

# GAF 7

## Expanding the

# H-O-R-I-Z-O-N-S



## LONG REPORT

### 7<sup>th</sup> Global Conference on

# Gender in Aquaculture & Fisheries





# **GAF7: Expanding the Horizons**

This report was prepared by: Meryl J Williams, Nikita Gopal, Rejula K, Carmen Pedroza-Gutiérrez, Arlene Nietes Satapornvanit, Paul Ramirez, Ananthan P.S., Mary Barby Badayos-Jover, Alita Roxas, Sijitha Mary C.X., Janine Pierce and Afrina Choudhury, with assistance from the daily journals of USAID Oceans and Fisheries Partnership participants Rowena Paz L. Gelvezon, Reiny A. Tumbol and Marieta Banez Sumagaysay. All presenters have had the opportunity to comment on this report.

## **GAF7: Expanding the Horizons**

### **Long Report**

The 7<sup>th</sup> Global Conference on Gender in Aquaculture & Fisheries

### **Published by**

Gender in Aquaculture and Fisheries Section of the Asian Fisheries Society, Malaysia

### **Prepared by**

Meryl J Williams, Nikita Gopal, Rejula K, Carmen Pedroza-Gutiérrez, Arlene Nietes Satapornvanit, Paul Ramirez, Ananthan P.S., Mary Barby Badayos-Jover, Alita Roxas, Sijitha Mary C.X., Janine Pierce and Afrina Choudhury

### **Design**

V. Chandrasekar  
Sijitha Mary C. X

### **Cover Photo Credits**

Anne-Lise Ekrem, Norway  
J. Fenn@Seafish, United Kingdom  
M. Williams, GAFS  
Supaporn Anuchiracheeva, Thailand

**July 2019**

### **For Citation**

Meryl J Williams, Nikita Gopal, Rejula K, Carmen Pedroza-Gutiérrez, Arlene Nietes Satapornvanit, Paul Ramirez, Ananthan P.S., Mary Barby Badayos-Jover, Alita Roxas, Sijitha Mary C.X., Janine Pierce and Afrina Choudhury, 2019, Long Report GAF7: Expanding the Horizons The 7th Global Conference on Gender in Aquaculture & Fisheries, pp. 57.

# GAF7: Expanding the Horizons

## Contents

<b>Acknowledgements</b>	i
<b>Overview</b>	ii

### *Sessions Report*

1	Introduction	1
2	The Gender Data Gap in Fisheries and Aquaculture	3
3	Collective Action, Women's Leadership	6
4	Technology	10
5	Post-Harvest Processing and Marketing	15
6	Seaweed Farming	21
7	Women Entrepreneurs	24
8	Women and Fisheries Governance	26
9	Disasters and Climate Change	31
10	Women and the Environment	35
11	Households, Communities and the Gender Transformative Approach	36
12	How are we going? Surveys and Reviews	41

### *Special Workshops*

1	Photo-voice: Researching gender in aquaculture and fisheries through the camera lens.	48
2	GAF 101: Using "intersectionality" in research on gender and fisheries and aquaculture	48
3	Plan International Seas of Change	49
4	Furthering/deepening feminist perspectives in fisheries	50
5	Exploring gender equity and equality in the SSF Guidelines	50
6	Role of women fishworker organisations towards implementation and monitoring of small scale fisheries guidelines: a case of African Women Fish Processors and Traders Network (AWFISHNET)	50
7	Gender transformative approaches in fisheries and aquaculture: An exploration of strategies and emerging outcomes	51
8	Gender analysis through micro and small aquaculture operation (MiSAO) Best Aquaculture Practices (M-BAP)	52
9	Mainstreaming gender in fisheries education	53

### *Events*

Caribbean Corner	55
Field Trip	55
Film Screening	56

### *Annexures*

Session themes and Special Workshops	57
--------------------------------------	----

## **ACKNOWLEDGEMENTS**

We gratefully acknowledge and thank the sponsors, partners, supporters, all the participants, the organising committee, co-organisers, our host the Asian Institute of Technology (AIT) and the AIT volunteers.

The 7<sup>th</sup> Global Conference on Gender in Aquaculture and Fisheries (GAF7) was organized by the Gender in Aquaculture and Fisheries Section of the Asian Fisheries Society, the Asian Institute of Technology and the Network of Aquaculture Centres in Asia-Pacific. It was sponsored by the Australian Centre for International Agricultural Research, WorldFish and CGIAR Research Program on Fish, The Crawford Fund, PLAN International, USAID Oceans and Fisheries, Thailand Convention and Exhibitions Bureau and the Commission on Gender and Geography.

In addition GAF7 had the following 17 partners and supporters from Asia, Australia and beyond: University of the Philippines Visayas; University of Diponegoro, Semarang, Indonesia; Infofish; Research Institute of Environment and Livelihoods (RIEL), Charles Darwin University (CDU); JCU ARC Centre of Excellence in Coral Reef Studies; International Association for Women in the Seafood Industry (WSI); Centre for Resource Management and Environmental Studies, The University of the West Indies Cave Hill Campus, UWI-CERMES-GIFT; International Ocean Institute, Thailand; Airports of Thailand, Suvarnabhumi Airport; WINFISH, The National Network on Women in Fisheries in the Philippines, Inc; South East Asia Fisheries Development Center (SEAFDEC); ICAR-CIFT (Indian Council of Agricultural Research - Central Institute for Fisheries Research); ICAR-CIFT (Indian Council of Agricultural Research - Central Institute for Fisheries Education - Mumbai); Aquaculture without Frontiers (Australia); and Thai Union Feedmills.

The Organising Committee of GAF7 planned, designed and managed the event. It comprised:

*Overall Organizing Committee.* Meryl Williams [Co-Chair], Kyoko Kusakabe [Co-Chair & Convenor LoC], Nikita Gopal [Chair PC], Salin Krishna [Chair Conference Organisation], Danika Kleiber [Chair Communications Committee], Cherdasak Virapat, Veena N. [GAF7 Secretariat].

*Local Organizing Committee.* Kyoko Kusakabe [Convener], Salin Krishna, Arlene Nietes Satapornvanit, Amonrat Sermwatanakul, Malasri Khumsri, Derun Yuan and Veena N.

*Programme Committee.* Nikita Gopal [Chair], Kafayat Fakoya, Mohammad Nuruzzaman, Danika Kleiber, Cynthia McDougall, Holly Hapke, Derun Yuan and Alice Ferrer.

*Fundraising Committee.* Meryl Williams [Convenor], Arlene Nietes Satapornvanit, Indah Susilowati, Cherdasak Virapat and Holly Hapke.

*Communications Committee.* Danika Kleiber [Committee Organizer], Ayojesutomi Abiodun-Solanke, Sarah Lawless, Bibha Kumari, Janine Pierce, Kate Bevitt, Surendran Rajaratnam, Cecily Layzell and Cathy Reade.

## **Overview: Expanding the Horizons**

The 7th Global Conference on Gender in Aquaculture and Fisheries (GAF7), held from 18-21 October 2018 at the Asian Institute of Technology, Bangkok, was organised by the Gender in Aquaculture and Fisheries Section (GAFS) of the Asian Fisheries Society (AFS), the Asian Institute of Technology and the Network of Aquaculture Centres in Asia Pacific. It followed 28 years of women and gender symposia and workshops supported by the AFS and its Indian Branch. GAF7 created a platform for sharing the latest gender in fisheries and aquaculture research, learning new methods and approaches, launching new training products and crafting a vision for the future of our research field. GAF7. Presenters and participants came from all continents. This report provides an overview of all the presentations.

Strong evidence exists that when women are made visible and given voice, changes start to take place. But miracles don't happen overnight, most take a long time.

Change is impeded by many factors and the lack of sex-disaggregated data in fisheries make change hard to assess. Added to the data gap is actual resistance to integrating gender equality into the sector.

Sex-disaggregated data, if available at all, rarely extend beyond production data, thus omitting valuable information on the post-harvest and support services in which women's participation is most prevalent. GAF7 presenters described their attempts to work around the lack of sex-disaggregated data by tapping into data inferred from a national fisheries census, institutional data and data collected by special studies. A panel-led discussion proposed empirical studies to work through model approaches, at the national level, for collecting sex-disaggregated data.

Despite the challenges of assessing change, a rich set of surveys and impact assessments provided GAF7 with rather sobering results. Several fisheries development assistance projects in Indonesia that were intended to include gender equality components barely did so; a survey of the seafood sector found women were indeed integrated into the sector but still experience many types of discrimination. In India, state and national fisheries policies overlook non-traditional women's opportunities; women have been replaced in many nodes of the shrimp value chain by mechanisation and export market orientation; and capacity building programs for fish processing are mainly driven by the top-down demands of importers. Special Workshops explored gender indicators for small scale aquaculture certification, and monitoring the progress of implementing the Small Scale Fisheries Guidelines. Photovoice, a graphic image based research tool for impact assessment and other social science research was taught in a Special Workshop and used by a team of participants in assessing GAF7.

Some change can be self-initiated, especially by women's collective action, of which GAF7 heard many fine examples from Africa (AWFISHNET), Asia (Bangladesh, Cambodia, Japan, Philippines and Thailand), the Caribbean and Mexico.

The impetus to progress toward gender equality comes from many quarters. GAF7 presenters and participants explored solutions like education for future experts and new gender-sensitive technologies to offer new opportunities such as in fish marketing in India, and to overcome emerging problems such as climate change impacts on seaweed and shrimp farming. Educators showed how, in India, Japan, Philippines and Thailand attempts to mainstream gender in fisheries education can meet with passive, active, and hidden

resistance from colleagues and/or administration. Thus it becomes necessary to mainstream gender in the academic curriculums of fisheries science. Institutions testing gender transformative approaches found that backlash to innovations to help women can be reduced by engaging women and men together as agents of change.

Fisheries and aquaculture are not monolithic, as reflected in studies that focused on women in particular industry nodes such as seaweed growing and tuna landing ports. Women's entrepreneurship was featured in "positive deviators" in Bangladesh, collectives in Japan, individual women's stories in Nigeria, small scale oyster growers in the Philippines, and, in India, women traders in competitive value chains, and those balancing choices between fish and non-fish livelihoods.





# Sessions Report



## 1. INTRODUCTION

The 7<sup>th</sup> Global Conference on Gender in Aquaculture and Fisheries (GAF7) was the first standalone event of the Gender in Aquaculture and Fisheries Section of the Asian Fisheries Society (AFS). GAF7 was a noteworthy opportunity to create a platform for sharing the latest gender in fisheries and aquaculture research, learning new methods and approaches, launching new training products and crafting a vision for the future of our research field. GAF7 followed 28 years of women and gender symposia and workshops supported by the AFS and its Indian Branch. Event co-organizers included the Gender in Aquaculture and Fisheries Section of the AFS, the Asian Institute of Technology (AIT) and the Network of Aquaculture Centres in Asia-Pacific (NACA). It was sponsored by the Australian Centre for International Agricultural Research (Platinum), WorldFish (Gold), The Crawford Fund, USAID Oceans and Fisheries, Plan International, Thailand Convention and Exhibition Bureau (Silver sponsors) and the Commission on Gender and Geography (Bronze), and has 17 partners and supporters from Asia, Australia and beyond.

Dr Eden Woon, President of AIT, welcomed the participants during the GAF7 opening session. In his welcome speech, Dr Eden Woon emphasized that *‘moving ahead with technology should be accompanied by conscious efforts to consider its social impact, i.e., effect on people and community’*.

At the Opening Ceremony, Dr Amonrat Sermwatanakul, Senior Executive Expert in Fisheries Management, Department of Fisheries, Ministry of Agriculture and Cooperatives, Thailand, was presented with a special plaque recognising her promotion of gender equality in fisheries and aquaculture; she is a recipient of the Grand Award for “The Excellence on Human Right Protection and Gender Equality Promotion (Public Sector)” from the Prime Minister of Thailand.

Dr. Darian McBain, the Global Director of Sustainable Development at Thai Union, the largest seafood processor in the world, delivered the Keynote address during GAF7 conference. She spoke on *Turning #MeToo into #WeToo* in aquaculture and fisheries. Dr. Darian emphasized that the seafood industry doesn’t work without women, just like it doesn’t work without fish. “The world needs seafood to feed, and the industry needs women to make it happen.”

The GAF Section launched its new website and policy brief *Fishing for Equality: Why gender matters in aquaculture and fisheries* (<https://www.genderequality.genderaquafish.org/>). The policy brief highlights the key actions that are needed to make real progress toward gender equality — all of which were raised and discussed at the conference

The 149 GAF7 participants come from 28 countries. They represented: Africa (4%); Asia (72%), Europe (5%), North America (7%), Oceania and Australia (7%) and South America and the Caribbean (5%); 81% were women.

There were 95 research presentations (78 oral and 17 posters), grouped into 8 thematic sessions and 9 workshops, run in 4 parallel sessions, each well-attended,

and included participatory learning techniques (*list given in the Annexure*). Most importantly, in discussions within the formal settings of sessions and workshops and in informal discussions in the hallways and over shared meals, the participants explored GAF issues, shared experiences, learned from each other, built professional networks, and forged friendships.

While discussing gender issues in aquaculture and fisheries, GAF7 didn't forget gender issues in conference participation either: we offered free childcare services to all participants which allowed researchers/writers with young children to join fully in the sharing and learning experiences the conference offered. This facility was much appreciated by all delegates, and would be a welcome service at all AFS conferences, regardless of topic.

During GAF7 there was also a focus on sharing the latest gender research approaches, including the gender transformative approach, and applying feminist intersectionality. Other areas were innovative technologies, women's collective action, and Photovoice.

The Field Trip was organised by the Thailand Department of Fisheries through which an excellent exposure was given to the participants; they visited a catfish production and processing unit, an ornamental fish farm, and a fish landing site (for details please see separate section at the end of the report).

Four outstanding student presenters were awarded prizes:

- Angela L. Cruz (presenter), Patrick J Christie and Alan T. White: *Addressing gender gaps from a programmatic perspective.*
- Veena N (presenter) and Kyoko Kusakabe: *Migrant women's strategies to cope with employment practices in Thai food sector: A case study from Rayong and Trat.*
- Sarah Lawless: *From resistance to internalization: The spread of 'gender equality' in small-scale fisheries governance.*
- Benedict Mark M. Carmelita (presenter), Alice Joan G. Ferrer, Jinky C. Hopanda, Herminia A. Francisco, and Canesio D. Predo: *Gender differences in possession of unused livelihood skills and desire to be involved in livelihood opportunities in coastal households in the Philippines.*

The GAFS General Assembly was held on 18 October 2018 and 23 GAFS members attended. The activities of the GAFS on the run up to the GAF7 from the time of its official launch were presented by the office bearers. The points discussed included the meetings of the GAFS Executive Committee, the planning of GAF7, the partnerships policy, training opportunities, brief on financials, website and membership.

## 2. THE GENDER DATA GAP IN FISHERIES AND AQUACULTURE

Without sex-disaggregated data, decision makers face challenges focusing programs, forming policies and tracking progress of the fisheries and aquaculture sector towards national and global goals, such as the Sustainable Development Goals (SDG). Sex-disaggregated data at the national level and fishery by fishery are only available in a few countries. Even these data rarely extend beyond production data, thus omitting valuable information on the post-harvest and support services in which women's participation is most prevalent. At GAF7, presenters showed how they attempted to work around the lack of sex-disaggregated data by tapping into: data inferred from a national fisheries census; institutional data, e.g., in higher education; and data collected by special studies, e.g., of communities, markets and small scale fisheries. Empirical studies could help countries develop model approaches for collecting sex-disaggregated data.

