

Research Paper

How are Fisheries and Aquaculture Institutions Considering Gender Issues?

MERYL J WILLIAMS*

17 Agnew Street, Aspley Queensland 4034, Australia

Abstract

Dedicated fisheries and aquaculture institutions such as departments of state and of universities, and specialist research institutions play critical roles in key sectoral matters such as fisheries management and fish health. They pay little attention, however, to seemingly less urgent issues such as gender equality and equity. The present paper examines how, despite headwinds, existing and new institutions such as networks have launched a variety of gender activities. The institutions' work can be grouped into four categories: diagnostic exercises leading to action, human capacity development including network formation, development projects, and embedded gender policies and programs. The gender networks, mainly comprised of committed volunteers, have tended to substitute for in-house full time experts and thus the progress on addressing gender issues is fragile and measured in decades. In the fish sector, an activist campaign is needed now to generate urgency and more action on gender. The campaign, addressed to sectoral leaders and workers, must be based on a compelling case for gender equality, with measureable impacts in social and economic terms.

Introduction

Although distinguished by certain unique characteristics, the fish sector – fisheries, aquaculture, pre and post- harvest activities and fish value chains - is embedded in the global economy and attracts major technological and capital investment in production, processing and trade. Its actors, networks and businesses are highly masculine in personality. Gender and class hierarchies structure relationships between labour and ownership. In most fishery pursuits,

* Corresponding author. E-mail address: meryljwilliams@gmail.com

women and poorer men who labour in the sector have negligible profile and influence.

Social and global movements such as feminism and the adoption of the 1979 United Nations Convention on the Elimination of All Forms of Discrimination against Women (CEDAW) would have been expected to influence the roles and status of women in economic sectors such as fisheries. These movements, however, were too abstract and remote from the more proximate and dominant fish sector concerns over legal and economic change, e.g., the 1982 United Nations Convention on the Law of the Sea. Also, then and now, mainstream institutions viewed the sector as essentially masculine and women's inequality and rights as unimportant.

In the present paper, I contend that these realities continue to present major challenges for achieving gender equality. Gender, gender equality and gender equity are rarely embodied in current fish sector standards, policies, and strategies and therefore in the work of the sector's institutions. Women's interests and voices are seldom represented in business, policy and advocacy networks. Gradually over the last 30-40 years, however, some promising signs of positive moves towards considering gender issues have emerged, mainly arising through individuals and institutions inside the fish sector. These fragile developments can be traced in analysing the work of existing and new institutions.

Employment within the fish sector is gendered, leading to multiple pathways to gender inequality, particularly in the different opportunities for women and men and the quality of their engagement and benefits. Two broad and intertwined concerns are to first achieve social justice and support the wellbeing of those in the sector, and, second, to improve the contributions of women and men to the social and economic development of the sector and its environmental sustainability.

Social justice issues, broadly, are just beginning to be inserted into the public discourse on fish, following more than two decades of policy and external advocacy focus on economic growth and resource and environmental sustainability. One pathway to awareness of these issues has been via resource and environmental concerns that led to efforts to eliminate so-called IUU

fishing – illegal, unreported and unregulated fishing. This route stumbled across many instances of social injustice, such as the work conditions at sea and on land. Another route was via moves to address the gap between the rights to resources of small scale and industrial scale actors, resulting in the adoption of the 2014 Voluntary Guidelines for Securing Sustainable Small-Scale Fisheries in the Context of Food Security and Poverty Eradication. Of these two routes, however, only the Small-Scale Fisheries Guidelines addresses gender inequalities.

One reason that the gender dimension of social justice in the access to and distribution of fish gets little attention is that fisheries institutions focus mainly on the primary production of fish, rather than on the whole supply chain. Lentisco and Lee (2015) attempted to broaden the concept of women's access to fish. They suggested that women's access could be termed primary, secondary or tertiary, according to whether women themselves catch fish or finance fishing operations, obtain fish through kin and other relationships, or whether they purchase it under market conditions for trade or own use.

In economic terms, women make up 47% of the fisheries supply chain workforce (World Bank 2012), and a substantial but unknown percentage of the aquaculture workforce. Numerous studies have indicated that their labour in the fish sector tends to be predominately in lowly paid or even unpaid work, suggesting that their economic contributions would be less than their level of participation indicates, thus leaving room for making that contribution greater. Moreover, many women are used as an opportunistic workforce, e.g., in fish processing factories, they often lack job security and, being invisible as an interest group, their needs are ignored in major sectoral changes. For example, women in Kerala, India, who relied on obtaining fish from beach landings lost their access when ports were constructed (Gopal et al. 2014a), and other cohorts of women were then employed in factories processing the catch. On the other hand, changes have brought opportunities and granted agency to many women (Chao et al. 2002; Shanthy et al. 2012; Soejima 2014).

Fish sector policies and practices frequently are gender blind, (FAO 2012; Brugere 2014 and FAO EAF-Nansen 2015) and hence risk being gender biased. Women's and men's work is affected in different ways by rapid value chain changes. For example, women's employment in the Norwegian salmon

farming industry fell from 20% in 1990 to 9% in 2010 as large vertical integrated companies took over small family farms (Maal 2013); women and men are affected differently by disasters and disaster recovery (Defiesta and Badayos-Jover 2014); women in some countries cannot register as fishers (e.g., women divers in Japan, Lim et al. 2012); and in fish sector households, unpaid work is disproportionately women's responsibility (e.g., women in a Philippine fishing community, Siar and Cañeba 1998).

Despite the gender differences in the fish sector, women – and men – often are not conscientised to the inequalities. Elite women, and men, are likely satisfied with their opportunities and do not seek greater gender equality.

Although work along the supply chain is highly differentiated by gender, sex-disaggregated data are not available (Monfort 2015). Women's contributions, which can be substantial, are therefore only available from a few point estimates and case studies. For example, Harper et al. (2013) estimated that Pacific women's inshore fish catches are worth USD110 million, and, with multipliers, a full economic contribution of USD363 million.

These examples show that gender differentials matter for individuals and society and suggest that gender deserves more serious attention. The present paper examines what a selection of new and existing institutions has been doing to address gender in the fish sector.

Materials and Methods

The present study uses mainly secondary materials in the period from 1980 to the present, although in several instances, I have been a witness to or a participant in the events analysed. I analyse a selected set of actions by fish sector institutions and individuals, and their impacts on the visibility and actions to support women and promote more equal gender relations in aquaculture, fisheries and fish supply chains. The year 1980 was chosen because it marks the potential start for detecting impacts of the adoption, in 1979, of the United Nations Convention on the Elimination of All Forms of Discrimination against Women (CEDAW).

