress.

Big Catch in a Small Town

According to information gathered from the Philippine Statistics Authority, during the first quarter of 2017, tilapia production in the Philippines rose by 2.08% during the same period from the previous year. Situated in central Philippines, the Province of Negros Occidental, one of the twin provinces forming the Island of Negros (**Fig. 1**), is ranked number 24 in the country's tilapia production with a contribution of 735.69

metric tons (BFAR, 2017). Dubbed as "Sugarbowl of the Philippines," Negros Occidental is known for vast lands of sugarcane plantations. Nonetheless, aquaculture activities in the Province are still evident. In fact, a review by Cruz *et al.* (2008) showed that the practice of tilapia-shrimp polyculture in Negros Island was effective in reviving the aquaculture industry in the Province of Negros Occidental. This practice also contributed to the popularity of tilapia even in small towns in the whole Island of Negros.

Isabela (**Fig. 1**) is a third class municipality in the Province of Negros Occidental (PSGC, 2008), with an average annual income of PHP 35 million (about US\$ 0.7 million) or more but less than PHP 45 million (US\$ 0.9 million), and is about a two-hour drive from the Province' capital Bacolod City with a distance of 78.2 km (Provincial Government of Negros Occidental, 2018). With a land area of 17,740 ha, this town is famous for their "Tigkalalag Festival" celebrated every 2nd of November since 2004. This is their way of showing respects for their departed love-ones in a form of merrymaking. This is a distinct festival in the Philippines wherein instead of a festive ambiance, the "Tigkalalag Festival" is associated with Halloween, zombies, and other supernatural creatures.

Aside from its "Tigkalalag Festival," Isabela is also known for its upland tilapia farming, a method of culturing tilapia in ponds in the mountains or in hilly areas. While women empowerment in the whole Municipality of Isabel has been recognized in the recent years, most of the farm-related roles are dominated by men due to the heavy nature and demands of the job. This is however different for the town's upland tilapia farming which is generally managed by women.

Isabela Housewives in Action

A face-to-face interview with housewives from Barangay Mansablay, Isabela, Negros Occidental revealed the roles of women in the aquaculture ventures of this Municipality. The respondents are married and have big families with an average of six members. Their respective husbands are engaged with other sources of income hence, the housewives are left to take care of their backyard tilapia farms. Basically, all activities in the tilapia farms are being managed by women, *i.e.* from pond preparation to harvesting up to marketing. The women source their fingerlings from private hatcheries in nearby areas while commercial feeds are bought from the market. Even without receiving any formal training about



Fig 1. Site of Isabela, Negros Occidental, central Philippines (Note: the other province forming the Island of Negros is Negros Oriental)

(Source: Wikipedia.org)

tilapia farming, these housewives learned the trade from their neighbors who are also into the business. According to these women, most of the problems encountered in their farm activities are related to financial limitations, predation of farms by birds, and poor water quality.

Though most of the fish farmers are men, these women do not feel insecure. They are rather motivated to learn the business so that they could help their husbands in providing for their family needs. *Mrs. Herminia Guzman*, 54 years old, owns one earthen pond which she stocks with tilapia. The produce is mainly for their family consumption. Her husband is employed hence away from home most of the time. She lives with her husband, sons, and grandchildren. Her four sons constructed the pond in their backyard with an area of approximately 34 m².

On the other hand, *Mrs. Natividad Cabrellos*, 50 years old, owns two earthen ponds which produce 150 kg of tilapia which she harvests every six months. At average weight of about 500 g per fish, the fish could be sold for PHP 100 (US\$ 2) per kg. She markets the produce directly in the community as buyers go to her farm to purchase the fish. Her husband works in the sugarcane and banana plantations of Negros Occidental. When they established the tilapia farm, *Mr. and Mrs. Cabrellos* hired a laborer to help them in the initial digging of the pond for a week. After which, she and her husband continued the pond preparation for almost a month until it was ready for stocking. *Mrs. Guzman* and *Mrs. Cabrellos* are among the few housewives engaged in aquaculture in the Negros Occidental. According to these women, they practice fish farming to augment their family incomes for their everyday expenses in their households and to sustain the studies of their children.