In the Indian states of Tamil Nadu and Maharashtra, coastal fish worker participation was compared between the 2005 and 2010 Indian marine fisheries census records. According to **P.S. Ananthan** and colleagues (*Work participation of fishermen and women among coastal fishing communities: A comparative study of two Indian states*), the total fish worker population of Tamil Nadu fell by 9% between the two censuses, while that of Maharashtra rose by 17%. Sex disaggregated data were not available in the 2005 census, but were inferred from the 2010 census using the gender ratios by state and work type. Though imperfect, this inference suggested that in Tamil Nadu, men's participation in post and pre-harvest work fell by 63% and those for women rose by only 3%, whereas in Maharashtra both women and men's participation rose by about a third. In both states, the number of women going into peeling and fish processing rose considerably (88% Tamil Nadu; 381% women and 150% men Maharashtra). The pace of changes combined with the need for much more accurate data led participants to suggest that India conduct a country-level workshop on sex-disaggregated data for the Indian marine fisheries censuses, which should also include aquaculture work.

Two papers used data from higher education institutions to track graduate ratios by gender. The Indian Council of Agricultural Research (ICAR) educates fisheries professionals in its 27 colleges offering bachelors' degrees and 12 colleges with masters and doctoral level programs. **P.S. Ananthan** and colleagues (*Fisheries professionals of India: gendered analysis of profile, academic performance and career growth*) investigated the gendered profiles of students, finding that 44% of them were women, 60% were from rural regions, 25% were from the Indian scheduled classes of officially designated groups of historically disadvantaged people, higher than in the overall population. The men students tended to be more from rural areas and the women more from urban backgrounds, making the women more likely to be educated in English and have better educated mothers and fathers. Medium term job outcomes for the graduates showed that many became scientists (slightly more women than men) and extension staff (slightly more men than women) but few became entrepreneurs.

In Bangladesh, **Mohammad Nuruzzaman** (*Changed gender role in higher education, research and employment in Aquaculture and Fisheries in Bangladesh: Opportunities and challenges*) reported that a large increase had occurred in the number of aquaculture and fisheries graduates from universities since 1990, and nearly 50% of the 1,000 annual graduates are women. The career opportunities for the women, however, are very limited. The government fisheries and research agencies take few graduates and have no gender equality aims when hiring. Private sector farms, feed-mills and hatcheries are small in scale and these do not employ graduates, and processing industries use only female labour and not graduates. The Chair of the Bangladesh Fisheries Research Forum, a professional society, attended GAF7 to seek ideas and contacts for tackling the gender disparity issue.

In the state of Bihar, India, a unique study – started by Bibha Kumar - has been running since 1994 at the fish markets in the capital city, Patna. Reported by **Meghna Sinha** and colleagues (*Study of the social status of fisherwomen in Patna fish market Bihar India*), the study now focuses on sex-disaggregated data at 8 sites (3 sites added in the most recent survey) in and around the market – two government authorised fish markets, a fish wholesale market, a private fish market and 4 street side/bridge pavement fish markets. Whereas in 1994 women were predominant in 4 of the 5 sites, now women only dominate in 2 sites, both of which are street markets that have no hygiene facilities and require 10-12 hour work days. No women operate in the private market. The reasons for the decline of women in the fish markets include the ingress of rural migrant men, the illiteracy of the market women, despite their fish handling knowledge, and the caste driven nature of the society in which women have low status. Underage illiterate boys also work in the street side markets. Participants recognised similar patterns in the markets of other countries, discussed how women could be made more competitive in fish markets and the conditions in such markets improved.



In fishing communities in Langkawi and Kuala Kedah, west coast Peninsular Malaysia, **Zumilah binti Zainaludin** and colleagues (*Vulnerability levels among male and female in Malaysian fisheries and aquaculture community*) used a wellness

lens to identify 6 types of vulnerable people (in order of prevalence): those suffering serious disease, single parents, the handicapped, elderly, carers and those living alone. Some types suffered deprivation in occupational, intellectual, social and physical wellness. The only type of vulnerability with a significant gender difference was the case of single parents (women 35%, men 9%). People with serious diseases were the only vulnerability type to be significantly correlated to poverty. Overall, women were more likely to be highly vulnerable than men (16% vs 7% of the vulnerable) and this, plus other gender differences indicated that policies on vulnerability should be gender sensitive.

From her studies in the same Malaysian fishing communities, **Norehan Binti Saidi** (*Profiling the relationship between vulnerability type and background of single-vulnerable community members in Malaysian fisheries and aquaculture community*) found that vulnerability types were closely linked with sex, marital status and home ownership. Vulnerable men were more likely than women to have a serious disease and/or be handicapped; more married people were vulnerable due to disease and more single people were vulnerable through being single parents. Norehan conjectured that the stresses of unhappy marriage may have contributed to the disease load.



Women learning how to measure fish, Arturo Island, Timor-Leste, to assist conservation.

Photo credit: Jenny House

Calling her presentation “two birds with the one stone”, **Jenny House** and Nick Piludu (*Two birds with one stone: Fisheries monitoring as a tool for empowering women and informing marine management*) revealed how engaging women in monitoring a fisheries area managed under customary law (a Tara Bandu) on Arturo Island, Timor-Leste, addressed two challenges – the lack of monitoring data and of women’s involvement. Trained women data collectors were soon in action, and with the researchers were able to upgrade the survey of fish species and fish weight using scales and cameras to make the data comparable with other monitoring at nearby sites. When the women attended the national fisheries strategy meeting, they impressed and raised the attendance to about one third women, impressing

the village leader. Local cultural challenges to involving women, however, should not be underestimated.

At GAF7 a panel composed of **Belinda Richardson, Zumilah Binti Zainalaludin, Sarah Harper and Meryl J Williams** led an open discussion on sex-disaggregated data in fisheries and aquaculture. The discussion heard about the dearth of such data for the production sub-sector and even more so for post-harvest and marketing, although these data are critical for scoping policy and development interventions. FAO has attempted to obtain national sex-disaggregated statistics for fisheries production, with limited success owing to the lack of national collections that are the basis of FAO reports. This is compounded by a lack of transparency in how the data obtained are used by FAO in producing global estimates. Likewise, sex-disaggregated data for aquaculture are only available from isolated studies, making comparisons difficult. Although women's ministries should help create national demand for fisheries and aquaculture statistics, this was not happening. SDG reporting may help create a demand but, for this, combined SDG#14 and SDG#5 indicators need to be developed.

What can be done in practice? Participants felt that those wishing to move the agenda forward need to start with the top level social and economic goals and work with women's and fisheries ministries to create the demand. Progress could be made by developing model national cases, testing practical approaches that could become good templates for others, and even finding innovative ways for collecting data including through participatory methods.

### 3. COLLECTIVE ACTION, WOMEN'S LEADERSHIP

Collectives have been a source of mutual support and networking for women, allowing them to participate in the fish value chains effectively, enhancing opportunities and creating a greater role for women in decision making. The formation of cooperatives and associations has helped women improve livelihood options. These initiatives have also helped women cope with difficult situations and helped them develop technical, financial and managerial capacities. Thirteen papers were presented featuring examples of collective action and on women's leadership from diverse geographies such as Mexico, Philippines, Japan, Caribbean, Bangladesh, Cambodia and Thailand.

**Carmen Pedroza-Gutiérrez** (*Managing Mercado del Mar, a case of women's leadership in the fishing industry*), presented a case study of women traders in a wholesale fish market in Guadalajara, Mexico. Successful business women manage the Mercado del Mar, the second largest wholesale fish market in the country. Their leadership has to do with their own abilities and skills, but as well with family support and networking. Moreover, the division of labor in the market follows a mixed approach that, although gender-based, at the same time depends on each family members' abilities.

Through a value chain analysis **Angelito Gonzal, Tipparat Pongthanapanich and Pedro Bueno**, (*The case of a 29-year-old women's association of small-scale fish*

*farmers and processors*) presented the case of an evolving (from farming milkfish in a communal farm, to also processing two product forms peddled in the neighborhood, to processing an increasing variety of higher value products sold to various end markets in several provinces) village-based women's association established in 1989 by 15 members in Pangasinan, Philippines. Currently the association has 118 women and two men members. Adopting several types of upgrades in its operation, it has recently moved into a new processing plant and is starting HACCP certification. The authors describe the factors that enabled the association to develop and manage the value chain for their products and be an effective participant in the chain. The story showcases some opportunities for empowering women and the association. One key to empowering the women was capacity building (managerial, technical, financial, and marketing) through the system of support provided by the government, while avoiding the pitfall of making the association perennially dependent on subsidy.

Financial inclusion as a major step in empowering women was the focus of the work by **Darlene Joy D. Calsado** and colleagues who studied an intervention of the Community-Managed Savings and Credit Association (CoMSCA) in promoting financial literacy among women in small islands, Philippines (*Promoting financial literacy among women in island fishing communities*



*On Gigantes Island, Carles, Iloilo, Philippines, credit received from the local CoMSCA can be used for any purposes, and is not confined to livelihood support.*

*Photo credit: Joy D. Calsado*

*through CoMSCA: The case of Gigantes islands, Carles, Iloilo, Philippines*). They used the Barangay Management Information System (BMIS) to gather information, following it up with key informant interviews and focus group discussions. The CoMSCA itself was borrowed from World Vision and introduced by Christian Aid to Gigantes Islands as part of the recovery and rehabilitation strategy post-Typhoon Haiyan in 2013. It covered people who received no other aid. The strategy of the programme included gauging personal competency, building commitment, providing seed capital, forming clusters, and monitoring. The effects, which were transformative on the household's money management, ranged from members learning the importance of savings, to basic money management and changes in consumption behavior.



**Bertha Simmons and Nadine Nembhard** (*Caribbean small-scale fisherwoman Learning Exchange in Costa Rica: Women's voices*), explored the experiences of Caribbean women in SSF in a knowledge exchange designed with a participatory approach to favor a horizontal transmission of knowledge and which sought to build links and shared experiences among women in fishing communities from personal, economic and political/organizational empowerment perspectives, and strengthening bridges among islands of the Caribbean and Costa Rica. The experience helped them to progressively include new visions and implement innovation plans and strategies they observed on site visits.

**Mary Barby P. Badayos-Jover** (*Organizing women to promote gender equity: The case of fishing villages in Miagao, Iloilo, Philippines*), assessed the state of women's organizing for gender equity in fishing villages in Miagao, Philippines. More precisely the impact of the Philippines' Magna Carta of Women on the situation of rural women, which seeks to eliminate discrimination against women, especially those in marginalized sectors such as the fisherfolk. Thus, fishing communities have been exposed to different institutional capacity building interventions, including improving women's livelihood opportunities. Women have developed capacity for organizational management and sustainability, have raised the community's gender awareness and sensitivity, and have been able to receive technical and material assistance.

Through a qualitative research study, (*Voices from the shore: Lived experience of women as leaders in fisher organizations in Bolinao, northern Philippines*), **Sheila Marie M. Dasig** explored women's experiences as they participate in leadership structures of fisher organizations in Bolinao, Northern Philippines. She classified her findings into: empowerment through finding one's voice, sense of self-worth and sense of achievement. Motivations included a sense of belongingness, access to material benefits and commitment to a better future for the next generation; and challenges such as internal struggles and external threats. She also found that women are not passive actors but are active participants exercising agency; women's agency, however, is still bounded by the limitations of their gender roles particularly the caring responsibilities assigned to them.

**Kyoko Kusakabe and Prak Sereyvath** (*Women's leadership in community fisheries: Case in Kampot and Banteay Meanchey in Cambodia*), presented two case studies in two different Cambodian provinces where fish resources are decreasing and women are working to diversify household income, while some men are moving out of fisheries. Women who used to be marginalized in community fisheries are taking leadership roles in a male-dominated industry-community. Now women fish and have strong identity as fishers.

**Miratori Kim, Vichet Sean, Vanvuth Try, Yumiko Kura and Sarah Freed** (*Enhancing women's leadership to influence the productivity of rice field fisheries enhancement project (2012-2015)*), illustrate the benefits of improved integration of gender roles in sustainable resource management, by analyzing the Rice Field Fisheries (RFF) in Cambodia. These fisheries are a significant contributor to national fish production

and rural household income. The RFF Enhancement Project (2012-2016) improved women's participation in the decision-making bodies of these fisheries, in addition to increasing women's income and empowering them.

**Malasri Khumsri and Amornrat Sermwattanakul** (*Successful women leadership in the Aquatic Animal Food Bank Project: Case study of Sapsomboo Model, Buriram Province, Thailand*), presented the successful achievements of the project Aquatic Animal Food Bank, in Sapsomboo Village, Thailand, which supports community members with the management of ponds to increase aquatic animal production as a source of protein foods and supplementary income. Women take part in different activities of the successful project implementation, and the project promotes women's leadership, and the economic empowerment of women.

By using participatory action research **Maria Pena and Patrick Mcconney**, (*How has organization benefited women in the Barbados flyingfish fishery? A look from within*), investigated women organized in the Barbados flyingfish fishery, the only postharvest fisherfolk organization, the Central Fish Processors Association (CFPA) which is predominantly female, and formed to address challenges small-fish processors (fish vendors) were experiencing in their livelihoods. Results pointed out the reasons for joining and the benefits of the membership, among which the authors mentioned improve working conditions, training, financial benefits and respect, as the most frequent answers obtained.



*In Bangladesh, woman constructs a net for hilsa fishing.*

*Photo credit: Tanzina Nazia*

**Tanzina Nazia**, Afrina Choudhury and Abdul Wahab (*The potential of Community Savings Groups in enabling women's empowerment and Hilsa conservation*), presented the impacts of the Community Saving Group (CSG) initiative started in 2015 by WorldFish and ECOFISH, in communities overburdened with high interest micro credit loans. They used a quantitative study of 300 households

divided into loan takers and non-loan takers; and a control group. The study takes a critical look into how enhanced saving can enable women's empowerment as well as women's active participation in natural resource management. The CSG's are releasing women from some of their financial worries and from exploitation, explaining why 40% of them who did take loans used it on alternative income

generating activities. Thus, women who took loans have now better positions in their households and their communities, have increased their social networks and social capital and have started to participate in the management of Hilsa, their main fishery.

**Natsuko Miki, Kumi Soejima and Izumi Seki** (*Changes in fishing communities and women fishers in Japan*), used statistics in presenting the case of fishing communities and women fishers in Japan. The number of fishers has decreased due to fewer opportunities and retirement. This, and the declining supply of fish, has increased poverty in fishers' communities. However, a few young people have become interested in the activity in recent years, leaving some hope of improvement for the future.

**Izumi Seki, Kumi Soejima and Natsuko Miki** (*The current state and problem of the role of the woman organization in fishing community*), presented the role women played in fishing communities in Japan. Since aging populations is one of the problems in these communities, the Japanese government aims to develop a care system in which women provide assistance for the local elderly people. However, these activities are often voluntary, the female staff are also aging and younger volunteers are difficult to find, thus it is difficult to maintain these caring activities. The 2018 fisheries policy reform in Japan focused on growth through industrialization, resource management, aquaculture and fish marketing but paid little attention to policies to support fishing communities.