The actions analysed included events, such as workshops, conferences, publications and the formation of networks, associations and formal organisational structures of relevance to the gender theme. The selected actions are not exhaustive and the sources are restricted to those in the English language. Due to my professional bias and the lack of ready access to documented histories, it also ignores a body of institution building at the grassroots level. The list is based on my direct participation and on a desk study of other events and written materials from the literature and internet searches of institutional material. An effort has been made to locate the earlier attempts at institutional focus on women (later gender) in fisheries. This is not a review of research papers on women/gender in fisheries.

Coming from a natural resource management background, I interpret the term “institution” according to Elinor Ostrom (2005): *Broadly defined, institutions are the prescriptions that humans use to organise all forms of repetitive and structured interactions including those within families, neighborhoods, markets, firms, sports leagues, churches, private associations, and governments at all scales.* Several of the institutions referred to in the following are formal organisations, others are less formal associations, and some are informal groups, including the open women/gender in fisheries and aquaculture group of the Asian Fisheries Society that has coalesced to conduct symposia and related activities on gender in aquaculture and fisheries. The institutions included in the present analysis are comprised of activists, researchers and their professional societies, and officers of national, regional and international organisations and ministries. Within the realm of the topic of women and gender in fisheries, aquaculture and fish supply chains, I attempt to trace awareness, interest and action using data on policies, events, research literature, and development projects.

Results

The work of fisheries and aquaculture institutions is the locus of many and varied stimuli and expectations, leading occasionally to gender initiatives, often launched into considerable headwinds, followed by varying degrees of success and perseverance. Both the headwinds and the types of gender initiatives that have emerged are examined.

The headwinds that challenge gender initiatives

The visibility of gender, especially gender equality, as an issue in the fish sector first should be calibrated against the visibility of the fish sector itself and then against that of other themes within the fish sector. Typically, the fish sector is viewed as a minor element in the agriculture and food sector. More recently, however, it has achieved some prominence because of the high value of international trade, concerns over fish stock sustainability (overfishing) and the trend of fish prices to rise compared to the price of comparable food commodities such as that of red meat (HLPE 2014). Within the fish sector, the visibility of gender is greatly overshadowed by that of other drivers such as economic globalisation, resource and environmental sustainability, aquaculture development, and governance reform. These other issues receive much more attention, action and funding, and may have impacts that create greater gender inequality, as Bodil Maal's example in the Norwegian salmon aquaculture industry showed (Maal 2013).

Despite these headwinds of visibility of and within the fish sector, attention to gender issues has been stimulated and expectations raised to a certain extent by external developments, but more strongly by the endemic actions of individuals, institutions and events.

At the global scale, we would have expected that the United Nations Convention on the Elimination of All Forms of Discrimination against Women (CEDAW), adopted in 1979, might have triggered attention and action. The response of the fish sector, however, was minor.

Some early gender initiatives that may have been stimulated by CEDAW, such as the April 1987 FAO workshop on women in aquaculture, did not refer to CEDAW. The FAO event was funded by Norad and the Aquaculture Development and Coordination Programme of FAO and the United Nations Development Programme. Likely, the workshop was indirectly stimulated by the gender-aware strategies of the United Nations and development assistance agencies that CEDAW stimulated. Its conduct illustrates many of the fundamental challenges that are still being faced by efforts to address gender inequality in the fish sector.

The workshop (FAO 1987), was attended by 29 women experts in aquaculture (painstakingly described as the “principal participants”) and eight observers and other participants, mainly male aquaculture experts. The welcome by the then head of the FAO Fisheries Department reflected the thinking, still current in some quarters, that women experts, although their fields of knowledge may be highly specialised in technical areas, would naturally, as women, also “therefore have specific knowledge on the current status of women's participation in the sector.” He further noted that, “as you all ably demonstrate, aquaculture is proving to be a very appropriate sector for the employment of women, much to their economic and social benefits.” This emphasis on the economic contributions and benefits of women to the aquaculture supply chain is an appropriate role for FAO as an applied technical agency. The final conclusions of the Workshop were that “the need is for more well-directed efforts to involve women and to confirm their impact on the industry” (FAO 1987). The papers delivered by the women “principal participants” stressed that efforts should be appropriate to the country, industry and social context, but the ensuing history indicated that these words were not taken much further at the time, especially with regard to understanding social context.

In her feminist analysis of the 1987 FAO workshop report, Elizabeth Harrison (1995) noted the simplistic separation of women's from technical issues but noted that this would be expected from technical organisations staffed and set up to deliver technical interventions. She worked on one project of FAO that began its planning around the time of the workshop. In translating project plans into action on the ground, the efforts to involve women and youth had no specific budget and mainly focused on finding work activities for (already busy) women. The inevitable simplifications made “from Rome to the fish ponds” ignored household complexities and existing gender relations, and the priorities and incentives of the different actors all along the project chain (Harrison 1995).

Entwined individual interests, organisations and major events often have more powerful fish sector impacts than distant global instruments such as CEDAW. A watershed publication, the edited volume, “To Work and to Weep: Women in Fishing Economies,” (Nadel Klein and Davis 1988), drew worldwide academic attention to women in fisheries, and continues to be a classical reference. It reflected studies in anthropology and sociology and laid the

foundation of knowledge of women's roles and positions in fishing-based communities. Place and experience may have been important in stimulating this publication. Jane Nadel Klein and Dona Lee Davis worked in Newfoundland, Canada, which, shortly after their book was published, became notorious worldwide as the focal site of the Canadian cod fishery collapse. Publicly, the impacts of the cod fishery collapse were not perceived as gendered, but in reality they were (Davis 2000; Neis 2000). In endeavouring to portray the reality and advocate for attention to the women's losses, the advice of gender and fisheries researchers on the frontline was marginalised in the policy and post-collapse adjustment programs. With help from the network (FishNet), Barbara Neis reflected on how researchers' constructions of power and activism needed to adjust to local social realities of the women, a lesson for future gender researchers in the era of resource decline and natural calamities (Neis 2000).

Another seminal publication, "Women's fishing in Oceania" by Margaret Chapman, is a similar anchor for studies on women's fishing in the Pacific. In 1989, the Secretariat for the Pacific Community (SPC, then the South Pacific Commission) commenced its first efforts to assist women. It used women in fish processing as its entry point, and later, although with sporadic efforts, conducted other studies and projects on women, men and, to some extent, children in fishing, fisheries management and science. Despite establishing in 1997 a very important periodical, *Women in Fisheries Information Bulletin*, SPC has not given special space to women/gender in its fisheries and aquaculture priorities (Williams 2014a).