Fig. 2. Face-to-face interview with *Mrs. Cabrellos* (left) and *Mrs. Guzman* (right) at the Municipal Agricultural Office of Isabela, Negros Occidental

Worldwide Phenomenon on Gender Equity

These Filipino women (known as Filipinas) show that the norm of confining women in household chores, incapable of doing hard labor and providing for their families no longer holds true today. The accomplishments of these Filipinas are reflective also of the women's role in aquaculture in small communities similar to those experienced in Sakhon Nakhon, Thailand as reported by Sermwatanakul *et al.* (2024), and in Driti, Fiji as reported by Nandlal (2005).

The same attitude towards the desire to be involved in aquaculture was observed among the members of the Driti Village Women's Club (Nandlal, 2005). When men in their village abandoned the tilapia project due to inadequate fingerling supply, the women revived the ponds with the help from their Government and the Canada-South Pacific and Ocean Development Program. Given the right set of tools, training and opportunity, these women were able to provide enough fresh supply of tilapia in their village ending the dependence on canned fish and other meat products from stores (Nandlal, 2005). It can be inferred therefore that the workforce and role of women in food security and employment especially in small villages could not be underestimated.

There is no established women's club in Isabela concerning aquaculture. However, an organization called Sitio Calasag Farmer's Association is recognized where women are encouraged to be members. As training and education are being accessed across all age and gender, the niche of women in Philippine aquaculture was identified by Mandas (2016) in her paper presented during the Asian Pacific Aquaculture 2016. These include farm owners, managers, technicians, laboratory analysts, technical sales representatives, researchers, extension workers, educators, and consultants. Moreover, Satapornvanit *et al.* (2015) indicated in their study that women in Cambodia, Thailand, and Viet Nam are already involved in aquaculture and their contributions are essential.

Respondents from the case study in Isabela, Negros Occidental had modest educational attainment. Although education is important as the basic tool in decision making in farms, it is not the only source of knowledge of the fundamentals in fish farming. Training sessions, seminars, and actual observations of other farms are other sources of fish farming knowledge that can guide new entrants and existing farmers. Even if production efficiency could vary from farm to farm, anyone who has interest, knowledge, and

capital can go into the business of tilapia farming. Results of the survey also indicated that regardless of educational attainment and gender, anyone can engage in tilapia farming. In line with the increasing competency of women in this business and technology, it is but fair to re-evaluate how women are treated, valued, protected, and compensated in their workplace.