*In Japan, returning with the harvest of laver seaweed.*

*Photo credit: Natsuko Miki*

#### 4. TECHNOLOGY

Technology plays a significant role in fuelling economic growth. Similarly, women's economic empowerment boosts productivity and promotes diversification as well as organizational growth and effectiveness. Women's limited access to technological innovations, particularly in underserved areas, prevents them from taking their rightful place in the economy. Six papers centered on technology and women in

fisheries. These addressed new technology and technology adoption and its positive and negative consequences.



*In Zanzibar, women measure out lengths of the new tubular nets prior to deploying them at sea.*

*Photo credit: Cecile Brugere*

In Zanzibar, Tanzania, **Cecile Brugere** (“*Women’s empowerment through improved seaweed farming technology: The story of Sea PoWer in Zanzibar*”) and her colleagues found major problems with traditional intertidal peg and rope culture including terrible working conditions for the women farmers and rising temperatures that affected the seaweed seasonal growth and health. The organisation Sea PoWer therefore started helping women to venture into subtidal farming, using boats and an innovative technology based on tubular nets. These practices greatly alleviate women’s hardships because they stay fewer hours in the seawater, are not stung by sea creatures, and suffer fewer physical injuries than when they have to carry heavy loads of equipment and product across intertidal land. Although innovations are not a panacea, this one became an entry point to greater self-esteem, social capital, and income.

In another presentation on new technology, (“*Role of gender focused intervention in haor floodplain: Case of women-led cage aquaculture from Kishoreganj haor areas*”) **AKM Nowsad Alam** and his colleagues recognized the opportunities in fish cage culture and involvement of rural women to increase fish production in the haor floodplain in Kishoreganj District, Bangladesh. The study specifically compared the

performance of two distinct women's groups engaged in cage culture in haor waters, the Ethnic Fisherwomen and Mainstream Poor Women, particularly on the dimensions of income and participation. The gender-focused intervention showed that cage culture seemed to be a viable option to increase household income for



both groups. While cage culture has attracted the community, the ethnic fisherwomen were found to be more engaged and capable in cage operations and fish marketing because they themselves sell the fishes in retail markets, earning them higher profits compared to the mainstream poor women. The study demonstrated that in spite of social restrictions for women's participation in fishery related activities outside home, this intervention had successfully incited engagement of women in productive cage culture, increased household income, reduced vulnerability to social risks, and improved household food security. It created a new scope of fish production and trading that affords additional income for women.

Another technology presentation was on a cross-country study looking into gender differentiated needs and preferences of fish farmers and how this information can provide useful inputs to fish breeding programs. **Mamta Mehar** and her colleagues (*"Gender differentiated needs and preferences of farmers for Rohu fish in Bangladesh and India"*) used a mixed method approach to identify Rohu traits of high importance to both male and female Rohu fish farmers in selected districts in Bangladesh and India. Preliminary gender-disaggregated results showed that the prime preferences for weight and growth are common among men and women, but other valued traits such as less bony fish, better survival rate and uniform fish size are greatly influenced by the primary activities of the person involved. Although the most important Rohu traits identified among men respondents resemble those of the women, this endeavor is one of the early attempts to address needs of both male and female farmers in society by incorporating social and gender aspects in genetic improvement programs as a means to achieve economic impact at large scale.



Sample multipurpose fish vending and display table.  
Photo credit: Vijaya Khader

**Vijaya Khader** (*Challenges Faced by Fisher Women of South India - Specific Reference to Andhra Pradesh, India*) probed and chronicled 120 women fishers' livelihoods in coastal Guntur district in Andhra Pradesh. Documenting their extensive involvement in post-harvest handling, processing and marketing activities, she showcased through success stories how interventions, especially technologies, such as multipurpose fish vending and display tables, mussel culture and net making combined with appropriate training could bring positive changes in women fisher livelihoods.

A pioneering study by **Lovella Mae Magluyan** and colleagues (*“Women shell fishers in small island communities: Roles, risks and recommendations”*) highlighted the financing and shell shucking (shell meat removal) roles of women in

the shell fisheries industry in Gigantes group of islands, Carles, Iloilo, Philippines. Alongside their reproductive role in the household, 28.6 and 91.7 percent of women interviewed were also financiers and shell shuckers, respectively. These productive roles, however, posed economic, health, geographical and ecological risks. Improving shell fisheries governance by developing policies that would reduce the risks faced by women shell fishers and regulating shell collection were seen to be potential measures to alleviate these risks. Also, facilitating support systems for women such as social security, sanitized facilities, and equipment for shucking through community organizing and education were recommended.

**Mohammad Nuruzzaman** and his colleagues presented the *Outcomes from gender focused interventions for the shrimp PL collectors: Case of a fisher's slum from south-western coastal region of Bangladesh*. This study of the United Nations Industrial Development Organization (UNIDO), through the Bangladesh Department of Fisheries, documented a gender-focused pilot program for the vulnerable post-larvae (PL) collectors in a fisher's slum in the southwestern coastal region of Bangladesh. The program formed women's groups from 120 PL collectors affected by the government's wild PL fishing ban and principally provided adult literacy, life skills and small business training for alternate livelihoods through four community schools, wherein participants were given regular wage compensation. The program also supplied books and clothing for children of the group members who were studying, as well as rain water harvesting systems and storage facilities. After three years, the post-project evaluation reported that the program contributed to women's empowerment, education, literacy, and land-based livelihood outcomes. The



*In south-western coastal Bangladesh on the Bay of Bengal, finding alternative livelihoods for women shrimp post-larvae collectors is difficult in these hard to access villages.*

*Photo credit: Mohammad Nuruzzaman*

improved access to information, technological resources and innovations along with training provided by the program opened opportunities for dignified income generation among women, an essential element for reducing poverty and inequality in the community.

## 5. POST-HARVEST PROCESSING AND MARKETING

Ten papers were presented on post-harvest processing and marketing, those parts of the value chain where women continue to dominate participation in many countries. Three presentations discussed tuna value chains and the different nodes of women's participation in them and brought out the dominance of male actors in almost all nodes. These studies revealed that although the value chain is male and capital dominated and tuna is critical to many local and national economies, gender studies on tuna operations would help countries better address human welfare and sustainability goals in their use of tuna resources. Four papers discussed women in marketing and four in fish processing. These papers discuss issues of women, including migrant women, their coping strategies, their means and willingness to use available and new opportunities (like e-marketing), all of which are also related and restricted by their reproductive roles. In several cases, lack of institutional financial support has limited the women from upgrading their fisheries businesses.

### **Tuna**

General Santos City in Mindanao, Philippines, is a unique tuna port and critical to the Philippine tuna fisheries. Two related gender studies were carried out in the port and adjacent municipalities. **Marieta Bañez Sumagaysay** and colleagues in WINFISH (The National Network on Women in Fisheries in the Philippines, Inc) ("*Tuna fisheries gender analysis: Case of General Santos, Philippines*"), and **Alita Roxas** and colleagues ("*Engagements of women and men in the municipal and commercial tuna fisheries in Sarangani Province, Philippines*") were commissioned by the USAID Oceans project to study gender in the tuna value chain. The studies identified three types of tuna value chains – municipal small scale, commercial purse seine/ring net and commercial handline. In all three, women's roles were much more limited than men's. Stereotypes were unfavourable to women's and men's work in this traditionally male domain, and gender-responsive programs and policies were lacking. According to Bañez Sumagaysay, however, it is not only the women but the men as well who had little involvement in policymaking and community activities. Interventions for the promotion of gender equity and women's empowerment include developing gender-responsive programs/policies/plans, engaging gender champions, and capacity building among value chain players and enablers.



*Man weighing yellowfin tuna while woman does the recording, General Santos City tuna port, Philippines.*

*Photo credit: Alita Roxas*



Tuna trade is a vital global industry and tuna stocks need to be sustained, therefore, as Roxas pointed out, parties in the value chain are expected to be knowledgeable on catch documentation and traceability (CTD) schemes and sustainability such as through measures countering illegal fishing and promoting ecosystem approaches. At General Santos City port, women work in numerous low-key but nevertheless important jobs. Running through value chain stages from pre-financing to onward trading, CTD work provides a good example of current and possible women's roles. At all scales, pre-fishing preparations and pre-financing are important, even for municipal fishers who cannot pre-finance their own trips and who use family labour for trip preparations. Pre-financing often links the fishers and their households/companies to the product consolidators (grouping fish from more than one harvester) and traders. Women can be involved in pre-financing, often as part of family businesses. Women financiers/consolidators or their women staff play a vital initial role as they record and track sales and profits. For the household, women are often responsible for documents registering boats and fishers. In the landing port, women often record and code operations while men do heavier physical work. Technology to facilitate handling large fish, presently all done by men, would allow women more opportunities, and benefit the physical wellbeing of men. Women were more open to mechanisms for sustainable fisheries for livelihood security. Gender-sensitive policies and approaches could benefit the aims of more sustainable and beneficial tuna fisheries for the formal and informal workers and households.

**Reiny Tumbol** and colleagues (*Gender equity and women empowerment in the fisheries value chain in Bitung, North Sulawesi, Indonesia: A case study*) employed the Gender Dimensions Framework (GDF) to understand gender issues and gender differences in roles, constraints and opportunities along the tuna value chain in Bitung, North Sulawesi, Indonesia. Activity, scale of operation and cultural norms were important factors determining the type of work men and women do in each node and who has access to and control over assets.

Tuna fishing and access to and control over assets was dominated by men who performed almost all activities, including completing permits and documentation, fishing and fish handling at sea, and unloading. Land based work like procuring and crushing ice and icing are done by men, though a few women also carry out icing. In small scale processing, fish purchasing is done by women and men transport the fish to processors. Large quantities of fresh and processed fish is generally done by men, while small retail sales of fresh and processed fish, including in fish auction sites and peddling fish in residential neighbourhoods on foot, are generally done by women. Among small-scale processors, women, when owners, hold the access and control over assets. In large-scale fish processing firms, the access and control of the company's assets is dominated by men. In fish marketing, the access and control of assets are held jointly by men and women. Access to resources such as fishing vessels and raw materials is a limiting factor. Time is also a constraint for women due to their household responsibilities. Women vendors often lack access to public transport to landing centers/harbors in the very early morning and this can make them vulnerable to harm, e.g., sexual abuse.

## ***Fish Marketing***

Would new types of markets help women? What market niches do women typically occupy? Presentations from India and Timor-Leste illustrate how these issues are tackled.

**Siddhika Meher** and colleagues from Mumbai, India, reported on a social experiment (*Can small scale fisherwomen take to online retail? Evidence from a social experiment with Mumbai fisherwomen*) in which fisherwomen retailing fish in the city of Mumbai were introduced to online retailing through a mobile app. Their willingness to sell fish online was explored, noting that consumers are making increasing use of online platforms. After first orienting the fisherwomen, the intervention supported them with printed packaging material, with a customized logo and prints. The post-evaluation revealed an increase in confidence of the women to try e-platforms as they felt that it reduced their work loads and the stress of the physical market place. This could also be used to expand their areas of operation. Though it may not replace marketplace selling, this could be another window for retailing through further training on the app, and handling of fishes for online marketing, quality, packaging and warehousing.

How do women cope in Indian fish markets?

**Gopakumar V** and colleagues studied the vulnerability and resilience of women entrepreneurs operating in subsistence markets (*Women entrepreneurs in fish value chains: A micro level study of vulnerability and resilience in India*). These women could be more susceptible to external shocks than those in affluent markets.



*In southern India, woman fish trader displays her fresh fish and shrimp.*

*Photo credit: Gopakumar V.*

Value Chain Analysis was used as a heuristic model to study the links between production and consumption, and situate the presence of women entrepreneurs in the fish economy in three locations in two states of India, Kerala and Tamil Nadu. Women were active in processing and marketing from small scale vending to export. Vulnerabilities existed across the spectrum of trade, irrespective of scale. Vulnerabilities arose from family reasons like death of a spouse, abandonment or illness. The women entrepreneurs ensured their resilience to shocks by a

combination of capitals and strategies. Complex businesses with fluctuating supply and demand suited only the highly determined, ambitious and keen, i.e., those with strong human capital. Social capital came from making use of contacts made throughout the fisheries and helped the women find alternate markets and wholesalers for supply of the natural capital they needed. Informal lending, available credit, and the vendors' market reputations were financial capitals and transportation and mobile phones helped in expanding their reach and increasing efficiency (physical capital). The women entrepreneurs in marine fisheries were quite resilient to many vulnerabilities and this was attributed to a sense of desperation, individual agency, the nature of individual coping mechanisms and the strategies adopted.

Women in Timor-Leste cope by picking their market niches. **Kim Hunnam** presented



*Two women in Timor-Leste thread fresh sardines onto palm frond strands to take to market.*

*Photo credit: Kim Hunnam*

the case of women in small scale fisheries in Timor-Leste (*Opportunities and constraints of sardine trading for women in Timor-Leste*) from a preliminary study of women in sardine trading and explored how small-scale, small pelagic fisheries can be enhanced to deliver and sustain greater nutrition and livelihood benefits to local people. With respect to women's opportunities and constraints, Hunnam observed from surveying fish selling households that women were involved in the sector which had access to fish plus an opportunity for road side sales. Otherwise sales are mostly by men who can handle larger quantities and travel to other places using motorbikes. Women however are also occupied drying and marketing sardines.

**Charena J. Castro** and colleagues studied vendors in the selected boneless danggit displayed at Taboan Market in Cebu City, Philippines (*Gender participation in the food safety implementation of boneless siganids *Siganus puellus* technology*). Taboan Market is the most important and well known local source of dried siganids - boneless danggit. They found that more than 70% of the vendors in all marketing channels such as the public market, street vending, souvenir shops and e-markets

were women. Dried siganids were found to be safe for consumption and coconut water pre-treatment prior to the drying process was recommended to enhance the quality of the dried siganids.

### ***Fish Processing***

For many women in the fisheries and aquaculture value chain, fish processing is their work, be it in industrial and small scale enterprises. A study from Africa looked at the health issues borne by women processing fish. In Asia, one study from the massive Thai fish processing industry addressed the issues of migrant women's labour, and three from presenters from Cebu Technological University, Philippines, address more technical issues of women's processing work in much smaller scale but still very important enterprises.

**Funmilola Agbebi** looked at occupational hazards among 125 women fish smokers in coastal areas of Ondo state, Nigeria (*Occupational hazard among women fish smokers in coastal areas of Ondo state, Nigeria*). Hazards and risks have the potential of affecting people and their activities and can lead to productivity loss, cause large amounts of out-of-pocket healthcare expenses and affect current and accumulated household savings to the extent of pushing individuals into impoverishment and poverty. A wide range of hazards were documented, including minor cuts, scrapes, fall injuries and stings from fish spines. Injuries were simple and mostly non-fatal. Women, in their work also were exposed to high and low temperatures, eye injuries, burns, severe falls, noise etc. Agbebi also described the biological, chemical, ergonomic and pschyco-social effects of these hazards. The income loss due to these injuries and other effects was estimated at 14-56 USD per month.