In 1990, the Asian Fisheries Society India Branch held the first women in fisheries workshop (Gadagkar 1992). This event was identifiably initiated by Dr Mudnakudu C Nandeesha (India), who went on to stimulate efforts by the Asian Fisheries Society that continue to this day (Williams 2014b) and which are described in more details below. In the International Institute for Fisheries Economics and Trade, global professional body, Professor Stella Williams of Nigeria has been the instigator of efforts for that body to pay greater attention to gender equality.

Modest as most of these founding actions by individuals and organisations were, they led to a burst of actions in the latter 1990s and early 2000s, raising expectations among the actors that women and gender had finally

arrived as a legitimate priority theme on the fish sector agenda. With hindsight, a sign that these expectations were inflated lay in the key global fisheries policy instrument of the period, the 1995 Code of Conduct for Responsible Fisheries. The Code did not make any mention of women and gender in its articles. Consequently, the Code did not contain a policy platform for gender equality, and its detailed implementation over the last two decades focused squarely on technical, legal and fishery production and sustainability matters (FAO 2012).

In the decade starting approximately in the mid-1990s, more people became interested in gender, new institutions such as networks were formed and conferences held. These will be analysed further below. Beneath this appearance of progress, however, a decade later the reality emerged that too little of this led to action on the ground, including support for women/gender projects and in depth research. In development terms, this peak of activity coincided with the period (1997 to 2001) of the lowest rates since 1960 of overseas development assistance (as a percentage of gross national income of the OECD donor countries) (<https://data.oecd.org/oda/net-oda.htm> accessed 26 June 2015). Thus, for developing country activities, available funds would have been highly competitive, and sufficient only for low cost efforts such as conferences and networks. Activities that would need a strong case for larger, more expensive interventions were at a special disadvantage as a strong case had not yet been made, successful development interventions were lacking and funds were scarce. Nearly two decades later, we are faced still with fundamental questions of how to avoid the “pitfalls of development projects” that aim to empower women (Choo and Williams 2014), and in finding evidence that gender makes a difference in fish sector development endeavours, e.g., in fisheries governance institutions (Leisher et al. 2015).

The current context for gender in the fish sector can be summarised as a lack of attention, resources and moral support, coupled with resistance from mainstream actors who are not convinced that gender inequality is real or that it matters, disillusionment among gender professionals and a genuine lack of tools and knowhow. Despite this rather challenging overview, the actual work on gender of fisheries and aquaculture institutions bears closer examination.

What Fisheries and Aquaculture Institutions Do?

Different institutions move at different rates when they decide to address gender, but across the landscape, five types of activities are discernible. These are: (1) diagnostic exercises leading to action, (2) human capacity development, (3) development projects, and (4) embedded gender policies and programs.

Typically, fish sector institutions are unused to addressing gender issues and thus, once an institution decides to embark on gender work, an early response is to diagnose the institution's mandate with respect to gender, usually by calling in outside expertise, and from this to develop options for action under the mandate. The reason for starting gender work is never an acute gender-related problem needing solution, in contrast, say, to new fish health work that may be demanded when a fish disease breaks out, or new resource management directions when a fish stock collapses. Gender diagnostic efforts, therefore, tend to be less urgent and problem focused, and their results are less likely to be implemented.

The rather low-key manner in which the United Nations Food and Agriculture Organisation (FAO) deals with gender in fisheries and aquaculture is a case in point. FAO's 2011 State of Food & Agriculture report was a special issue on the gender gap in agriculture but it also contained a brief treatment of women in fisheries and aquaculture (FAO 2011). In Shanghai in 2011, this report set the stage for a special one-day workshop supported by FAO after the Asian Fisheries Society's 3rd Global Symposium on Gender in Aquaculture and Fisheries (GAF3). The workshop provided advice to FAO on key issues (FAO 2012). FAO Fisheries and Aquaculture Department followed this with their own internal gender stocktake. The stocktake identified a large array of challenges facing the Department and formulated a program of action, starting with a gender strategy, through to tracking and assessing the progress of mainstreaming in FAO's work (FAO 2013). Although this has led to greater attention to gender in FAO fisheries and aquaculture field projects and policy advice, to date it has not led to internal high level gender expertise. For example, FAO Globefish commissioned Marie Christine Monfort to undertake a report that addressed the under-recognition of women in the private sector in the seafood industry, using enterprise statistics and case studies (Monfort 2015).

Another global diagnostic analysis which made some mention of women was the World Bank report, with FAO, on the numbers of workers in small scale fisheries. Called “Hidden Harvest,” it provided an estimate of the percentage and number of women in the whole of the world fisheries workforce (47% and 56 million women) and a summary table for women in fisheries workforces in its 10 case study countries (World Bank 2012). As full and part time workers were lumped in the statistics, and little further data or information were provided, however, these figures are tantalising but inconclusive, and remain to be substantiated and acted upon, e.g., in implementing better gender disaggregated statistical systems.

On a regional scale, several bodies have started to consider gender issues in their mandate areas. The intergovernmental Network of Aquaculture Centres in Asia Pacific (NACA) started by adopting a gender mainstreaming policy in 2012, then scanned for possible project directions (Anon. 2014), and, in 2013, launched its first project, the MARKET project in the Lower Mekong countries (<http://genderaquafish.org/gaf5-2014-lucknow-india/> accessed 29 June 2015). These efforts used the expertise of existing partner groups and mentors.

Two major institutionalised projects used a different approach. They conducted gender desk audits to help guide future work: Bay of Bengal Large Marine Ecosystem Project (Brugere 2014) and Ecosystem Approach to Fisheries (EAF)-Nansen project of FAO and Norway (FAO EAF-Nansen Project 2015).

The CGIAR research system has used yet another approach by basing its work on the conceptual framework of the Gender Transformative Approach. In the fish sector, this approach was incorporated into the Aquatic Agricultural Systems Program (Kantor and Apgar 2013; Ferrer 2014).

In India, the Indian Council of Agricultural Research (ICAR) developed a “Gender in Fisheries Roadmap” for its research institutes and bureaus, containing strategies for mainstreaming gender in research and outreach (Gopal et al. 2012). This approach was based on a review of ICAR’s own gender work, lessons from the work of the International Collective in Support of Fishworkers (ICSF), and a one-day brainstorming session leading to concrete themes. The themes identified were: (1) assessment of gender roles and analysis of gender

issues; (2) opportunities and constraints in performing gender roles; (3) power and decision making; (4) capabilities and vulnerabilities with respect to shocks; and (5) future strategies for mainstreaming gender equity and empowerment.