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CALENDAR OF EVENTS

Date	Venue	Event	Organizer
2018			
9-13 July	Rome, Italy	33 rd Session of the Committee on Fisheries (COFI)	FAO
10-11 July	Pattaya, Thailand	2 nd Technical Experts Meeting on Information Compilation of Transboundary Species as Scientific basis for National Measures for Southern Andaman Sea	SEAFDEC-Sweden
12-13 July	Pattaya, Thailand	2 nd Technical Experts Meeting on Management of Transboundary Species for Northern Andaman Sea	SEAFDEC-Sweden
16-18 July	Bangkok, Thailand	3 rd TWG meeting of USAID-SEAFDEC Oceans	USAID Oceans
16-20 July	Samut Prakan, Thailand	Practical Workshop on Stock Assessments of Indo-Pacific King Mackerel and Narrow-barred Spanish Mackerel in the Southeast Asian Waters	SEAFDEC Secretariat
16-21 July	Geneva, Switzerland	Animal Committee Meeting of the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES)	CITES
22-24 July	Yangon, Myanmar	National Workshop and Training on Sharks Data Collection for Enumerator	SEAFDEC Secretariat
24-25 July	Bangkok, Thailand	MCS Northern Andaman Sea Sub-regional Consultation	SEAFDEC Secretariat
8-10 August	Bangkok, Thailand	Experts Consultation Workshop on Guidance to Monitor and Evaluation of Gender Equity and Social Well-being in Fisheries Communities	SEAFDEC Secretariat
13-17 August	Rizal, Philippines	Training Course on Tilapia Hatchery and Grow-out Operations	SEAFDEC/AQD
13 Aug-3 Sep	Iloilo, Philippines	Training Course on Mangrove Crab Hatchery and Nursery Operations	SEAFDEC/AQD
8-10 August	Bangkok, Thailand	Experts Consultation Workshop on Guidance to Monitor and Evaluation of Gender Equity and Social Well-being in Fisheries Communities	SEAFDEC Secretariat
20-22 August	Sihanoukville, Cambodia	National Workshop and Training on Sharks Data Collection for Enumerators	SEAFDEC Secretariat
20-22 August	Bangkok, Thailand	ASEAN Regional Technical Consultation on Aquatic Emergency Preparedness and Response Systems for Effective Management of Transboundary Disease Outbreaks in Southeast Asia	SEAFDEC/AQD
10-14 September	Rizal, Philippines	Training Course on Freshwater Prawn Hatchery and Grow-out Operations	SEAFDEC/AQD
17-26 September	Iloilo, Philippines	Training Course on Mangrove Crab Nursery and Grow-out Operations	SEAFDEC/AQD
18-19 September	Kuala Lumpur, Malaysia	4 th Core Expert Meeting on Comparative Studies for Management of Purse Seine Fisheries in the Southeast Asian Region	SEAFDEC/MFRDMD
19-20 September	Samut Prakan, Thailand	Training Course on Introduction of Simple Stock Assessment Methods in Inland Fisheries	SEAFDEC/TD
27-28 September	Vung Tau, Viet Nam	National Workshop and Training on Sharks Data Collection for Enumerator	SEAFDEC Secretariat
8-10 October	Kuala Lumpur, Malaysia	Core Expert Meeting on Data Collection, Taxonomy, Biology, Marketing and Trade of Sharks and Rays in the Southeast Asian Region	SEAFDEC/MFRDMD
18-21 October	Bangkok, Thailand	Gender in Aquaculture and Fisheries (GAF7) Conference	Asian Fisheries Society
22-26 October	Rizal, Philippines	Training Course on Catfish Hatchery and Grow-out Operations	SEAFDEC/AQD
22-26 October	Chiang Mai, Thailand	3 rd World Small-Scale Fisheries Congress	TBTI
29-30 October	Bali, Indonesia	Our Ocean Conference 2018	MMAF, Indonesia
5-7 November	Langkawi, Malaysia	41 st SEAFDEC Program Committee Meeting (PCM)	SEAFDEC
8-9 November	Langkawi, Malaysia	21 st Meeting of the Fisheries Consultative Group of the ASEAN-SEAFDEC Strategic Partnership (FCG/ASSP)	SEAFDEC
20 November-4 December	Rizal, Iloilo, Philippines	Training Course on Community-Based Freshwater Aquaculture for Remote Rural Areas of Southeast Asia	SEAFDEC/AQD

Southeast Asian Fisheries Development Center (SEAFDEC)

What is SEAFDEC?

SEAFDEC is an autonomous intergovernmental body established as a regional treaty organization in 1967 to promote sustainable fisheries development in Southeast Asia. SEAFDEC currently comprises 11 Member Countries: Brunei Darussalam, Cambodia, Indonesia, Japan, Lao PDR, Malaysia, Myanmar, Philippines, Singapore, Thailand, and Viet Nam.

Vision

Sustainable management and development of fisheries and aquaculture to contribute to food security, poverty alleviation and livelihood of people in the Southeast Asian region

Mission

To promote and facilitate concerted actions among the Member Countries to ensure the sustainability of fisheries and aquaculture in Southeast Asia through:

- i. Research and development in fisheries, aquaculture, post-harvest, processing, and marketing of fish and fisheries products, socio-economy and ecosystem to provide reliable scientific data and information.
- ii. Formulation and provision of policy guidelines based on the available scientific data and information, local knowledge, regional consultations and prevailing international measures.
- iii. Technology transfer and capacity building to enhance the capacity of Member Countries in the application of technologies, and implementation of fisheries policies and management tools for the sustainable utilization of fishery resources and aquaculture.
- iv. Monitoring and evaluation of the implementation of the regional fisheries policies and management frameworks adopted under the ASEAN-SEAFDEC collaborative mechanism, and the emerging international fisheries-related issues including their impacts on fisheries, food security and socio-economics of the region.



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The second prize winner, *Dech Oonrueng*, from the national drawing contest in Thailand

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