**Veena N** and Kyoko Kusakabe reported a case study on migrant women in the Thai seafood sector in Rayong and Trat provinces, Thailand (*Migrant women's strategies to cope with exploitative employment practices in Thai seafood sector: A case study from Rayong and Trat*). They found that gender roles, norms, and stereotypes shape the opportunities that young migrant Cambodian women experience when they migrate to work in the Thai seafood industry, as well as when they stay in their own villages in Cambodia. Many come in family groups in chain migration. Stereotypes persist in the supply chain, leading to gendered differences in conditions of work and wages. The women worked as processors picking crab meat, cutting tuna and other fish, peeling octopus meat, and shrimps. They also engaged in sorting fish for export or sale, mending nets, and carrying out home based or freelance work in processing and mending. Men worked in fishing and were often at sea but earned more steady income. The seasonality of the sector was transferred to migrant women workers by business owners, by employment them on piece-rates rather than on a monthly salary. The income was spent in daily expenses, and the savings were then dependent on the men's income, giving greater control of this income to men. Forced migration of some women to Thailand lead to them living away from families, and, having to cope with safety issues, women often resorted to living together in ghetto-like conditions for their mutual safety. Women also continued to bear the double

responsibilities of income and household work but their contributions were little acknowledged in their own communities.

**Renissa S. Quinones** and Corazon P. Macachor studied the participation by gender in the chain of street food production, focusing on families displaced by the south reclamation project in Cebu City Philippines (*Gender participation on street food production of south reclamation project affected families*). They looked at the intervention of SRPAF, a NGO organised in 2005 by the local government of Cebu City through its Social Development Framework. SRPAF has 3,700 member households and is assisted by Cebu Technological University extension programs. The street food production chain involves purchasing groceries, transporting, storing, processing and preparing, selling and serving food. About 95% of the street vendors were women, the majority of whom were educated to secondary level and were



*Women undertaking training in hygienic street food preparation in courses assisted by Cebu Technological University.*

*Phot credit: Renissa S. Quinones*

small scale entrepreneurs. Their average monthly incomes were between USD 95.00-188.00. All the women felt that the production of street foods was a potential entrepreneurial activity with social benefits. The technology driven skills package created by Cebu Technological University created employment for the community, helping raise the quality of life.

**Jean F. Nebrea** and colleagues from the Cebu Technological University and their collaborators in Department of Trade and Industry, Cebu Province, conducted training on fish processing (*Food safety implementation in fish processing technology: Gender roles*). The training focused on salted and bottled fishery products, integrating a patented method of using low temperature pre-treatment with coconut water and an emphasis on Good Management Practices (GMP) and Hazard Analysis and Critical Control Points (HACCP). Trainees came from two cooperatives

in Bantayan Island, Cebu were trained. Most of the processors were women and the researchers found that both women and men were actively engaged in implementing food safety measures during the fish processing.

## 6. SEAWEED FARMING

At GAF7, gendered case studies from the Zanzibar (Tanzania) [see 4 TECHNOLOGY], Indonesia, and central and southern Philippines, revealed the household, community and environmental opportunities and impacts, positive and negative, of seaweed farming. The studies were concerned with how to improve the lives of women in seaweed farming and processing, such as how to move up the value chain with new value added products and access new stable and transparent markets. What chances do these aspirations have against the power of distant markets and environmental stressors?

On many oceanic islands, communities have become dependent on small-scale, labour-intensive cultivation of seaweed, a product that mainly enters a vertically integrated global value chain. In the Western and Central Pacific Ocean, Solomon Islands, Papua New Guinea and Kiribati are the main producers. Seaweed farming has been mainly beneficial for the communities and usually well accepted by the farmers, although, as this section indicates, women's status and the prospects for communities need improving. How can domestic markets and products be more profitable? How can local farmers gain better transparency and negotiating power in the export markets?

Indonesia and Philippines are the world's second and third largest seaweed producers. Women play major roles in what **Silva Larson** described as a large industry, dominated by smallholders and family farms dependent on exporting raw dried material. Two GAF7 presentations from Indonesia and three from Philippines examined the issues.

In Takalar Regency, South Sulawesi, **Larson** and her colleagues (*"Profit or social capital? A case study of the motivations behind seaweed women's groups in Indonesian villages"*) used a wellbeing impact evaluation of community-scale processing of seaweed, working with female group members. Respondents reported that the positive impacts of seaweed processing and group membership were: creation of social networks; improved awareness of and access to drinking water; sharing and learning new skills; cleaner natural environment; having their own businesses in the village; having more money for basic and secondary needs; having a job that they enjoy; and the ability to purchase a motorbike. The Government of Indonesia has initiated diversification programs such as domestic industrial processing to produce higher quality gel products, and encouraging small-scale processing for food.



In the same Regency, **Mardiana Fachri** and her colleagues focused on the opportunities through seaweed-based food products (“*Stories from village-based seaweed groups in Indonesia - Chips, sticks and bakso: A case study of the stories of seaweed women’s groups in Indonesian villages*”). They surveyed women in 17 groups, from a total of 186 such groups in South Sulawesi and found that most groups had fewer than the Government requisite of 10 members, suggesting that the groups were not meeting the members’ needs. Moreover, the groups’ only support was coming from the Government. Thus, the groups tended to be reactive, producing the foods only when they had an order. The groups lacked good access to markets and permanent buyers. The Government was not able to help them with market linkages and many of their products were not competitive. Fachri concluded



that the group processes should be redesigned to overcome the current problems. Men could also be included in the groups.

In the central Philippines, **Caridad Jimenez** and colleagues: (*“Seaweed farming in Western Visayas: Strengthening the roles of the women of Sabang, Guimaras”*) worked with the Sabang Seaweed Growers Association whose members produced seaweed, dried it and made and marketed seaweed-based products from individual family farms. The Association managed a Philippine Rural Development Project on seaweed culture, enterprise production and marketing. Studies on the division of labour found that women performed the majority of the farming and post-harvest processing work while their husbands performed tasks such as staking bamboo poles in the water. Farming created family social bonding and better community interactions and governance, as well as boosting family income for living, emergency and equipment costs, although income can be destabilised by local pollution, seaweed diseases and world prices. Women are now included in the economy and in production but despite their large labour contributions, they failed to appreciate how they had increased family incomes. They saw their labour simply as part of their domestic responsibilities.

Also in the central Philippines, **Elena Mengo** and her colleagues (*“Aquaculture through the lens of gender: An investigation into the socio-economic impact of seaweed farming on coastal communities in Bantayan, Philippines”*) surveyed the empowerment and wellbeing of women working on seaweed farms. It emerged that, despite seaweed farming providing an opportunity for women to access the labour market, there was a difference between women's and men's earnings; in fact female workers were on average paid less than male workers. This may be a result of women being more involved in the preparation of the farm, a task that does not require physical strength and allows them to work close to the household and take care of the family. On the contrary, the great majority of men were employed for the maintenance of the farm and seaweed harvesting which are more physically demanding activities that are considered less suitable for women. Of those surveyed, decision making power was affected by gender, ownership of the assets and years of experience. Farm ownership appears not to be enough to increase women's ability to influence business related decisions, but women were more empowered within the domestic sphere. Hence this work suggests that more effort is needed from policy makers to develop gender sensitive policies. Thus, Mengo and colleagues' presentation echoed similar results on women's empowerment as those by Jimenez and her colleagues.

Further south in Philippines, in Zamboanga Peninsular, Mindanao, **Paul Ramirez** and his colleagues studied the value chain (*Inclusive value chains: The case of seaweeds farming in Zamboanga Peninsula, Philippines*). Although men were very visible in the different nodes of the chain, women had significant involvement in production, post-harvest and in marketing. But the gains of the poor men and women farmers were small in comparison to the profits of the other players. For example, the local nursery operators and farmers each received less than 10% of the whole value added profit, compared to about 20% for the traders and over 60% for the processors and exporters. Traders could negotiate down the local price by referring it



to the price of imported Indonesian product and local farmers lacked the negotiating power of information on local and international market prices. Although they contributed a considerable share of the family labour, women were not directly paid for their seaweed farming work, which was considered a family venture.

## 7. WOMEN ENTREPRENEURS

Developing entrepreneurship abilities is a promising approach for women. This field is gaining momentum among researchers also, as was evident from the GAF7 conference at which six research papers were presented by scholars from Bangladesh, Japan, Nigeria, Philippines and India. Life histories of women entrepreneurs, issues faced by them in fishery entrepreneurship groups, socioeconomic determinants of gender roles among small scale fishermen and women, drivers and barriers in running fish based enterprises successfully by women groups and others were focus areas. These presentations attempted to understand and evaluate women as significant actors in the fisheries and aquaculture field at each stages of its value chain.

**Afrina Choudhury** and Cynthia McDougall's presentation - *Women's entrepreneurship in aquaculture: Learning from the existing positive deviators* – concerned understanding the life histories of women entrepreneurs or “positive deviators”. The positive deviator approach looks for solutions to change that came from within the community itself. The study had taken an in-depth look into those women who had moved beyond social bounds in Bangladeshi society to take up roles that went beyond the generally accepted ideals of what a man or women was expected to be or do, i.e., ‘positive deviators’. One such positive deviator was Bina Majhi, a daily wage labourer who faced the same challenges, constraints and resource deprivations as her peers but who became a hatchery owner later by employing uncommon but successful behaviours and strategies enabling her to find better solutions. Researchers identified drivers of success like hatchery experience, knowledge, own wealth, interpersonal skills, spousal support, networks, quality of product, demand for the product, organization/project support, credit facility, training and subsidies. Researchers also found those women who did manage to become entrepreneurs faced major vulnerabilities, such as lack of market information and exploitation by other businessmen.

**Kumi Soejima** and colleagues (*The challenges and empowerment of women fishery entrepreneurship groups in Japan: Examining the steps taken by the Umi Hito Kurashi forum*), explored issues faced by women in fishing community entrepreneurship groups in Japan. The *Umi Hito Kurashi* is a volunteer group (Forum for Sea, People, and Life) that started in 2003, supported by the Tokyo Fisheries Promotion Foundation. It is a forum to promote fisherwomen by providing opportunities to share their issues and experiences and exchange information through face-to-face meetings, publication of reports and booklets, small seminars for gathering and sharing information and other resources for fisherwomen to increase their knowledge. Typically, women's fishery groups received little administrative support, particularly entrepreneurship groups, as their purpose was



*Umi Hito Kurashi Forum (Forum for Sea, People, and Life) members celebrate after a successful event.*

*Photo credit: Kumi Soejima*

business. The *Umi Hito Kurashi Forum* has been an exception, having provided opportunities to learn and create a network for fishery women's groups.

In her online presentation, **Foluke Areola** presented the *Digital story telling of women in fisheries and aquaculture in Nigeria: Assessment of their roles and contributions using specific case studies*. This was an exploratory study to understand women as significant actors in the fisheries and aquaculture subsectors of the economy in Nigeria. The study evaluated the roles and contributions of women in all the value chains in fisheries and aquaculture in Nigeria, highlighting the scope of their involvement through photos of specific case studies and interviews. The interviews included focus group discussions and key informant interviews, complemented by secondary data. The study showed that women were more knowledgeable than men on some important aspects of fisheries and aquaculture value chains. Fresh and frozen shrimp products, processed and value added and handled mostly by women had not had a single rejection in more than 30 years. Resolutions on mainstreaming gender should be adopted and backed up by a legal instrument or policy and gender-disaggregated data collected to show women's direct contributions. Governments could support Nigerian women through grants as incentives to expand their scope of operations and to encourage women's more active participation in the sector.

In the Philippines, **Marieta Bañez Sumagaysay** examined *Increasing the profit position of women small-scale entrepreneurs in the rock oyster industry of Samar, Philippines*. In the rock oyster ("sisi" - *Saccostrea cucullata*) value chain in the small island of Majaba, in the city of Catbalogan, Samar. Women are value chain players, most particularly in the processing and trading nodes. Women's roles and activities, their access to the rock oyster and similar resources, as well as the benefits derived from the industry were documented using a value chain framework. Women small-scale entrepreneurs were found to be trapped in a low-profit, poor value-addition, slow-moving, and unstable "sisi" business. The challenge lies in providing appropriate technology which will make possible the culture of "sisi" such that its supply is regular, constant and abundant. With more stable supplies of raw material, women could apply technology for fermenting newly-harvested rock oysters and packaging them for longer shelf-life. This would also open up better marketing channels and distribution strategies to increase the profitability of the "sisi" industry.

**Swathi Lekshmi P.S** and colleagues looked at the *Socio-economic determinants of gender among small scale fishers practicing diversified livelihoods along coastal Andhra Pradesh, India*. They delineated the socioeconomic determinants of diversified livelihood options among small scale fishermen and women in Visakhapatnam district of Andhra Pradesh. In addition to marine fishing, alternate livelihoods in which fishers engaged were fish drying, collecting and selling cashews from leased plantations and wage labour in thermal power plants. Among the 22 socio-economic variables studied, variables such as age and annual income of fishermen and fisherwomen showed a significant difference. Gender wise, the mean ranks for men were higher for variables such as educational status, annual income, occupational experience, credit orientation and marketing behavior whereas fisherwomen scored over men with respect to age, alternate livelihood participation, self confidence, scientific orientation, risk preference, training undergone, managerial ability and decision making

In Kerala, India, **Rejula K** and colleagues examined drivers and barriers for women's groups in running successful fish based enterprises (*Sustainability of Fish based enterprises among women in Kerala: An analysis in context of highly competitive value chain*). Women's self help groups (SHGs) are mobilized by imparting skill enhancement training through various agencies to engage them in small scale fish based enterprises but the sustainability of such enterprises is a real challenge. Ten women's groups were studied as cases. Important drivers which influenced the durability of such enterprises were group cohesion, suitability of the location, access to raw material, institutional support, improved skills, support from family, access to technology and less complex technology. Results throw light on the fact that during important stages of the value chain, like procurement of raw fish and marketing, the complementary role played by both women and men act as a major driver for sustainability of the enterprises. The results of the study indicate that all the 10 units under study could be revamped to have increased economic and social impact on society by reinforcing women's roles in each stage of the enterprises to be complementary to men's roles.

## 8. WOMEN AND FISHERIES GOVERNANCE

Women have been only on the sidelines of decision making and governance of fisheries resources. Seven studies dealt with this very important aspect where more policy and program actions are essential to mainstream women's engagement and benefits and bring in women's perspectives. Where policy and subsequent linkages are already in place, empowerment is evident. While some examples of customary rights given to women for accessing resources still exist, this may be restricted by cultural boundaries and contexts in which they are situated.

In her presentation (*From resistance to internalization: The spread of 'gender equality' in small-scale fisheries governance*), **Sarah Lawless** and her colleagues probed how Fiji and Solomon Islands were incorporating gender equality into small scale fisheries governance. A typology of stages, based on norm diffusion theory, was proposed: resistance, rhetorical adoption, contestation, implementation and internalisation. From interviewing 64 people working in 26 governmental and non-

governmental institutes, the study found evidence for the stages from resistance to contestation, but few signs that fisheries institutions had arrived at the implementation and internalisation stages. Lawless proposed that potential areas for influencing progress included embracing contestation of gender equality as a governance principle, and re-framing gender to better highlight its importance to small-scale fisheries.

Fisheries governance is a concept that deals with how economic, political and administrative authority is exercised over a fishery. Governance is applied at all levels, from the local up to the global. A number of issues come up, often resulting in conflicts and struggles in power relations, particularly in recent years when more women are becoming involved or being recognized as important in fisheries governance.