As some of the foregoing diagnostic examples show, fish sector institutions often lack gender expertise or have not yet made coherent plans for using in-house experience. To overcome these human capacity shortcomings, various human capacity development tactics are used, from forming gender networks, designating gender focal points, training staff, hiring consultants, appointing new staff and creating gender policies.

Networks, formal and informal, are the most popular, varied and externally visible institutions manifesting fish sector interest in gender, although the networks themselves are often modest and fragile. Networking is a method for aggregating the interests of several actors, many of whom are only able to devote part of their professional time to gender issues. The people involved in gender networks are from diverse backgrounds in government, academe, grassroots organisations, research and development agencies and grassroots organisations. Nevertheless, even modest, often interlinked network activities have persisted or the people involved have continued to be engaged through other institutions. A one-off group action was the Iloilo Resolution produced by the UNDP Women in Fisheries Asia-Pacific Regional Workshop (UNDP SU/TCDC 1995) and delivered to the 4th World Conference on Women in Development, Beijing. Many of the people involved in the Workshop and its product are still active in the Asian Fisheries Society gender activities and have been influential in generating new networks and activities in their home countries.

Some networks have helped create potentially powerful platforms for future action. In 1997, the International Collective in Support of Fishworkers (ICSF) launched *Yemaya*, its newsletter on women and fisheries. From this base of gender information grew the consultative and extensive outreach work of the International Collective in Support of Fishworkers (ICSF) that resulted in gender being included in the 2014 Voluntary Guidelines on Securing Small Scale Fisheries in the Context of Food Security and Poverty Eradication (SSF). ICSF's 2010 inclusive workshop "Recasting the Net" (ICSF 2010) and

related consultations were critical to this achievement. Many long term actors in other gender networks took part in these efforts.

The Guidelines have a dedicated gender article (8. Gender Equality), as well as several other references. Katia Frangoudes and Nalini Nayak (Frangoudes and Quist 2014; Nayak 2014) cautioned that both opportunities and threats arose from this structure, and a more transformative agenda would have been possible had gender been integrated throughout. Also, the SSFG tend to make “gender” and “women” synonymous, losing nuances of gender relations and power.

Beginning in India in 1990, a global group, largely of researchers, educators and government fisheries and aquaculture officers, eventually became active through the Asian Fisheries Society. This group grew out of people associated with earlier events led by Dr M.C. Nandeesh (Gadagkar 1992; Nandeesh and Heng 1994; Nandeesh and Hanglomong 1997 and Williams 2014b). The central events of the period were the 1998 Symposium on Women in Asian Fisheries (Williams et al. 2001), the 2001 Global Symposium on Women in Fisheries (Williams et al. 2002), the 2004 the first Global Symposium on Gender in Aquaculture and Fisheries (GAF) (Choo et al. 2006), and subsequent GAF symposia (2007 GAF2 (Choo et al. 2008), 2011 GAF3 (Williams et al. 2012a), 2013 GAF4 (Gopal et al. 2014b) and 2014 GAF5 (Gopal et al. 2016).

One growing concern of the Asian Fisheries Society network has been to improve the quality of gender research and development, despite the lack of resources devoted to the field. Most, although not all, presenters were fish biologists or economists who recognised the ethical importance of bridging the gender gap and added gender as a variable in their studies. Many of the presenters were only able to attend the gender symposia because they were also funded to present papers in mainstream sessions – gender research was not their main or “day job” (Williams and Choo 2014).

Much new gender research responds to the idea that women’s work in the fish sector needs to be documented, typically leading to descriptive studies on the division of labour by gender. In 2013, this prompted Marilyn Porter to

deliver a lecture and hold a workshop on the importance of sound social science concepts and qualitative study methods in gender studies (Porter 2014).

Conceptual development and analysis has been far rarer, but does exist, e.g., covering more sophisticated cases in interesting contexts and presenting counterintuitive opportunities for women in Cambodia (Kusakabe and Sereyvath 2014) and Japan (Soejima 2014). Choo and Williams (2014) stressed the importance of using feminist empowerment frameworks to design interventions that help women reach the empowerment level of control, i.e., the level when women take action and achieve gender equality in decision making to have direct control over their access to resources.

For a long time, the group that organised the Asian Fisheries Society gender efforts was not a formal network or association, although informal network meetings were held in conjunction with the symposia. At GAF5 (2014), however, the informal network decided to constitute itself formally under the Asian Fisheries Society. Despite its informality, however, the Asian Fisheries Society network has its own website (<http://genderaquafish.org/>) and communicates and disseminates information via several electronic social media channels.

The period of the late 1990s to the early 2000s was an active time for gender network creation. In 2000, two Asian formal networks of note were the Mekong Network on Gender in Fisheries, (formed after an active period of national network creation between 1997 and 2000, and the Philippines WinFish network. The former has inter-governmental character and is supported by the regional Mekong Region Secretariat and its Fisheries Program. The latter is a network of independent gender and fisheries experts, based in academe and taking its zeitgeist from Philippine national action on women's empowerment.

In Europe, a new network was formed in 2006, named AKTEA, the European Network of women's organisations in fisheries and aquaculture. AKTEA links researchers, women in the sector and their organisations. It arose from an earlier conference (Frangoudes and Pascual 2004) and successful advocacy on European Union (EU) policies affecting women's entitlements in the sector (Frangoudes and O'Doherty 2006).

Other professional fisheries/aquaculture societies are showing an interest in women/gender. The International Institute for Fisheries Economics and Trade held gender sessions in their 2012 and 2014 biennial conferences and plans to make a more concerted effort in 2016. Even so, economists have been notable by their near total absence from women/gender research in the fish sector, despite the rich material available (e.g., Williams 2014c). The World Aquaculture Society has made efforts to develop gender sessions at its recent annual conferences (e.g., Kim et al. 2015), despite, in my personal experience, strong resistance from a few senior women in the Society.

In 2014, the development charity, Aquaculture without Frontiers, established a Women's Network and created a Woman of the Month award to recognise outstanding efforts in line with their mission to help low income people through aquaculture.

Some grassroots organisations are finding their voices and developing action to suit their operating and economic needs. For example, Chix Who Fish, a group of women fishers formed on the northeast coast of the United States of America and made their first campaign the design and manufacture of female-friendly wet weather fishing gear. In Australia the Women's Industry Network Seafood Community (<http://winsc.org.au/>) represents women throughout the sector. WINSC seeks to build the profile and capacity of women and is very concerned with shoring up support for commercial fish production and the communities that depend on it.