In **Ria Fitriana** and Maria Kurupat's presentation on *Acknowledging the use right of women crab collectors over customary land use changes: A case study in Merauke, Papua-Indonesia*, focused on understanding how formalizing or securing rights to collectively held lands can affect women and men differently. Traditional small-scale mud crab collectors, predominantly women, from the Asmat and Mappi indigenous people groups, were continually marginalized, moving from one mangrove forest to another due to land use changes. They lack title rights over communal land and, through a collective agreement, only have rights to access the land for food in the southern part of Papua. When the communal lands were acquired by the government or sold by communal land owners to the private sector for development, the women had to go farther, increasing their costs and time fishing. Innovations for efficiency, such as traps instead of iron sticks were not effectively adopted due to environmental, cultural and land rights issues. Women need to be compensated for the potential loss of livelihood on which they vitally depend when the lands are developed, even though they do not have communal ownership. The Indonesian Government should also support the international *Voluntary Guidelines on the Responsible Governance of Tenure of Land, Fisheries and Forests in the Context of National Food Security* in a similar way that Indonesia recognizes customary law. Since access rights are part of traditional laws, the women need to be supported so they can claim these rights as ordained by the law.

**Pooja Gautam** and colleagues studied *Human development of small-scale fishers in Indian reservoirs: a gender-based assessment* to understand the role played by women and men dependent on fisheries-related activities in the Upper Wardha Reservoir, Maharashtra, India. Their study adapted UNDP's macro level Human Development Index (HDI) and Gender Development Index (GDI) and applied the measures to the fishers as a sub-set of the population. The three components of HDI, i.e. living standard, education and health of women and men fishers were assessed at both individual and household levels. Unlike coastal fisheries, women were involved throughout the value chain of reservoir fisheries including pre-harvesting and harvesting, and more specifically in fishing, harvesting, prawn harvesting using traps, net and prawn traps making, and marketing of smoked-dried fishes in local markets. The women were involved in day to day activities in the Upper Wardha reservoir; 42% went fishing with their husbands on their boats. In

addition to household chores and fishing activities, women also worked as part-time agricultural labourers. The living standards, education and health were quite high in Upper Wardha reservoir, for both women and men. The level of fisheries governance as well as the extent of involvement of women appear to significantly contribute to higher HDI status in the Upper Wardha reservoir, underscoring the fisherwomen's contribution in capture fisheries. However, significant gaps between women and men were found in education and income, with men having the advantage in both. Although women were involved in several economic activities and contributed significantly to better HDI, none of these economic activities provided regular income. The researchers suggested that women needed to be encouraged to participate fully in fisheries activities, and a more participatory extension program should be implemented to enhance the skills of the women.



*In Upper Wardha Reservoir, Maharashtra, India, women are involved in the fisheries throughout the value chain from pre-harvest, to fishing and post-harvest.*

*Photo credit: Pooja Gautam*

The paper presented by **Gloria L Gallardo-Fernández and Fred Saunders** (*'Before we asked for permission, now we only give notice'*. *New gender relations in fisheries: women's entrance into small-scale artisanal fisheries in Chile*), examined how gender relations and power structures within small-scale fisheries (SSF) were changing through policy interventions and market linkages. The research specifically looked at the entry of women into territorial use rights in fisheries (TURF), with a focus on gender relations, resource struggles, and transformation possibilities and strategies. Chilean women working in SSF had traditionally been unregistered direct producers. In the early 2000s, however, women formally entered as fishers within this male-dominated space, resulting in new gendered social relations. Since 2004, the number of women formally registered in artisanal fishing increased by 517%, whereas men increased by 39%. In 2016, women were 26.4% of the 100,000 artisanal fishers registered; and of the 53,975 unionized fishers, 19.9% were women. While women have become more visible in their engagement in TURFs, little research attention has been paid to women's roles within SSF. Using participatory

research tools to illuminate the long struggle by an all-women seaweed gatherers union in Coliumo (Bio-Bio Region, Chile) to gain a TURF revealed closely related episodes of cooperation and conflict that involved differently gendered relationships in realising the TURF. Despite better cooperation among actors, tensions and conflicts also occurred as women competed with men for natural resources; women's unions started to even compete among themselves, leading to community conflicts. The increased involvement of women in TURFs resulted in changes not only in social relations but also in the women themselves, and how they are perceived by other members of the society. For example, some women who were taught to only have reproductive roles, could now dream and become entrepreneurs, involved also in fisheries management because their TURF membership gave them legality. Even though the women involved in formalising fishing entitlements accrued individual benefit and enhanced their collective standing, the conflict left a deep scar among women in the community. Despite the formal inclusion of women in fisheries, spatial segregation persists between women and men. Differences persist in capacities and performances in the TURFs between women and men, in terms of organization, economy and resource management. Increasing acknowledgement of women as fishers, however, will lead to new prospects and opportunities for women as fishers, and in social enterprise partnerships.

**Carmen Pedroza-Gutiérrez** (*Women struggle in a sea cucumber fishery. An outcome from an ungovernable fishery*) pointed out the importance of the sea



*Women in Sisal and Celestún, Yucatan, Mexico gutting sea cucumbers.*

*Photo credit: Carmen Pedroza-Gutiérrez*

cucumber industry in Mexico. As a high value export commodity, the industry has grown from being informal into one producing a high value seafood product but with many new informal (illegal) and ungovernable activities that disrupted the communities. Although the industry became an important source of extra income for fisher communities, it also had negative impacts on coastal communities, particularly on the women. A study by Pedroza-Gutiérrez in 2016-2017 focused on the social impacts suffered by women in the coastal communities of Yucatan and explored the socioeconomic importance of women's processing activities and the social costs to women. As sea cucumber economic value increased, illegal fishing and fishers became the source of new informal trade channels, locally causing severe social and biological concerns. This impacted the women who were initially directly participating in the processing of sea cucumber (gutting and drying) and earning regular money for their families, but who were not chosen by buyers who directed the processing work to different actors. The informality of women's processing work meant that their original work was insecure; they were not registered as workers, and therefore could not avail of social security and medical care. Women's involvement continued but only as passive actors, which negatively affected fishers' wives economically, as they lost out on the benefits from the high income from the fishery and lost paid work, and socially from the impacts of drugs, prostitution (including payment with sea cucumbers) and family breakdown that accompanied the influx of money with the industry. Some women even said that "the sea cucumber fishery took away our husbands".

In Canada, **Sarah Harper** and her co-researchers (*Indigenous women rising: A spotlight on the role of indigenous women in transforming fisheries governance on Canada's pacific coast*) focused on a fisheries dependent community on Canada's Pacific coast, where Indigenous women are on the frontlines of efforts to transform fisheries governance. These initiatives in Canada and elsewhere where indigenous women are positioning themselves at the forefront of challenging unfair policies on natural resources are making important progress. In addition, new international policy tools are emerging that emphasize equity, which makes for an exciting and crucial opportunity to transform fisheries governance towards a more inclusive system in which decision-making power for women and other marginalized groups is increased. Harper examined how Heiltsuk women responded during a recent herring fishery crisis and conflict to influence a system-wide shift in governance. These women called on their traditional and contemporary roles and responsibilities (as teachers, advisors, peace-makers, mothers) to create solidarity and a unified vision, and catalyze changes in the management of Pacific herring (*Clupea pallasii*). Heiltsuk women were on the frontlines of demonstrations and negotiations, coordinating and communicating across groups, mobilizing people and building momentum. The key message was that positioning women at the forefront of resource governance brings attention to intergeneration care and equity. In addition, intergenerational transfer of knowledge was key to resilience and sustainability of fisheries. Referring to the recently adopted international policy instruments such as the Voluntary Guidelines for Small-scale Fisheries (VGSSF) and the United Nations Declaration on the Rights of Indigenous Peoples (UNDRIP or DOTROIP), this study provided a powerful example of how indigenous women are powerful agents of change in their communities and therefore must be recognized, included, and

supported in fisheries leadership and decision-making to achieve more equitable fisheries in Canada and beyond.

**Jariya Sornkliang** and colleagues looked deeply into gender roles in Kep Province, Cambodia (*Understanding gender dimensions in small scale fisheries of Kep Province, Cambodia*) with reference to decision making for utilization and access of coastal resources, environment and fishery management. They observed that



*In Kep Province, Cambodia, household members are all involved in fishing activities but women make few decisions.*

*Photo credit: Jariya Sornkliang*

though both men and women involve in fishing activities, women do not venture into the sea. Women's roles include cleaning nets and vessels, cleaning and segregating catch, processing and marketing. Patriarchal beliefs dominate and women are not seen to take any decisions on fishery management to the extent that even their candidature is not welcome for elected positions.

## 9. DISASTERS AND CLIMATE CHANGE

Climate change has heightened the intensity and frequency of disasters worldwide and consequently affected the livelihoods and other aspects of life of coastal populations, in addition to affecting the distribution and abundance of fishery resources. Typhoons have become increasingly devastating and continue to foster insecurity among fishing communities, more so in small-island settings. The presentations that touched on disasters and climate change at GAF7 emphasized: the differential effects of disasters on women and men; the need for inclusion of gender perspectives in post-disaster and climate risk assessments; and the need for more women's participation in disaster risk reduction efforts and climate action. Indeed, as Patrick McConney observed from experience in the Caribbean, interest in SDG 5 (gender equality), SDG 13 (climate action) and SDG 14 (life below water) are converging.





**Sangeeta Mangubhai** and colleagues (*Gender-disaggregated impacts of a category 5 cyclone on rural fisher communities in Fiji*) highlighted the impacts of cyclone Winston that devastated Fiji in 2016 and the rehabilitation efforts that followed. Differential cyclone effects were experienced by women and men, with women ending up more disadvantaged as their fishing gear of choice was more damaged. However, post-cyclone, little institutional effort was expended to ensure more equitable access to gears provided. Aid and other interventions were coursed through village heads, usually men, underscoring the need for more women's participation in post-disaster planning and implementation. The study also noted an increase in gender-based violence after the cyclone, among other concerns, and amidst the "business as usual" stance of the government. The presenter expressed hope that the data generated by the study will be used to inform Fiji's climate change adaptation plan.

Taking the experiences of people in an island-village in Central Philippines that was hard-hit in 2013 by super typhoon Haiyan as an example (*Integrating gender perspective into sustainable livelihoods framework in vulnerabilities/impacts assessments of disasters: Cases in central Philippines*), **Gay Defiesta** made the argument that post-disaster vulnerability assessments could further be improved by integrating gender analysis. Current models for vulnerability assessment are generally gender-blind and the differential impact of disasters on women and men are not considered. There is a tendency for institutional responses to ignore women's needs in disaster contexts, which exacerbates women's vulnerabilities. The

study argued that women tend to be marginalized in post disaster relief operations and damage compensation. Defiesta advocated the integration of gender analysis in the Sustainable Livelihoods Framework, a widely-used tool for poverty and vulnerability studies of rural communities. Nesting gender analysis in the Sustainable Livelihoods Framework will address the gender-blindness of post-disaster planning and rehabilitation work.

**Benedict Carmelita** and colleagues (*Gender differences in coping strategies and adaptation to crisis experienced in coastal households in the Philippines*) described by order of frequency, the crises experienced by coastal households. Sex-disaggregated results show that typhoons are the most frequently mentioned crisis by male and female respondents from fishing households, followed by illness in the family as a rather far second and then flood and drought. Non-fishing households exhibited similar results as fishing households. When faced with crisis, the most common immediate response of women and men from fishing households was to evacuate. Women from non-fishing households also gave the same response but men in non-fishing households usually wanted to remain in their dwellings. For flooding, respondents from both fishing and non-fishing households tended to remain in their homes and monitor the conditions. Some opted to not do anything during crises and simply wait them out. Such responses troubled those who put forward short- and long-term adaptation or disaster response options. Carmelita concluded that indeed, coastal households in the Philippines, given their vulnerabilities, have to be more informed of disaster risk reduction practices.

In a presentation (*Roles of women in promoting safety of children in small islands: The case of teach DRR in Carles, Iloilo, Philippines*), **Josephine Firmase** and colleagues discussed the compounded concerns of small island communities during disasters. Focusing on women's roles in a community disaster risk reduction management (DRRM), the project used a holistic and multi-sectoral approach by addressing concerns on health, nutrition, child protection, water, sanitation and hygiene. Women played various roles in community DRRM activities, including those of decision-maker, partner, supporter, adviser and recipient or beneficiary of aid. Each of these roles correspond to varying levels of involvement in community-based DRRM and underscored the importance of sustaining and strengthening women's participation in efforts to make small island communities more resilient.

Climate and climate change risk reduction work was addressed in three papers, one each from Thailand, Cambodia and the Caribbean.

While recognizing that studies on gender and climate change emphasize differentiated impacts for women and men as well as women's distinct vulnerabilities, **Emmanuelle Buorgois** and colleagues (*Gender and climate change adaptation in aquaculture: Improving data collection with a web-based platform*) emphasized that women's potential for climate action is yet to be fully harnessed, especially their knowledge on resource management. She focused on gender and climate change in the context of aquaculture and made the case for using a new web-based method for collecting data. The Verifik8 platform profiles aquaculture farms, their workers and working conditions. Its aim is to identify, monitor and resolve issues, ultimately

educating women at production level in order for them to effectively tackle climate change. Bourgeois presented the preliminary results from a pilot-test of Verifk8 in three shrimp aquaculture farms in Thailand. Assessment of the new method of data collection is anticipated to provide insights into gender, climate change and aquaculture related concerns.



**Raksa Sok's** presentation (*Gender differentiated coping strategies among ethnic Vietnamese fishers in the face of a decrease in fishing resources in Chhnok Tru district, Cambodia*) focused on the fish decline in Tonle Sap Lake, a productive source of freshwater fisheries in Cambodia. The decline was attributed to excessive fish harvests, widespread use of destructive and illegal fishing methods, and the destruction of the floodplain habitat that is essential in fish reproduction. The decrease in fish resources in Tonle Sap has affected a wide variety of groups, including migrant ethnic Vietnamese who live in house boats and who took part in a survey to examine coping strategies. The ethnic Vietnamese follow traditional gender roles with the men seen as providers while women take charge of reproductive tasks. The decline in fishing resources necessitated new coping strategies among the women and men in fishing dependent communities. Coping with the decline in income brought about by reduced fish catch depended on the assets owned by respondents and differences in gender relations. Women who were mainly dependent on their husbands for income tended to have fewer coping options than

those who became the main income earner in the family, or those who negotiated to be allowed to work, as well as those whose husbands actually shared in reproductive tasks. The study thus recommends empowering ethnic Vietnamese women living on Tonle Sap so that they can better cope with the economic implications of declining resources for the sake of better family outcomes.

In the Caribbean, **Patrick McConney**, presenting on behalf of Leisa Perch and colleagues (*Gender-transformative approaches to development in coastal and fishing communities in the English-speaking Caribbean*), shared that while women play a crucial role in fisheries, gender equality is still not mainstreamed. In fact, there is need for policy that will promote gender equality along with addressing issues of sustainability. A focus on climate resilience and disaster recovery in recent years has highlighted gender roles or gender-differentiated realities. There is thus a convergence of interest in SDG 5 (gender equality), SDG 13 (climate action) and SDG 14 (life below water). McConney presented results of an online survey assessing gender, climate risks and disaster risks. Fisher folk are perceived as vulnerable due to their location, limited adaptive capacity and restricted access to financial help. When asked which sectors can gender-sensitive climate action be best implemented for the greatest impact on women and girls, the fisheries sector was one of the top three identified by respondents. McConney and colleagues emphasized that important pathways for coherence exist between gender and fisheries policy in the context of addressing climate change. Gender responsiveness should not be undermined by policy and policy should ensure that there are opportunities to boost gender-responsiveness.