As part of a slowing rising tide of gender activity, many government fisheries agencies have designated gender focal points; staff are receiving training in basic gender concepts, and new staff are being appointed to look after gender. Gender staffing policies are finding their way into many workplaces, mandated by national legislation or growing awareness of the importance of gender equality principles, or both.

The level and location within the organisation of new gender subject experts is of paramount importance. In a LinkedIn discussion I started in 2014, gender experts in agriculture, fisheries and forestry organisations were reported to be typically young, had little experience in the expert areas of the sector (or little experience in gender studies if coming from a technical background), had

a high turnover rate, were overloaded with work and expectations, but, in contradiction, often their leaders were not convinced of their importance. Some social scientists reported that they deliberately avoided becoming gender experts at the start of their careers in case they would be doubly undervalued as simply women researchers, working on women's issues.

Not only does gender research in the fish sector attract many researchers relatively untrained in gender research, but the sector has also lost some of its stronger gender researchers. Lacking funds and interest from the mainstream, the most experienced social scientists studying gender in the sector have drifted towards studying gender in other, better-funded domains, such as migration, transport, climate change and violence against women.

Finally in terms of human capacity, an additional challenge we have experienced in the Asian Fisheries Society Symposia is that a gulf exists between the biotechnical experts attempting gender work, and the gender experts involved in fish sector studies. The work each group does is separated by their different conceptual approaches and the ensuing gap urgently needs to be bridged.

Intermittently, broad fisheries development projects incorporate gender elements. In recent years, even some sustainable fisheries projects are beginning to consider incorporating work with women, but these projects are too preliminary to yet provide progress reports.

In the 2000s, FAO hosted two multi-country projects that included gender elements. The first was the Sustainable Fisheries Livelihoods Programme in West Africa (1999-2006), which, out of its work, developed a credible gender policy (FAO 2007). However, once the project was completed, interest in the network of gender focal points gradually diminished, reported Katrien Holvoet (Williams and Choo 2014). The second project, the Regional Fisheries Livelihoods Programme for South and Southeast Asia, had a gender component (Lentisco and Alonso 2012), which one evaluation considered under-resourced and requiring more comprehensive tools (Bueno et al. 2012).

Hillary Egna, Director of the long running AquaFish program funded by the United States Agency for International Development, reflected on 30 years

of achievements in educating and training women in aquaculture research in its partner countries. She found mixed results as, for example, many highly educated women educated in the program were not retained in upward career streams (Egna et al. 2012).

Major breakthroughs on the policy and program front are still elusive. In small scale fisheries, the human rights and gender equality principles embodied in the SSFG are potential bulwarks for future policy action, but the implementation mechanisms and priorities for the Guidelines will be subject to negotiation and interpretation. How much priority will countries give to achieving gender equality? Some clues as to the likely challenges in implementing the provisions of the Guidelines may be gleaned from the negotiations over the final form of the Guidelines. Svein Jentoft (2014) pointed out that some national delegates wanted less gender-specific language and that gender and women's references were successfully and strongly defended by the non-government organisation delegates. Clearly, concerted action is needed still to achieve progress with gender equality through the Guidelines.

Recently, a variety of institutions have taken their first steps on the journey to address gender quality. For example, with help from FAO, the New Partnership for Africa's Development (NEPAD) developed a policy brief on gender and youth in fisheries and aquaculture policy (NEPAD 2014).

As a result of the development of capacity through networks and other means, nevertheless, additional visibility for gender issues and small policy toeholds have been made. In 2010, the decadal FAO-NACA (Network of Aquaculture Centres in Asia Pacific) Global Conference on Aquaculture included, for the first time, a part chapter on gender (Williams et al. 2012b), and recognition in the Phuket Consensus.

Recommendation 5: Support gender sensitive policies and implement programmes that facilitate economic, social and political empowerment of women through their active participation in aquaculture development, in line with the globally accepted principles of gender equality and women's empowerment.

Another example is the report on fish, food security and nutrition to the United Nations Committee on Food Security that highlighted the importance of gender issues (HLPE 2014).

With such patchy interest in addressing gender issues, an impatient observer could ask: “how long will real change take?” In the livestock sector, the International Livestock Research Institute (ILRI) of the CGIAR examined its efforts and found that it had taken nearly a decade to get substantive gender activity underway. From recognising their need to address gender, ILRI took two years to do their first gender audit, followed by four years to recruit their first gender expert, another year to develop a gender strategy and then two to three years before projects were up and running (Galie et al. 2014). In total, this was nearly a decade. Many of the above examples of institutional action show that this may be a typical rate of progress, and does not even begin to indicate when real social and economic change will occur.

Discussion

The present paper has examined how formal and informal fish sector institutions have attempted to address gender issues, responding to stimuli external and internal to the sector, and often meeting with headwinds.

That gender initiatives have been launched at all is due in part to larger social and political forces, such as CEDAW and feminism, but in larger measure to more local and direct stimuli. These latter include the actions of leaders acting in professional societies and industry, e.g., Dr M.C. Nandeesha, Prof Stella Williams and Marie Christine Monfort, specific events such as gendered impacts of fisheries crises such the collapse of the Canadian cod stock, and the leading ideas of academics through seminal publications such as those by Chapman (1987) and Nadel-Klein and Davis (1988).

Such bottom-up initiatives struggle against the headwinds they meet. These headwinds start with the complete lack of awareness of gender in major policy statements such as the 1995 Code of Conduct for Responsible Fisheries. The lack of awareness may also stem from the perceived lack of urgency in achieving greater gender equality, compared to, for example, the need to address fish health and resource management issues. Other social issues, such as

the exploitation of many fish workers, have generated a sense of urgency not seen before in the fish sector.

Early efforts to address gender, for example by the 1987 FAO women in aquaculture workshop, revealed confusion over what to do. The leaders tasked women technical experts – not extension or development experts - to advise on how women could make a greater economic contribution (FAO 1987) by giving the women some activities in a project, with little regard for their social place and existing workloads (Harrison 1995). Even today, some new initiatives still focus on finding “magic bullet” ideas to promote women’s work in the fish sector, contributing to the “pitfalls of development” (Choo and Williams 2014). Furthermore, gender researchers working in the fish sector work across a patchwork of issues, lacking consensus and critical mass on key themes. These contrasts to the field of gender in agriculture research in which substantial focus is going to gender and each of three themes: land tenure, technology transfer and cash transfer mechanisms.

Lacking sound knowledge of what to do, priority themes and frequently strained for adequate resources, gender work struggles to achieve its objectives in development projects (e.g., Bueno et al. 2012) and/or to be sustained after a project is over (e.g., Williams and Choo 2014).