## 10. WOMEN AND THE ENVIRONMENT

Aquatic environment programs looking into the gender dimension often decide to focus on fisheries as the best entry point for helping the environment, e.g., the USAID-IUCN AGENT programme [see 12-SURVEYS AND REVIEWS, Maria Prebble and Jackie Siles].

More directly addressing the environment, albeit also with a fisheries focus, **Caroline Ferguson** has just begun her studies on Palauan women's fisheries that will address whether and how Palauan fisherwomen's ecological knowledge is or can be harnessed for sustainable management (*Harnessing Palauan fisherwomen's ecological knowledge for sustainable management*). She will approach these questions through a case study of the sea cucumber fishery to find out why so few rules appear to have emerged in the women's fisheries.

**Hubert G. Quiñones** and colleagues (*Gender participation on the environmental protection practices of northern Cebu coastal resorts*) interviewed women and men working in coastal resorts in Compostela, Danao City, Carmen, and Sogod, northern Cebu, Philippines. In a crowded coastal area, the resorts also produce pollution. The resort operators, the local people and the local government show little environmental concern about the visitors' impacts and trash is everywhere. Cebu Technological University - Technology Research Center researchers investigated women's and men's participation in environmental protection. At the resorts, women predominated

as cost controllers, in landscaping/cleaning the beaches, food preparation and serving and housekeeping but all the pool cleaners were men. The authors observed that women often helped make the men's work lighter, assisting them and doing their work when they were absent.

## 11. HOUSEHOLDS, COMMUNITIES AND THE GENDER TRANSFORMATIVE APPROACH

Fisheries and aquaculture are intrinsically linked to households and communities. Traditional beliefs, household and community decision making and coping mechanisms and community based institutional interventions aiming to bring about transformations were all discussed in 13 presentations mostly from countries in Asia and Africa.

### ***Traditional Beliefs and Gender***

In their presentation **Elmer L. Jover** and Sashah B. Dioso (*The teaching of local taboos among the youth of Pandan, Antique, Philippines and its implications to fisheries resource management*) explored local taboos with relation to fishing practices in Pandan, Antique, Philippines. While some of the taboos have got to do with religious beliefs like halting fishing during holy days, several taboos had direct implications on women and their biological conditions, like pregnancy and periods. Some fish are not consumed due to local beliefs and fish species subject to these beliefs have been documented. Local taboos are learnt by the younger generation from their elders either directly through learning or indirectly through observations. Jover concluded that local knowledge (taboos) could contribute to the conservation



*Youth removing fish from his net in Pandan, Antique, Philippines.*

*Photo credit: Elmer L. Jover.*

of fisheries resources and their habitats and could be integrated into fisheries management initiatives.

The importance of traditional beliefs in sustaining fisheries as well as in contributing to household nutrition and security was further developed by **Sashah B. Dioso** (*From river to table: The roles of women in sustaining indigenous food production in a traditional riverine community*). The study documented the production of *binanak*, a popular dish made from freshwater prawns, in Pandan, Philippines, which is now even exported to the United States and Europe to meet the demand among expatriate Filipinos. Women in Pandan are involved in fabricating the gear (scoop nets), harvesting the prawns and preparing the *binanak*. The work is supported by girls in the families and this ensures that the knowledge is passed on. The belief that improper fishing and cooking of the organisms from the river will result in disease (locally called *angul*) is an extrinsic factor that has kept the fishery going. This belief is reinforced by local healers – an intersection between local resource availability and traditional beliefs influencing local practices.



Also on traditional fisheries, **Abuthagir Ibrahim** and colleagues presented the case of the set bag net creek fishery of the North-West coast of India (*Gender Equity in bagnet creek fishery of North-West coast of India*). This is a traditional fishing practice and the net is locally called *Dolnet*, *Bokshi jal* or *Kavi jal*. Women fishers are found in all activities related to this fishery like assembling the nets, rigging and operating them as well in marketing the catch. Even though women carry out fishing operations, boats are invariably registered in the name of the male members

of the family. The gear being non-selective, juvenile fishing is a major issue. The fishermen also face issues of vanishing creeks and mangroves due to other development activities.

### **Household decision making**

Migration associated with fishing brings into focus critical decisions affecting families and communities. **Nadine Vanniasinkam** and Nirmi Vitarana (*“Lives on the move”*: *Gendered aspects of migration in fishing villages in Sri Lanka*) looked at the gender

aspects of migration using social wellbeing and social relations approaches. The study, among fishing communities in Puttalam and Trincomalee districts in Sri Lanka, explored the reasons for and effects of seasonal coast-to-coast migration. Both women and men emphasized material and relational wellbeing factors as reasons for migration. Migrant men emphasized the ecological aspects more than did women as a reason for migration. Both migrant and host communities emphasized relational factors for enabling and disabling migration. The migrant communities perceived a combination of material, relational and subjective benefits and costs, while host communities perceived mostly material and relational costs. Host communities indicated ecological aspects as a cost of migration with women indicating more subjective costs of migration than men. As a challenge for policy and governance, Vanniasinkam pointed out that policy makers should take into consideration the conflict in discourses between the “right to our own local resources” by host communities and the “right to a tradition of migration” by migrant communities, the latter supported by the “sea is for all” policy pursued by the government.

**Chikondi L. Manyugwa-Pasani** and colleagues (*An analysis of social relations outcomes on women participating in small scale fish value chains on Lakes Malawi and Chilwa*) investigated women’s involvement in small scale fish value chains in Lakes Malawi and Chilwa as part of WorldFish Centre’s Fish Trade Programme. They found that women tended to be well integrated in most of the value chain nodes in the study sites and their participation in value chain activities had significant social gains for individuals as well as households and the community at large. Some women face obstacles or complications such as early marriage, domestic violence and polygamy. Despite the benefits, their participation in trade did not necessarily transform complex structural gender norms. Such transformation would require many other inputs and considerable time to achieve, aided by debate and discourse acknowledging, recognising and improving the role women in fish values chains and the challenges they encounter.

Results from case studies in Cross River, Akwa Ibom, and Lagos States, Nigeria, were used to discuss women in fisheries and aquaculture by **Francis M. Nwosu** and colleagues (*Women in fisheries and aquaculture in Nigeria: Introducing the bootstrap in the roadmap*). They looked at ownership, access to resources, decision and policy making, and women’s concerns. In aquaculture, women did not own farms except in some cases as joint owners; in fisheries, women did not own fishing boats/canoes, fishing nets and other fishing equipment/gear but they were more involved in gleaning gastropod and bivalve molluscs. Women were responsible for the aquatic product processing and marketing. The role sharing was culturally determined and women lacked resources, including finances to take up many livelihood activities. These financial constraints have been compounded by the policy framework that only now is slowly changing as fresh government initiatives are becoming more gender sensitive to ensure credit availability to women. Women now must take up the challenge to take advantage of these new opportunities.

### **Measuring Women's Household Contributions**

In the Philippines, **Alice Ferrer** and colleagues looked into gender differences in the contribution to coastal household income through a major study surveying 785 households in 28 coastal barangays in 7 municipalities, 5 Provinces and 3 Regions (*Gender Differences in Contribution to Coastal Household Income in the Philippines*). Fishing was considered to be work that involved actual catching, gleaning, fish marketing, fish processing, and cage culture. Up to 67% of the households surveyed in the selected coastal barangays fell into this category. Ferrer observed that further expanding the definition of fishing would capture better the full women's contribution to household incomes by including other activities like mending nets, collecting bait, preparing food for fishers, keeping accounts etc. The survey statistics were limited because women did not do actual catching, nearshore fishing was not allowed and women's role in mariculture sites was limited. Although men, in both fishing and non-fishing households contributed more to household income than women, the number of women and their contribution were substantial. Women in the non-fishing households tended to contribute relatively more to the total household income than did women in fishing households (33% vs 15%).

**Benedict Mark M. Carmelita** and colleagues took a novel approach by consulting with coastal women and men on their "unused livelihood skills" (*Gender differences in possession of unused livelihood skills and desire to be involved in livelihood opportunities in coastal households in the Philippines*). They found that more women from fishing households have livelihood skills unused than women from non-fishing households and men from fishing households. Women also had a higher desire than men to be engaged in livelihood activities but they required financial assistance to enable these. Carmelita highlighted the importance of stakeholder consultation while developing livelihood programs and also diversification of livelihood activities, such as through Mariculture.

**Hapsari Ayu Kusumawardhani** and Indah Susilowati looked at the multiple roles of fisher's wives in Tegalsari and Muarareja Villages, Tegal, Indonesia (*The triple roles of fishers' wives to support their household economy: An empirical study in Tegalsari and Muarareja villages, Tegal, Indonesia*). Women had productive, reproductive as well as community roles. They contributed up to 38.6% of the household income as fish sellers, processors, operating petty shops etc. They took care of household requirements including health care and also were the link to the community, participating in religious and other activities.

The paper by Velumani T and others, presented by **P.S.Ananthan**, looked at the involvement of women in reservoir fisheries in Karnataka, India (*Is fishing gendered? Women as equal partners in KRS reservoir fisheries, India*). Both men and women fished using coracles in the Krishna Raja Sagar (KRS) reservoir; all of them were full time fishers who fished throughout the year and obtained about 80% of their income from fishing. Women fished either independently or along with male family members. Women who fished independently earned more than men who did so, while combined fishing gave better returns. Proper stocking improved the productivity but stocking has been unstable. Other issues for fishers in the reservoir included



conflicts between two cooperative women's societies using the same water body. Overall, however, the study found that women were equal partners with men in KRS reservoir fisheries, either independently or fishing together.



**Zakiah binti Adun** and Zumilah Zainalaludin explored the involvement of women in Malaysian micro and small scale aquaculture operations (MiSAO) (*Exploring female involvements in Malaysian micro and small scale aquaculture operation (MiSAO)*). Small scale aquaculture is often associated with low-asset ownership and low productivity; very small size farms are largely owned and operated by household members and involve women. Zakiah recommended that women aquaculture operators be supported to engage in MiSAO through proper training, capacity building and opportunities for grants and loans. Policies and programs are needed to enhance women's involvement and encourage them in cage farming.

**Omitoyin, Siyanbola. A.** and Chineke, Ebube. C. (*Gender roles and poverty determinants of fish farmer's households in Oyo state, Nigeria*) looked at gender roles and poverty determinants in fish farmer's households in Oyo state, Nigeria. Almost 65% of fish farmers were male; households had up to 6 members. Other occupations in the region included civil service, trading, artisanal jobs, animal and crop production. Probit regression model results indicated that several factors appeared to determine poverty including age, education, household size, farm type, source of capital and membership of cooperative societies. Larger farm size, membership of a cooperative society and improved access to credit would enhance the involvement of women and improve overall farm productivity.

**Jessica Scott** and colleagues presented work undertaken in Myanmar as part of the CGIAR Research Program on Fish Agri-Food Systems (FISH). The study (*Promoting*

women's empowerment and gender equality in Myanmar fisheries and aquaculture sub-sectors) assessed existing gender norms, social relations and innovations that



Woman in her fishing boat, Myanmar.

Photo credit: Jessica Scott

may influence the outcomes of the WorldFish projects MyCulture and MyNutrition at household and communities levels, using GENNOVATE (CGIAR) a qualitative methods and tools package. The researchers observed a large gender disparity in income, with women receiving from 25-60% less than men for the same type of work. Female headed households were identified by the community, including those caused by widowhood, sick husbands and husbands who had migrated. However, these women were not formally recognised as household heads and interventions and support bypassed them. Fisheries and aquaculture continue to be perceived as a male domain (by women and men) and most small scale aquaculture development work focuses on men, even though women carry out the routine management of fish farming. Women's work thus continues to be undervalued, unseen and informal.

## 12. HOW ARE WE GOING? SURVEYS, REVIEWS AND VIEWPOINTS

Fifteen surveys, reviews and reflections on progress were presented, representing a healthy desire to assess impact and progress on gender issues. Scholars from Australia, France, India, Indonesia, Lao PDR Barbados and Caribbean islands contributed their research findings and analyses. Topics address covered a wide range: perceptions of seafood professionals on the gender division of labour, opportunities in fisheries versus alternate livelihood options, livelihood assets possessed by women fisherfolk, the livelihood strategies they use, livelihood outcomes they may need, initiatives that contributed to mainstreaming gender equality, capacity building programmes, assessment of World Fish project

components, organizational and administrative structure in various institutions, barriers for gender equality and fisheries policies and programmes. We have drawn these presentations together to document the present situation of women in fisheries and aquaculture and to contemplate on how we are going and where we should go next.

**Marie Christine Monfort** examined inequalities in the seafood industry and looked at *The path forward: Breaking the cycle of inequalities* through the perceptions of seafood professionals on the gender division of labour in the seafood industry and barriers for gender equality. The “Gender on the Agenda” survey carried out by the International Association for Women in the Seafood Industry (WSI) was run in 2017, covering respondents from all world regions except the Middle East, although 76% were from Europe and North America. It questioned seafood professionals of both sexes about how they perceive inequalities in the seafood Industry. Monfort and her colleagues found that pervasive inequalities existed across activities, sectors and levels in the industry, but still awareness and understanding of the situation are low. Women and men had different perceptions with respect to the phenomenon of gender inequality. The study pointed towards the fact that women’s integration in the seafood industry was a fact, but many forms of discrimination still existed. Moving from integration to inclusion is essential to achieve gender equality. For this purpose, we need better understanding of the barriers/obstacles that women face in industry. The way forward is raising awareness of all stakeholders, women and men, including men in the debate and creating opportunities for dialogue.

**Patrick McConney’s** presentation (*Caribbean fisheries: perspectives on gender too*), provided an update on initiatives that contribute to mainstreaming gender equality in Caribbean small-scale fisheries. The Gender in Fisheries Team (GIFT) focuses its gender studies on regional gender scoping, primary research, gender awareness-raising initiatives, high-level policy influence and more. According to the authors, “*the Caribbean is seldom featured in international fisheries initiatives to mainstream gender, but the need for both women and men to address gender is no less pressing there than in other locations.*”

**Nikita Gopal** and colleagues (*Assessment of capacity building programmes for pre-processing and processing women workers in India*) were looking at workers in four states of India. The authors found that, in the main, external drivers like the demands from importers influence capacity building at the grassroots level. Bottom-up approaches to capacity building are effective in getting the required information across to stakeholders. The study looked at stakeholder satisfaction on the content, time and length of training, medium of instruction (especially since some were migrant workers), methods used, facilities and usefulness of materials; as well as awareness post training and impact on work. Since most of the training was conducted during working hours, women found it difficult to attend. Quality standards were maintained as per training requirements and the workers were fairly well trained. However laxity was seen in pre-processing work which was not as tightly monitored as the processing work units. Training materials need constant updating to keep the stakeholders knowledge up-to-date.