Lack of awareness, understanding and knowhow, and insufficient resources are each significant headwinds in their own right, but they are often underlain by overt or covert institutional resistance to gender as a sectoral priority. Rarely is such resistance documented.

Despite the headwinds, in many fish sector institutions, many initiatives on gender are progressing, particularly along four useful and non-exclusive, pathways: diagnostic approaches, human capacity development projects and, more rarely, embedded in sectoral policies and programs. Examining these pathways shows that each makes a useful contribution to helping meet the headwind challenges, but also leads to the conclusion that a more coherent approach is needed in order to make real progress.

Diagnostic approaches are essential in helping understand the context, current situation, the opportunities and even to start to suggest how to proceed.

However, as many diagnoses are carried out by competent consultants hired to overcome the lack of internal capacity, then the institutional leaders may not own the outcomes, and hence not allocate the necessary resources to implement the recommended actions. Even if the diagnosis is accepted, urgency of action may be lacking, especially if additional resources are considered rather than a redirection of existing resources.

The apparently healthy generation of new, often informal, institutions in the form of gender networks, can be interpreted in two ways. On the positive side, networks strengthen the sharing and therefore spread of knowledge and experience in the current environment of scarcity of gender expertise. On the negative side, most networks have grown up in the absence of full time dedicated gender experts in mainstream institutions. Therefore, the networks tend to act as a “patch” to cover up the lack of depth of the mainstream institutions, rather than a mechanism to join up strong existing expertise.

In terms of their effectiveness in generating policy progress, I note that the FAO and ICSF have used existing networked gender experts to bolster the case for including gender in the Small Scale Fisheries Guidelines. Other examples of effective outcomes from networking also exist. Network generated events and their products, e.g., publications, websites and social media, have also started to establish the bona fides of gender studies and the utility of their results in mainstream fisheries and aquaculture institutions. The Asian Fisheries Society events and products are good examples. Again, without the networks, such progress is not possible as the mainstream fish sector institutions are not themselves progressing professional development on gender issues. Finally, networks are spreading awareness of gender issues, in the absence of more mainstream action.

Gender projects are commendable and often have untraced legacies in terms of the human capacity they build, but unless key gender elements are sustained by the implementing agencies, and/or the project partners and recipients, little residue may remain.

Few examples of gender work fully embedded in programs and policies yet exist. Candid assessments, e.g., Galie et al. (2014) indicate that institutions may take as long as a decade to become operational on gender projects. By

themselves, these points show the lack of achievement on gender. Early indications are that the SSFG contain the possibility of progress in small scale fisheries, but that the resistance to a focus on gender in some countries as mentioned by Jentoft (2014) must be overcome if the gender provisions are to become a priority against many competing provisions of the SSFG.

Diagnosis, human capacity development and embedded gender policies and programs are all needed. To achieve a sense of need and urgency on gender issues, the fish sector requires a much more compelling case for social justice and economic contributions, well beyond the current descriptive of women's sectoral work that disregard the empowerment of women and men. In social and economic terms, the impacts of gender-based interventions will need to be evaluated.

This case will need to be tailored to each context, e.g., actual social realities of people working in the sector, the fishery, supply chain, country, and culture, and the case promoted to the relevant decision-making institutions in the company, the community, the ministry or the fisheries management body. Mainstream fish programs must include planned and funded gender elements, taking into account roles, responsibilities, the effect of gender relations and power structures. The programs and the organisations that run them will need their own, in-line gender experts to work closely with the technical experts.

Conclusions

Gender issues, particularly matters of gender equality and equity, are of social and economic importance to the fish sector, and the women and men who work in it. Despite a lack of awareness and resources, and even some intrinsic resistance to addressing gender, the fish sector has generated a number of active gender networks. These have created formal and informal institutions that have raised the profile of gender issues, in some significant cases helping ensure that gender is included in new global reports and policies, such as the Voluntary Guidelines on Small Scale Fisheries.

Rather than acting as forums in which existing institutional experts share their knowledge and coordinate their work, the networks are tending to substitute for full time gender experts in institutions. Mainstream institutions,

therefore, continue to treat gender issues as peripheral, low priority matters, outsourced to consultants if addressed at all. As a result of this marginalisation of gender expertise and know-how, the professional development of gender research is slow and relies on part-time, personally committed volunteers. This is a different situation to that in any other expert field. Under current priorities, decades, not years, are needed to instigate professional gender programs in fish sector institutions. For the products of such professional work to be translated widely into action in the field will take even longer. If a grassroots revolution calling for gender equality was simultaneously underway, this might not matter. However, since women and many lowly paid men fish workers are neither empowered nor conscious of their lack of power, marginalised and weakly developed professional gender advice is a critical weakness. While networked professionals dedicate themselves to keeping the wheels of research and development turning, the fish sector sorely needs a more radical and direct fish sector campaign for gender equality.

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References

- Anonymous. 2014. Gender and change in the spotlight: Report on the 4th Global symposium on gender in aquaculture and fisheries, 1-3 May 2013, Yeosu, Korea. *Asian Fisheries Science* 27S: 253-268.
- Brugere, C. 2014. Mainstreaming gender in transboundary natural resources projects – the experience of the Bay of Bengal Large Marine Ecosystem (BOBLME) project. *Environmental Development* 11: 84–97.
- Bueno, P., V. Salagrama and A. Bhouraskar. 2012. Evaluation of the regional fisheries livelihoods programme – GCP/RAS/237/SPA: Mid-term evaluation. FAO Office of Evaluation, Rome. 48 pp.
- Chao, N.H., C.F. Chang and E.Y. Chang. 2002. Responding to globalisation trends in fisheries: Assets of professional Taiwanese women. In *Global symposium on women in fisheries: Sixth Asian Fisheries Forum*. 29 November 2001, Kaohsiung, Taiwan. (eds. Williams, M.J, N.H. Chao, P.S. Choo, K. Matics, M.C. Nandeessa, M. Shariff, E. Tech and J.M.C. Wong), pp 65-76. WorldFish Centre and Asian Fisheries Society, Penang, Malaysia.
- Choo, P.S., S.J. Hall and M.J. Williams (eds.). 2006. *Global symposium on gender and fisheries. Seventh Asian Fisheries Forum*, 1–2 December 2004. WorldFish Center and Asian Fisheries Society, Penang. 174 pp.
- Choo, P.S., B.S. Nowak, K. Kusakabe and M.J. Williams. 2008. Guest editorial: Gender and fisheries. *Development* 51: 176–179.
- Choo, P.S. and M.J. Williams. 2014. Avoiding pitfalls in development projects that aspire to empower women: A review of the Asian Fisheries Society gender and fisheries symposium papers. *Asian Fisheries Science Special Issue* 27S: 15-31
- Chapman, M.D. 1987. Women's fishing in Oceania. *Human Ecology* 15: 267-288.
- Davis, D. 2000. Gendered cultures of conflict and discontent: living ‘the crisis’ in a Newfoundland community. *Women’s Studies International Forum* 3: 343–353.
- Defiesta, G.D. and M.B.P. Badayos-Jover. 2014. Do catastrophes exacerbate gender bias? An analysis of coastal women’s experiences of economic marginalisation in a disaster context. *Asian Fisheries Science* 27S: 97-109.
- Egna, H., L. Reifkei and N. Gitonga. 2012. Improving gender equity in aquaculture education and training: 30 years of experiences in the pond dynamics/aquaculture, aquaculture and aquaFish collaborative research support programs. *Asian Fisheries Science* 25S: 119-128.
- FAO. 1987. *Women in aquaculture: Proceedings of the ADCP/NORAD workshop on women in aquaculture*, 13–16 April 1987, FAO, Rome.