**Rajiv Rathod** and colleagues investigated central and state fisheries policies and programmes in India from a gender perspective (*Locating the context of gender in fisheries policies of India*). They found that the national level fisheries policy has considered gender issues in its documents, including in an integrated scheme for fisheries development and management, known as The Blue Revolution scheme, which ensures financial support with due consideration to socio-economic and geographic backwardness. Altogether, a supportive policy environment exists for strengthening women's participation in fisheries in India. At state level, the focus was more on processing, value addition, marketing, and ornamental fish culture. State level policies seemed to overlook the opportunities available for women's participation in other areas in which they conventionally were not involved. In some states, women's collectives have been encouraged to take up fisheries related enterprises. The authors concluded that gender equality can be achieved only by making gender a central consideration in the development and implementation of public policy for which all stakeholders are responsible

**Surendran Rajaratnam** and his colleagues presented findings of a scoping study of a WorldFish project underway in Odisha, India concerning integrating gender into small scale aquaculture systems (*Gender in aquaculture and fisheries in Odisha: A study on Worldfish program*). They identified and explored the barriers and opportunities through a Social Relations Approach, looking at gender roles and responsibilities, enabling and constraining factors, decision making and access to and control over resources. They found positive early outcomes of the project, such as that women's work became less labour intensive and women were given increased respect. However barriers still persisted, like lack of access to markets, harvesting materials and storage facilities. Gender stereotypes dominated and domestic violence was an issue for some. The project aims to design and test gender accommodative and transformative approaches.

The presentation by **Aini NurFurioda** and colleagues (*Role of women in coastal regions of Pekalongan and Tegal – Indonesia: A value chains selection between fish vs others*) compared the opportunities in fisheries versus in other jobs in Pekalongan and Tegal regions of Indonesia. People in the study area were observed to be sensitive in value chain selection, particularly for fish versus other jobs such as the batik industry and traditional restaurants, with a view as to which sectors were more promising for future generations. In fisheries, women mainly engaged in the processing and marketing of fish. Younger generation workers preferred to engage in batik (traditional textile industry) and warteg (traditional restaurant) jobs since these jobs are more formal or closer to manufacturing or industry compared to the fisheries sector. The study suggested that an alternative portfolio could be provided to help them find suitable jobs.

**Dongdavanh Sibounthong** and Adachi Kumiko examined the organizational and administrative structure in fisheries institutions in Lao PDR, including in the Government sector, communities and fishing communities, villages, Fishery Management Committees and women's fish processing groups (*Promoting gender in fisheries in Lao PDR*). The study was part of a project, supported by training courses, workshops and surveys, to build up the capacity of fisheries officers in

supporting gender equality in fisheries. The study identified the presence of women in all levels, e.g., about a third of Government fisheries agency staff were women, but noted gender differences at all the decision-making levels, and therefore stressed the importance of considering how women's participation can be increased.

The presentation by **Maria Pena** and colleagues (*Women fisherfolk of Barbados: A gendered lens*) examined the livelihood assets of the women fisherfolk, their livelihood strategies and livelihood outcomes they may need. A case study approach was used, focusing on the livelihoods of 12 women fisher folk who are fisherwomen and/or fish processors. The tools for data collection were oral history and photo voice methods. Short films about women's fishing lives and achievements, snippets and e magazines were among the research outputs. A comparative analysis was undertaken on variables such as job satisfaction, challenges, differences for women and men and needs. Job satisfaction was resoundingly positive for all women interviewed - "*Everything about it. Getting up on mornings, preparing to come to work*". Nevertheless, the women describe challenges such as the frustration over work place functioning and insensitivity of non-fish sector people to fishworkers.



**Jackie Siles** and Maria Prebble's presentation outlined the ongoing AGENT initiative of the USAID-IUCN in the presentation *Advancing Gender in the Environment (AGENT): Gender in Fisheries - A Sea of Opportunities*. The initiative seeks to strengthen USAID's efforts through robust integration of gender considerations, improving gender equality and women's empowerment outcomes in a broad range of environmental sectors including fisheries. The report is based on a desk review of USAID project reports, literature and interviews with experts. The report documented case study evidence on how gender interventions contribute to improved fisheries

management, how fisheries offer opportunities for women's empowerment and examples of best practices, envisioning a world that approaches all environmental work with gender-responsive policy and action. The success story on Ghana's fisheries programming illustrated how gender analysis and action planning led to improved skill sets, leadership and group savings for a considerable number of women fishers. The authors engaged the GAF7 participants seeking further evidence to support gender inclusive environmental programming.

While many GAF7 presentations were able to demonstrate growing numbers of women participants in the sector, **Sandesh Patil** in his presentation *Shrimp industry gender gap in India: Case of Maharashtra State, India*, recounted that expansion and changes in the shrimp industry from the 1990s through 2010s, especially mechanisation and market orientation, have led to the disappearance of women in the shrimp production sector as shrimp farm workers, wild seed collectors, feed makers and sellers. Ruing that even the 6% of 165 shrimp farms in Maharashtra that are registered in women's name are in fact run by men, he speculated that lack of knowledge/skill, the high investments needed and the high risk generated, coupled with the remote locations of farms and lack of favourable policies could all be the reasons for the poor participation of women. He hoped that besides efforts such as the observation of Women Farmers Day (15<sup>th</sup> October), a more inclusive approach, from policy to implementation, could bring many more women farmers into the mainstream.

Although fishing produces fish, households depending on fishing often cannot afford to eat well, leading to undernutrition. **Jeyanthi P** and colleagues (*Gendered differences in nutritional status of fish-dependent households in Kerala, India*) looked at gendered differences in nutritional status of households that depend on fish for their livelihoods in Kerala state, India. The study compared households in coastal and landlocked villages in one district. In the villages, in the underweight category, women outnumbered men, especially among adolescents; 35% of children were found to be underweight. The income of the households and their diets determined the overall nutritional status of the households.

The gender lens shifted to Vietnam with the spirited **Janine Pierce** (*Lens on Gender in Oyster Farming and Grouper Fish Farming in Vietnam*) highlighting what Photovoice (a method of giving cameras to participants to tell their own stories that are then jointly interpreted – see Training Workshop I: Photovoice) could do to complement the more conventional research tools to understand as well as assess social impact of Australian government funding on community members in Vietnam engaged in aquaculture. Focusing on the questions of gender quality and roles in aquaculture, her Photovoice inquiry, through both male and female participants, brought out visually illuminating stories indicating overall equality and mutual acceptance, in jobs as well as roles, in Vietnamese oyster and grouper fish farming. Her presentation demonstrated how Photovoice can be applied in aquaculture and fishing field research to gain authentic participant perceptions especially about 'what' rather than 'how' aspects.



**Meryl J Williams's** reflective and impassioned presentation (*Time to connect GAF research to the political economy of the fish value chain revolution that is shaping women's inequality*) contextualised the past and ongoing research on GAF across the globe, and placed it in a critical political economy perspective. Outlining the far-reaching industrial, trading and economic revolutions irrevocably transforming the fisheries and aquaculture value chains, she argued that the evidence suggests the ensuing political economy is not conducive to fostering or even maintaining women's positions and opportunities in the fish sector, let alone the ecological and social externalities they create. Though positive impacts do emerge and get highlighted, for her the primary challenge is addressing this rather inexplicable conundrum: how do researchers connect the piecemeal, small in scale and individual cases to each other and find commonalities, contextualize them within wider trends and develop larger, testable hypotheses. Pleading that research is essential but not sufficient to address and overcome gender inequality in the fast changing fish value chain, she proposed to the research community that it consider the need for creating feminist fisheries political economy think tanks to take the GAF agenda a step forward.

Two presentations reviewed the performance of coastal fisheries projects in Indonesia with respect to gender and both found disappointing results. The first, presented by **Angela Cruz**, *Addressing gender gaps from a programmatic perspective*, examined Sustainable Ecosystems Advance (SEA) projects in Maluku, North Maluku, and West Papua provinces, Indonesia. The projects aimed for improved resource management and conservation, using marine protected areas, marine spatial planning, law enforcement and sustainable fisheries. Gender inclusion was included as a project requirement. The SEA project did undertake some of the gender analyses and surveys of perceptions, but most of the data gathered were not

analysed. Although a gender specialist was available in the development agency's Jakarta office, few in the field were aware of this, nor were they familiar with the agency's and the Government gender mainstreaming plans. No gender training was conducted; no gender targets were set or monitored; and gender sections were the first cut out of streamlined project reports. Thus implementation bottlenecks, coupled with the prevailing rhetoric, used even by the women, that they were "just housewives" and not serious participants meant that the gender performance of the project was weak. Moreover, agency experience is that many projects suffer from similar problems.

**Natasha Stacey** presented *An evaluation of recent initiatives on women, gender and livelihoods in small-scale fisheries in Indonesia*, covering 20 past and current coastal livelihood projects, variously supported by bilateral funding agencies, the Indonesian government, multilateral agencies and NGOs. She and her colleagues categorised the apparent gender approaches as "none" – 8 projects, "gender accommodating" – 10 projects, or "gender transformative" – 2 projects. Gender was usually conflated with "women" and little attention was given to institutional or socio-cultural factors contributing to inequalities, and women's existing activities and roles were taken as given. Disappointingly, no clear association was found between the gender approach in the project and the gender policy or strategy of the implementing agency. Gender outcomes were not evaluated.





# Special Workshops



***Special Workshop I: Photovoice: Researching gender in aquaculture and fisheries through the camera lens by Janine Pierce, Aquaculture without Frontiers Australia and University of South Australia***

Photovoice is an innovative research method that is cheap, fast to administer and has a high impact. It is well suited to community research, enabling participants to tell their stories through taking photos and commenting on the personal meaning associated with the photos. Photovoice is an empowering feminist research approach as it gives those who often have no voice a chance to give their thoughts voice that could reach to decision makers.

The Special Workshop had 3 components. 1) An interactive session explaining Photovoice and its methodology. This session was well attended, generated interest, good discussion and stimulated some participants to initiate their own Photovoice projects. 2) An opportunity, taken up by 11 volunteers, to participate in a Photovoice mini project at the GAF7 conference, giving them hands on Photovoice method experience. The results are shared on the [www.genderaquafish.org](http://www.genderaquafish.org) website. 3) Launching a free Photovoice e-Manual (<http://www.aquaculturewithoutfrontiers.org/digital-stories/articles/>). Dr Pierce has offered to provide ongoing Photovoice method advice through her AwF volunteering contribution for those who are interested.

Participants commented that the GAF7 Photovoice project was already contributing in a valuable way to their knowledge. Several rated the Special workshop as their favourite because it was hands on, energising, practical and useful. One said, “*I am working on producing similar for my gender research.*” The Photovoice workshop provided a useful addition to GAF7 as an engaging and easily understood research method for those interested in documenting their projects, and to assist in getting funding for more projects. The Photovoice approach is applicable across a broad range of areas. Several attendees have indicated their interest and involvement in Photovoice projects so far, e.g., in American Northwest, in Solomon Islands. It is also now being used by a young researcher for studies from Peru, Uganda and Kenya. The researcher, who is studying social conflicts in fisheries, found the Photovoice manual on the Internet.

***Special Workshop II: GAF101: Using “Intersectionality” in Research on Gender and Fisheries and Aquaculture. A GAF 101 Training Session by Marilyn Porter and Holly Hapke***

Continuing the GAF series of training workshops, this Special Workshop started by acknowledging the authors who put together the Training Handbook on Gender Research in Fisheries and Aquaculture and launched the Handbook (jointly produced by USAID, GAF, SEAFDEC, AFS, WINFISH – see <https://www.seafdec-oceanspartnership.org/resource/gender-research-in-fisheries-and-aquaculture-a-training-handbook/>).

Ways of identifying intersectional factors were explained through a Workshop exercise and the results discussed during the workshop. Some aspects to be

considered in gender research such as that women and men are not homogeneous groups and they can be subject to other forms of social discrimination, for example on the basis of race/ethnicity, religion, sexual orientation, socio-economic status, age and disability. Therefore, policies and programmes should take these “intersectional” forms of discrimination into account and take special measures to address them effectively.

From the workshop on intersectionality, important food for thought came from the saying by American feminist and poet Audre Lorde – “*There is no such thing as a single-issue struggle because we do not live single-issue lives*”. Guided by that wisdom, a study on gender should consider various aspects of identity to fully understand the complex experiences of women. The insightful workshop corrected wrong assumptions which usually guide researchers to consider only one or two aspects while failing to identify and thereby excluding other equally important aspects of identity which have significant bearing on women’s status and position. As a starting point, the workshop pointed out that it may be worthwhile to ponder this question - how do different aspects of women’s identity interact with one another to give women advantage (or disadvantage)?

***Special Workshop III: PLAN International Seas of Change, by Sadia Tehseen and Iris Caluag***

In “Civil Society Speaks”, PLAN International discussed key insights, challenges and lessons from implementing programs that promote the empowerment of migrant women and children in the Thai fishing industry through Panel discussion with multiple stakeholders. The session spotlighted root causes of exclusion and disempowerment, and in particular, the different collaborations and interventions that have been carried out to address them.

At GAF7, PLAN International formally introduced the report, *Into the light: Young female migrant workers in Thailand’s seafood sector and their access to decent work*. The report draws its insights from learning about the lives of a group of young Cambodian women migrants working in the Thailand seafood industry, where one estimate puts migrant labour at 80% of the total. The PLAN International SEAS of Change project aims to contribute to a fishing industry free from child labour and with decent work for all, including the migrants. The new study looked at the conditions for young women in Cambodia where home conditions may be repressive and even dangerous. Despite the high cost of immigration cards, migration for seafood industry work may look like one of the few options, but this is also fraught. Seafood industry work is segregated and opportunities stereotyped by gender. PLAN’s study recommended policy, education, workplace and social support steps to help achieve decent work. The report *Into the Light* can be downloaded from <https://plan-international.org/light> (Both the summary and full version are available on the link).

***Special Workshop IV: Furthering/Deepening Feminist Perspectives in Fisheries, by Nalini Nayak and Cornelie Quist***

**Nalini Nayak and Cornelie Quist** shared the experience of the International Collective in Support of Fishworkers' Women in Fisheries programme 1990-2014 ([https://wif.icsf.net/images/history/WIF\\_15Sept%201.pdf](https://wif.icsf.net/images/history/WIF_15Sept%201.pdf)) and delved into the feminist analytical framework of fisheries as developed in the ICSF. They described the "struggle within a struggle", mobilizing poor marginalized women within the larger struggle of the marginalized fishing communities, led by men. ICSF's feminist perspective in fisheries connects with the larger feminist critique of development. It critiques development models that are patriarchal and exploitive, that benefit the few at the expense of the majority (particularly poor women), increase the vulnerability of local communities and destroy means of livelihood and undervalue and overexploit natural resources. They discussed concepts of feminist analyses like power relations, patriarchy; impacts of violence on life and livelihood, presenting the same within the spheres of production and reproduction in fisheries. The interesting discussions that ensued included questions on whether Marxist or feminist theories address the challenges of industrial society, neoliberal production systems, consumerist society etc. and the need for a feminist political ecology think tank. Also emerging was the fact that analytical frameworks are not static and are processes that evolve, and also the need to look at the intersectionalities. Feminist perspectives would be useful in that they address complexities in societies.

***Special Workshop V: Exploring Gender Equity and Equality in the SSF Guidelines Co-organized by WorldFish and Conservation International by Danika Kleiber, Whitney Yadao-Evans, and Cynthia McDougall***

One of the activities in gender interventions is to assess the gender capacity and capability of the local government units (LGU), national governments, and other enablers. The objective of the Special Workshop was to create indicators for gender capacity and capability in order to assess the gender capability and capacity of the national public sector. Forty indicators were identified by the workshop participants, classified under 7 themes as follows: 1) policy integration; 2) budget; 3) accountability; 4) gender experts; 5) knowledge about gender concepts; 6) skills to implement gender concepts; and 7) monitoring and control. The indicators will be tested in the Pacific and modified. The audience was encouraged to test the tools in their respective areas and to also develop similar tools for non-public organizations.