- FAO. 2007. Gender policies for responsible fisheries: Policies to support gender equity and livelihoods in small-scale fisheries. Food and Agriculture Organization, Rome, Italy. 12 pp.
- FAO. 2011. The state of food and agriculture 2010–11. Women in agriculture – closing the gender gap for development. FAO, Rome. 147 pp.
- FAO. 2012. Evaluation of FAO's support to the implementation of the code of conduct for Responsible Fisheries. Food and Agriculture Organization of the United Nations Office of Evaluation, Rome. 144 pp.
- FAO. 2013. Mainstreaming gender in fisheries and aquaculture: A stock-taking and planning exercise. Final report. FAO, Rome. 55 pp.
- FAO EAF-Nansen Project. 2015. Gender audit and recommendations for mainstreaming gender in the EAF-Nansen Project. FAO EAF-Nansen Project Report No. 24. FAO, Rome. 28 pp.
- Ferrer, A.J.G., M.L. Perez, A.T. Roxas and E.M. Avila. 2014. Expanding roles of men and women in aquatic agricultural systems in the Philippines. *Asian Fisheries Science* 27S: 185-194.
- Frangouides, K. and J. Pascual (eds). 2004. Women in fisheries and aquaculture. Proceedings of the International conference AKTEA, 10-13 November 2004, La Laguna, Spain. 315 pp.
- Frangouides, K. and J. O'Doherty. 2006. Legal recognition of women's contribution in fisheries and aquaculture in the European Union. In: Global symposium on gender and fisheries: Seventh Asian fisheries forum, 1-2 December 2004, Penang, Malaysia (eds. Choo, P.S., S.J. Hall and M.J. Williams), pp 139-148. WorldFish Center, Penang.
- Frangouides, K. and C. Quist. 2014. Opportunities and constraints of the SSF Guidelines to address social inequality - predominantly from a feminist perspective. 5th Global symposium on gender in aquaculture and fisheries, 12-15 November 2014, Lucknow, India, presentation, <https://genderaquafish.files.wordpress.com/2014/10/25b-icsf-ssf-katia-frangouides-women.pdf>. Accessed 12 January 2016.
- Gadagkar, S.R. (ed.). 1992. Women in Indian fisheries. Proceedings of the workshop on women in Indian fisheries, 27 May 1990. Special Publication 8, Asian Fisheries Society, Indian Branch, Mangalore, India. 51 pp.
- Galie, A., I. Baltenweck and D. Odongo. 2014. Gender research at ILRI over the last decade. Czech University of Life Sciences Prague from September 17 - 19, poster.
- Gopal, N., A. Ashok, P. Jeyanthi, T.K.S. Gopal and B. Meenakumari. (eds.). 2012. Gender in fisheries: A future roadmap. Workshop Report, Central Institute of Fisheries Technology, Cochin. 38 pp.
- Gopal, N., L. Edwin and B. Meenakumari. 2014a. Transformation in gender roles with changes in traditional fisheries in Kerala, India. *Asian Fisheries Science* 27S: 67-78.

- Gopal, N., M.J. Williams, M. Porter, K. Kusakabe and P.S. Choo. 2014b. Guest editorial: gender in aquaculture and fisheries – Navigating change. *Asian Fisheries Science* 27S: 1-14.
- Gopal, N., M.J. Williams, M. Porter and K. Kusakabe 2016. Guest editorial: Gender in aquaculture and fisheries – The long journey to equality. *Asian Fisheries Science* 29S: 1-17.
- Harper, S., D. Zeller, M. Hauzer, D. Pauly and U.R. Sumaila. 2013. Women and fisheries: Contribution to food security and local economies. *Marine Policy* 39: 56-63.
- Harrison, E. 1995. Fish and feminists. *IDS Bulletin* 26(3): 1–18.
- HLPE. 2014. Sustainable fisheries and aquaculture for food security and nutrition. A report by the high level panel of experts on food security and nutrition of the committee on World Food Security, Rome. 118 pp.
- ICSF. 2010. Recasting the net: Defining a gender agenda for sustaining life and livelihoods in fishing communities. Proceedings of the workshop of the 7-10 July 2010 Mahabalipuram, India. International Collective in Support of Fishworkers (ICSF). 87 pp.
- Jentoft, S. 2014. Walking the talk: Implementing the International voluntary guidelines for securing sustainable small-scale fisheries. *Maritime Studies* 13: 1-16.
- Kantor, P. and M. Apgar. 2013. Transformative change in the CGIAR research program on aquatic agricultural systems. Penang, Malaysia. Program Brief: AAS-2013-25. 11 pp.
- Kim, J.Y., B. Kumari and J. Cobcroft. 2015. Women in aquaculture and fisheries at World Aquaculture 2015, Jeju, Korea. <http://genderaquafish.org/2015/06/17/women-in-aquaculture-and-fisheries-at-world-aquaculture-2015-jeju-korea>. Accessed 29 June 2015.
- Kusakabe, K. and P. Sereyvath. 2014. Women fish border traders in Cambodia: What shapes women's business trajectories? *Asian Fisheries Science* 27S: 43-57.
- Leisher, C., G. Temsah, F. Booker, M. Day, B. Agarwal, E. Matthews, D. Roe, D. Russell, L. Samberg, T. Sunderland and D. Wilkie. 2015. Does the gender composition of forest and fishery management groups affect resource governance and conservation outcomes: A systematic map protocol. *Environmental Evidence* 4:13, DOI 10.1186/s13750-015-0039-2.
- Lentisco, A. and E. Alonso. 2012. On gender mainstreaming strategies and tools in fisheries development projects: RFLP gender strategy and lessons from the Asia-Pacific region. *Asian Fisheries Science* 25S: 105-117.
- Lentisco, A. and R.U. Lee. 2015. A review of women's access to fish in small-scale fisheries. *Fisheries and Aquaculture*, Circular No. 1098. FAO, Rome, Italy. 36 pp.

- Lim, C.P., Y. Ito and Y. Matsuda. 2012. Braving the sea: The amasan (women divers) of the Yahataura fishing community, Iki Island, Nagasaki Prefecture, Japan. *Asian Fisheries Science* 25S: 29-45.
- Maal, B. 2013. Rich aquaculture – poor fisheries communities – growth, equity and gender in rural communities. 4th Global symposium on gender in aquaculture and fisheries, 1-3 May 2013, Yeosu, Korea, http://genderaquafish.files.wordpress.com/2013/04/ppt_14.pdf. Accessed 12 January 2016.
- Monfort, M.C. 2015. The role of women in the seafood industry. GLOBEFISH research programme, Vol. 119, FAO, Rome. 67 pp.
- Nadel-Klein, J. and D. Davis (eds.). 1988. To work and to weep: Women in fishing economies. Social and Economic Paper 18. St. John's, New Foundland: Institute of Social and Economic Research, St. Johns Memorial University of New Foundland.
- Nandeesh, M.C. and H. Hanglomong (eds.). 1997. Women in fisheries in Indo-China countries. Proceedings of the seminar on women in fisheries in Indo-China countries, Bati Fisheries Station, PADEK, Cambodia. 127 pp.
- Nandeesh, M.C. and N. Heng (eds.). 1994. Women in Cambodian fisheries. Proceedings of the national workshop on women in fisheries, Bati Fisheries Station, PADEK, Cambodia. 167 pp.
- Nayak, N. 2014. Voluntary guidelines on securing fisheries in the context of food security and poverty eradication: Process, features and potential hurdles. 5th Global symposium on gender in aquaculture and fisheries, 12-15 November 2014, Lucknow, India. <https://genderaquafish.files.wordpress.com/2014/10/25a-icsf-ssfg-nalini-nayak.pdf>. Accessed 12 June 2015.
- Neis, B. 2000. In the eye of the storm: Research, activism and teaching within the Newfoundland fishery crisis. *Women's Studies International Forum* 23: 287–298.
- NEPAD (New Partnership for Africa's Development). 2014. The Pan African Fisheries and Aquaculture policy framework and reform strategy: Gender and youth in fisheries and aquaculture - harnessing equitable contribution of all people to fisheries and aquaculture development. NEPAD PAF Policy Brief 11. 6 pp.
- Ostrom, E. 2005. Understanding institutional diversity. Princeton University Press, Princeton. 355 pp.
- Porter, M. 2014. What does feminist methodology contribute to gender and fisheries science? *Asian Fisheries Science Special Issue* 27S: 119-133.
- Shanthi, B., M. Krishnan and A.G. Ponniah. 2012. Successful women entrepreneurs in aquaculture sectors: Case studies of Tamil Nadu, India. *Asian Fisheries Science* 25S: 177-185.

- Siar, S.V., and L.M. Cañeba. 1998. Women and the question of sustainable development in a Philippine fishing village. *International Journal of Sustainable Development and World Ecology* 5: 51-58.
- Soejima, K. 2014. Changes in the roles of women and elderly persons within oyster aquaculture in Japan. *Asian Fisheries Science* 27S: 59-66.
- UNDP SU/TCDC. 1995. Regional workshop on the role of women in fisheries development in the Asia-Pacific, Report of proceedings, Iloilo, Philippines.
- Williams, M.J., M.C. Nandeesh, V.P. Corral, E. Tech and P.S. Choo (eds.). 2001. International symposium on women in Asian fisheries: Fifth Asian fisheries forum. Asian Fisheries Society, 13 November 1998, Chiang Mai, Thailand. WorldFish Centre and Asian Fisheries Society, Penang. 181 pp.
- Williams, M.J., N.H. Chao, P.S. Choo, K. Matics, M.C. Nandeesh, M. Shariff, E. Tech and J.M.C. Wong (eds.). 2002. Global symposium on women in fisheries: Sixth Asian fisheries forum. 29 November 2001, Kaohsiung, Taiwan. WorldFish Centre and Asian Fisheries Society, Penang. 201 pp.
- Williams, M.J., M. Porter, P.S. Choo, K. Kusakabe, V. Vuki, N. Gopal and M. Bondad-Reantaso (eds.). 2012a. Guest editorial: Gender in aquaculture and fisheries - Moving the agenda forward. *Asian Fisheries Science* 25S: 1-13.
- Williams, M.J., R. Agbayani, R. Bhujel, M.G. Bondad-Reantaso, C. Brugère, P.S. Choo, J. Dhont, A. Galmiche-Tejeda, K. Ghulam, K. Kusakabe, D. Little, M.C. Nandeesh, P. Sorgeloos, N. Weeratunge, S. Williams and P. Xu. 2012b. Sustaining aquaculture by developing human capacity and enhancing opportunities for women. In: *Farming the Waters for People and Food*. (eds. R.P. Subasinghe, J.R. Arthur, D.M. Bartley, S.S. De Silva, M. Halwart, N. Hishamunda, C.V. Mohan and P. Sorgeloos), pp 785-874. Proceedings of the Global Conference on Aquaculture 2010, Phuket, Thailand. 22-25 September 2010. FAO, Rome and NACA, Bangkok.
- Williams, M.J. and P.S. Choo. 2014. Call to action? Survey highlights the shortcomings of business-as-usual in addressing gender equality quality in the fishery sector. *Asian Fisheries Science* 27S: 233-248.
- Williams, M.J. 2014a. Twenty-five issues of the women in fisheries information bulletin: The story within the story of 25 years of women in fisheries at SPC. *SPC Women in Fisheries Information Bulletin* 25: 5-10.
- Williams, M.J. 2014b. Essay: Dr M.C. Nandeesh -The man who brought gender awareness to the Asian Fisheries Society. *Asian Fisheries Science* 27S: 225-232.
- Williams, M.J. 2014c. Does women's empowerment have economic benefits? International Institute for Fisheries Economics and Trade Conference, 7-11 July 2014, Brisbane, Australia. <http://www.slideshare.net/Genderaquafish/does-womens-empowerment-have-economic-benefits>. Accessed 17 July 2015.

World Bank. 2012. Hidden harvest: The global contribution of capture fisheries, World Bank, Report No. 66469-GLB, World Bank, Washington DC. 69 pp.