***Special Workshop VI: Role of women fishworker organizations towards implementation and monitoring of small scale fisheries guidelines; case of African Women Fish Processors and Traders Network (AWFISHNET), by Editrudith Lukanga and Kafayat Adetoun Fakoya***

In introducing this Special Workshop, Susana Siar of FAO pointed out that the Voluntary Guidelines for Securing Sustainable Small-Scale Fisheries in the Context of Food Security and Poverty Eradication (SSF-G) were due to the efforts of fish worker organisations, working with FAO and the member countries. Now, the SSF-G

are taking on a life of their own through the fish worker organisations such as AWFISHNET that are seeking to make a difference in people's daily lives. Recognising that, in fisheries, women's organisations were weak, Editrudith Lukanga explained how women created AWFISHNET in 2017 to take advantage of the aspirations of high level African Union policies such as the 2014 Malabo Declaration on Agriculture and Postharvest Losses and the Policy Framework and Reform Strategy (PFRS) of NEPAD (the New Partnership for African Development). Twenty eight African countries are in AWFISHNET. They have elected a Bureau to oversee their coordination, governance and advocacy work on behalf of the African women in fisheries, 91% of whom work in post-harvest.

Kafayat Fakoya illustrated the challenges facing African women in fisheries using Nigeria as a case study. Few African countries are acting on the SSF-G, and Nigeria is just at the start. Women are not involved in fisheries governance, although Nigerian women are involved in governance of other sectors. The Department of Fisheries is under the aegis of the Ministry of Agriculture from which it receives little attention and funding, and most of that devoted to large scale fisheries. Women do fish and are very active in post-harvest, but their position is stereotyped, their rights not protected and gender relations and strategic gender needs ignored. Similarly for Tanzania, Editrudith Lukanga found that 2 years after the SSF-G were passed, most women were not aware of it. Through AWFISHNET, however, the women themselves are now mapping their engagement along the whole fish value chain, including in Lake Victoria fisheries. The Ministry has established a gender desk.

In the discussions, workshop leaders and participants stressed the importance of raising the capacity of the women to have their own voice. In many countries, Ministries for women/family or similar did address cross-cutting gender issues but only basic family issues, and women's business issues as fish traders were not well supported.

In her closing remarks to the Special workshop, Belinda Richardson of the Bill and Melinda Gates Foundation stressed the importance of women's organisations, driven by women, to drive policy reform so it works for women, even though this can be a herculean task.

***Special Workshop VII: Gender transformative approaches in fisheries and aquaculture: An exploration of strategies and emerging outcomes by Cynthia McDougall, Steven Cole and Afrina Choudhury, WorldFish***

Cynthia McDougall explained how, since 2012, WorldFish has been examining gender transformative approaches (GTA), as compared to gender accommodative approaches, through in depth action research in Bangladesh (small scale aquaculture technologies) and Zambia (micro-credit and reducing post-harvest losses). Strategies and tools have been developed and tested and the outcomes measured. One important reason for testing GTA has been the proactive mitigation of potential backlash experienced by more traditional development interventions on

gender. One key dimension of the approach is by engaging women and men together as agents of change.

In the Barotse Floodplain, Zambia, Stephen Cole and colleagues experimented with practical gender approaches in 6 fishing camps, and added a gender transformative communication tool in half of these camps when endeavouring to close the gender gap on post-harvest fish losses. Women in camps with both interventions significantly increased their fisheries participation and demonstrated much greater agency than those with only the practical gender approach. Men's attitudes towards joint gear ownership also shifted markedly when the GTA was used.

In Bangladesh, Afrina Choudhury presented on finding changes in certain attitudes such as husbands being more aware of whether the women were getting sufficient food to eat and consulting them more on purchases. The GTA softened the backlash around new technology taken up by the women.

***Special Workshop VIII: Gender Analysis through Micro and Small Aquaculture Operation (MiSAO) Best Aquaculture Practises (M-BAP), by Zumilah Binti Zainalaludin***

How does gender figure in the micro and small aquaculture operations (MISAQ) best practices? The Special workshop started by identifying best elements for MiSAQ from 10-established international and national Good Agricultural Practices (GAP) and Good Aquaculture Practices (GAqP) standards designed for medium and large scale aquaculture, namely: Global Aquaculture Alliance, MyGAP Guidelines Aquaculture Sector, The Global GAP Aquaculture Standard, ASEAN GAqP, Aquaculture Stewardship Council, and Thailand Agricultural Standard, India GAP, China GAP, Indonesia GAP, and the Philippine National Standard Code of Good Aquaculture Practices (GAqP). Participants then identified six common best agricultural and aquaculture standards that also could apply for small scale aquaculture. These included: 1) environmental responsibility; 2) food safety; 3) animal health and welfare; 4) occupational safety and health; 5) socio-economic aspects; and 6) traceability. Irrespective of the scale of operations, the participants were in agreement that the standards must be applied uniformly to ensure food safety, human and animal welfare, environmental protection and sustainability of the agri and aquaculture industries.

Including gender in the standards must start from understanding gender differentials in roles in each of the standard good practice guides. To address this, the workshop participants were divided into groups to discuss and to come up with a model including important elements for simple research on gender in aquaculture. A case study in Malaysia was presented as an example and then the participants identified the important elements in running a small scale fish farm.

**Special Workshop IX: Mainstreaming gender in fisheries education, by Mary Barby, Arpita Sharma, Kyoko Kusakabe, Salin Krishna and Kumi Soejima**

Constraints in mainstreaming gender in the fisheries and aquaculture curriculum must be addressed in the context of each country and its educational structures. Attempts to mainstream gender in fisheries education can meet with passive, active, and hidden resistance from colleagues and/or administration.

In India, a course on gender is offered across disciplines in ICAR-CIFE (Central Institute for Fisheries Education) but is not compulsory. In Thailand including gender is unacceptable in a technical course because it is felt that it dilutes the course. On the other hand, gender courses lack the technical content of the discipline. In Japan, gender issues are not mainstreamed in education. In the Philippines, despite a specific budget allocation of 5% for gender, not many state universities and colleges (SUCs) or higher education institutes (HEI) comply with the 5% gender budget utilization. Nevertheless, the Philippines seems to be the most advanced in mainstreaming gender in education.

Arpita Sharma looked at bringing gender considerations to the centre of the fisheries education agenda. She discussed the example of gender studies in ICAR-CIFE, Mumbai, India. The Institution has 104 published research papers/reports on gender studies from various states of India. Women as first authors were overrepresented in the women/gender related publications among both students and scientists. All studies revealed that participation of women in fisheries is significant but women face a number of constraints and lack representation in leadership positions. However, data are weak and capacity development is lagging. The official recognition of Women's Studies as an academic discipline in the Indian university system has a history of more than four decades when the University Grants Commission (UGC), a statutory body under the Ministry of Human Resource Development started Women's Studies in the period 1985-90 and centres were established. In order to mainstream gender in fisheries education, a course on Gender, Livelihood and Development was initiated in 2010 at ICAR-CIFE leading to Masters and Ph.D dissertations on issues focusing on gender as well as other dissertations which include gender as a component in their research. Despite the success of instituting the course, resistance came in several forms, such as the title of the course including 'livelihood and development' and the course remaining optional.

Mary Barby Badayos Jover described how, with the policy requirements in the Philippines, the University of the Philippines Visayas has created a popular General Education course dedicated to gender (Social Science 5: Understanding Gender) in which gender roles are discussed in courses on coastal resource management and in which research focusing on gender is conducted. Even so, the Commission on Higher Education requirements on gender are merely complied with rather than embraced and gender concerns are mainly focused on extension services rather than a range of more in depth issues. All fisheries educators should be sensitised to gender and gender networks such as WINFISH and GAFS strengthened.

Kyoko Kusakabe described how gender and fisheries are taught in two different programs in different departments: Aquaculture and Aquatic Resources Management (AARM) and Gender and Development Studies (GDS). Collaboration between the programs occurs via thesis committees and joint research projects. AARM in effect has little gender focus and faces significant structural barriers. However, several feasible and quite small steps could greatly reduce the barriers, such as joint classes between AARM and GDS and integrating gender courses in AARM and aquaculture courses in GDS.

Kumi Soejima pointed out that although Japan's only specialised fisheries university, the National Fisheries University (NFU), is supposed to develop human resources for the sector, no courses have women or gender in their titles. Only the social science course uses the term gender at all, and this reaches only 10% of the 200 students in each year. Of 340 students graduated from the social science department, only 10 have focused on gender, and most of these were women. Resistance comes from others at NFU who have accused the courses of trying to keep men out. The Japan Fisheries Economics Society, established in 1953, only permitted a main topic on gender in 2014. Because of its central position in fisheries education, NFU is a critical actor that must educate men on the importance of gender in fisheries.





# Events



## Caribbean Corner

The Centre for Resource Management and Environmental Studies (CERMES) at the University of the West Indies (UWI), Cave Hill Campus, Barbados, and partners are conducting applied interdisciplinary research and outreach to better understand and assist with policy and practice concerning gender in Caribbean small-scale fisheries. A Gender in Fisheries Team (GIFT) has been formed for this initiative.

Five members of GIFT – Patrick McConney, Maria Pena, Bertha Simmons (and Debra Joseph and Leisa Perch in absentia) shared their research on gender in Caribbean fisheries at GAF7 in several presentations and through the well-visited Caribbean Corner that highlighted current GIFT research into gender in Caribbean fisheries and specifically women in the Barbados fishing industry. *The Faces of Women Fisherfolk in Barbados* case study research being led by Debra Joseph, Department of Government, Sociology and Social Work, UWI, Cave Hill Campus was a particular hit. Highlighted videos produced as outputs of this research and used for display drew a number of queries from GAF7 participants, as well as one tool, Photovoice, for collecting information on women's livelihoods in the flyingfish fishery in Barbados. The [Faces of Women Fisherfolk Barbados](#) YouTube Channel shows a selection of videos of fisherfolk ladies telling their livelihood stories.

Margaret Harding, proudly and ably represented the only postharvest fisheries association in Barbados – the Central Fish Processors Association – the subject of GIFT research in Barbados. She was one of only a few fisherfolk attending GAF7, and as such she was much sought out by many researchers in attendance.

For more information on gender in fisheries in the Caribbean, visit the [GIFT webpage](#).

## Field trip

The field trip organised by the Department of Fisheries, Thailand took the participants to three places. The first visit was to a catfish production and processing unit, started as a community-run catfish farm. Today, it is a family-run business, with



**GAF7 Field Trip organised by the Department of Fisheries, Thailand. Left: catfish farming; Right: the GAF7 participants at Khlong 4 freshwater wholesale fish landing market.**

Photo credit: Reiny Tumbol

a range of products such as deep fried catfish, sun dried catfish, fish paste, etc. The next site was an ornamental fish farm, AquariCORP Co., Ltd., a wholesaler exporting wild caught and farmed ornamental fish to different countries in Asia and Europe. The third site was the fish landing site at Khlong 4, the wholesale fish market where farmed and river fish arrive from nearby provinces of Thailand. This market opens after 1 pm and handles over 700 tons of fish every day. A presentation on the freshwater fish market was given by the owner, followed by a direct observation by GAF7 participants on the activities in the market. The majority of fish sold in the market on the day of the visit were catfish, tilapia and carp. The fish were brought to the market by wholesalers in trucks and unloaded by the workers who are mostly men, and a few women. The fish were then sorted by size, exclusively by women. The weighing of the fish after sorting was done by men who handled the fish in big buckets while the women recorded the weights. The final trip was to a temple.

### Film Screening

The winning entries of the *Women in Seafood 2018* video competition which was organized by WSI (International Association for Women in the Seafood Industry), with the support of MATIS Icelandic R&D company and AFD the French Development Agency were screened at GAF7. WSI, a not-for-profit association created by seafood professionals and gender specialists believes that there is a need to increase awareness about women's role in this industry and to recognize the value they bring. WSI uses videos to raise awareness of gender issues among the public and private stakeholders.

The films screened were:

1. "*Puntada Invisible*" produced by FUNDAMAR and directed by Henry Robusto (Spain)
2. "*Mujeres del Mar del Cortés*" (Mexico)
3. "*Girls who Fish in Petty Harbour*" (Canada)
4. "*The Invisible Hands*" Produced and directed by Shrayansh Pandey and Shrinkhla Pandey (India)

The videos can be viewed at: <https://wsi-asso.org/2018-video-competition/>



# Annexures



## ANNEXURE 1

For the full GAF7 programme, please visit: <http://www.genderaquafish.org/gaf7-programme-ppts-abstracts/>

### SESSION THEMES

- I. Gender assessments in fisheries and aquaculture
- II. Gender-disaggregated statistics
- III. Gender and the seafood industry
- IV. Gender and Fisheries & Aquaculture Governance
- V. Gender and climate change with reference to fisheries & aquaculture
- VI. Focus on SDG5, and other SDGs, in fisheries and aquaculture
- VII. Gender research methods in fisheries & aquaculture
- VIII. Learning exchanges – experiences and lessons

### SPECIAL WORKSHOPS

- I. Photovoice: Researching gender in aquaculture and fisheries through the camera lens (Janine Pierce, AwF Australia)
- II. GAF101: Using “Intersectionality” in Research on Gender and Fisheries and Aquaculture. A GAF 101 Training Session (Marilyn Porter and Holly Hapke)
- III. Plan International Seas of Change (Sadia Tehseen and Iris Caluag)
- IV. Furthering/Deepening Feminist Perspectives in Fisheries (Nalini Nayak and Cornelia Quist)
- V. Exploring Gender Equity and Equality in the SSF Guidelines (Danika Kleiber, Whitney Yadao-Evans, and Cynthia McDougall)
- VI. Role of women fishworker organizations towards implementation and monitoring of small scale fisheries guidelines; case of African Women Fish Processors and Traders Network (AWFISHNET) (Editrudith Lukanga and Kafayat Adetoun Fakoya)
- VII. Gender transformative approaches in fisheries and aquaculture: An exploration of strategies and emerging outcomes (Cynthia McDougall)
- VIII. Gender Analysis through Micro and Small Aquaculture Operation (MiSAO) Best Aquaculture Practises (M-BAP) (Zumilah Binti Zainalaludin)
- IX. Mainstreaming gender in fisheries education (Mary Barby Badayos-Jover, Arpita Sharma, Kyoko Kusakabe, Salin Krishna and Kumi Soejima))

**PLATINUM SPONSOR**



Australian Government  
Australian Centre for  
International Agricultural Research

**SPECIAL SPONSORS**

AQUAFISH



**GOLD SPONSOR**



RESEARCH  
PROGRAM ON  
Fish

Led by



**SILVER SPONSORS**



THE CRAWFORD FUND  
For a Food Secure World



TCEB  
THAILAND CONVENTION  
& EXHIBITION BUREAU



USAID  
FROM THE AMERICAN PEOPLE

**BRONZE SPONSOR**



Commission on Gender and Geography  
Commission Genre et Géographique

<https://igugender.wixsite.com/igugender>

**PARTNERS**



THE UNIVERSITY  
OF THE  
WEST INDIES  
CAVE HILL CAMPUS  
BARBADOS, WEST INDIES



ARC CENTRE OF EXCELLENCE  
Coral Reef Studies



WINFISH  
THE NATIONAL NETWORK ON WOMEN IN  
FISHERIES IN THE PHILIPPINES, INC.



INFOFISH



International Ocean Institute  
THAILAND



**SUPPORTER**



[www.thaiunionfeedmill.com](http://www.thaiunionfeedmill.com)

