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WOMEN IN FISHERIES
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Inside this issue

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Editor's note

Welcome to the 23rd issue of the *Women in Fisheries Information Bulletin,* which highlights gender roles in coastal fisheries, women's fishing activities in communities, climate change and gender issues in development.

In the first article, "Gender and change in the spotlight: Researchers must engage with grassroots", Meryl Williams reports on the changes in the fishery sector caused by various factors such as globalization, environmental disasters and modernization to name a few. She then challenges researchers to target grassroots groups to include gender on the fishery sector agenda. In this article, she also reports on presentations given at the Fourth Global Symposium on Gender in Aquaculture and Fisheries (GAF4), at the recent Asian Fisheries Society conference in Korea. The four major threads that ran through GAF4 were the gendered impacts of fishery sector change, gender assets and roles, challenges and tools to meet future needs, and the road to mobilization to achieve gender equality in aquaculture and fisheries.

In "Moving the gender agenda forward in fisheries and aquaculture", Meryl Williams and co-authors conclude that gender in aquaculture and fisheries research has not progressed as rapidly as they had hoped. Despite this, there is also a feeling of optimism because of the emerging interest in research in gender in aquaculture and fisheries during the Third Global Symposium on Gender in Aquaculture and Fisheries (GAF3) in Shanghai, China in 2011. Women still play critical roles in fish supply chains and are often undervalued and less appreciated than men. The slow progress in the advancement of women in aquaculture and fisheries is an indication of a global lack of priority and resources. The authors conclude that there are several reasons why there is slow progress in gender research in aquaculture and fisheries. Because gender issues are not on the policy agenda and action plans, there are limited resources to support gender work. A stronger conceptual framework needs to be developed for gender work before it can be disseminated and used.

In her paper on gender assessment of the Pacific Adaptation to Climate Change (PACC) Project, Sarah Whitfield assesses the need to integrate gender in the PACC Project. She undertook a comprehensive literature and desk review of all project documents before she visited the selected Pacific Island countries for consultations. Her findings strongly indicated the need to include gender analysis in the original project design and planning. In addition, there is a real need to support and advocate for gender mainstreaming in climate change adaptation. Furthermore, there is also a need to upscale and improve the integration of gender into climate change adaptation. Good practices and lessons learned about gender and climate change should be shared at national and regional levels.

In the fourth article of this issue, Karen Bernard reports on the study she conducted about how men and women use their time during a typical day in various locations of Tuvalu. The study revealed that women spend substantially more time cooking, washing and cleaning than the men. Women's main activities, therefore, require the use of water. In contrast, men spend more time than women tending to home gardens and feeding pigs and poultry. Men's main activities use small amounts of water when compared to women's main activities. Only men are engaged in tending *pulaka* pits and in fishing from boats. Gleaning from reefs or mangroves was carried out only by people from Funafuti, and tending to *pulaka* pits was reported to be done only by men in Nanumea. Neither men nor women engage in farming for commercial sale.

In the following article, Bagsit and Jimenez describe how gender roles and responsibilities in mangrove reforestation programmes in the Philippines were undertaken. Women's participation was higher in the planning process, during meetings, nursery development and in maintenance, as well as in mangrove management and protection. Men were involved in the construction and maintenance of fences in the mangrove areas. Women tended to remain active longer than men in the running of the organization, and undertook a variety of roles in the mangrove replanting and nursery activities. Where gender comparisons were possible, men tended to take on more leadership positions and tasks requiring greater physical strength, but women performed many different roles and substituted for husbands when they were not available. The women also earned low incomes from their other activities and valued the small additional income from the sales of mangrove seedlings and propagules.

In the article "Gender roles in the seaweed industry cluster of the southern Philippines: The DICCEP Experience", Bacaltosi and co-authors describe gender roles in the long value chain of seaweed production in Davao del Sur, Philippines. The project was designed to increase the income of fishers, improve the regional contribution of the industry, and sustain productivity and competitiveness. Three pilot projects were undertaken and these were the establishment of seaweed farms for the benefit of farmers, the creation of a directory of seaweed farmers and traders, and the development of a database on seaweed production. About 95 farmers and housewives were trained on seaweed value-adding and entrepreneurship. These projects helped farmers to generate income and develop new value-added seaweed products. Although men took the main leadership roles, women were active in production and, particularly, post-harvest processing.

Three papers from Yemaya are also included in this issue of the bulletin. In "Strengthening livelihoods", Lentisco and Thao explain how a fisheries livelihood programme has helped improved women's roles and participation in decision-making in the Vietnamese fisheries sector. In "Net gains: YouTube is a sea of resources for documentaries on women in fisheries", Ramya Rajagopalan describes how YouTube as an online resource is increasingly being used by organizations to upload video content on specific issues. The third article presents "Chronicles of oblivion" a 25-minute documentary film on female fishworkers from Odisha, India.

The bulletin ends with a short article about two leaflets produced by the Secretariat of the Pacific Community to promote careers for women and men in fisheries.

I welcome any feedback on these articles and encourage you to submit articles on gender and fisheries issues from your country or from your region for the next issue of this bulletin.

Veikila Vuki
Oceania Environment Consultants

Cover picture: Elderly resident of Niutao, Tuvalu (image: Karen Bernard).

PIMRIS is a joint project of five international organisations concerned with fisheries and marine resource development in the Pacific Islands region. The project is executed by the Secretariat of the Pacific Community (SPC), the Pacific Islands Forum Fisheries Agency (FFA), the University of the South Pacific (USP) and the Pacific Regional Environment Programme (SPREP). This bulletin is produced by SPC as part of its commitment to PIMRIS. The aim of PIMRIS is to improve the availability of information on marine resources to users in the region, so as to support their rational development and management. PIMRIS activities include: the active collection, cataloguing and archiving of technical documents, especially ephemera ('grey literature'); evaluation, repackaging and dissemination of information; provision of literature searches, question-and-answer services and bibliographic support; and assistance with the development of in-country reference collections and databases on marine resources.

PIMRIS
Pacific Islands Marine Resources Information System

Gender and change in the spotlight: Researchers must engage with grassroots groups[1]

Meryl Williams[2]

Fishery changes — caused by modernization and mechanization, globalization and environmental disasters — shift the working spaces and continually destroy and create jobs and livelihoods, and bring greater overlaps in women's and men's roles in the household, factory and market place. In view of these developments, the time is ripe for researchers to reach out to grassroots groups to get gender more firmly on the fishery sector agenda.

"Gender and fisheries studies are increasingly addressing change and how women and men are affected by them," said Dr Nikita Gopal who led the Program Committee that organized the highly energetic and successful 4th Global Symposium on Gender in Aquaculture and Fisheries (GAF4). "For example, small changes such as bringing migrant labour into Japan's oyster industry and large changes such as formalizing cross-border fish trade in Cambodia brought positive changes for some women, and setbacks for other women and men, including the elderly. GAF4 also continued to fill in the picture for women and gender in the fishery sector."

At GAF4, 28 oral presentations, 1 poster and 4 mini-workshops and panels were given. Feedback declared GAF4 the most successful and highest quality of the 6 women in fisheries and gender in aquaculture and fisheries events held by the Asian Fisheries Society over the last 15 years.[3]

Four major threads ran through GAF4:

1. the gendered impacts of fishery sector change;
2. gender assets and roles;
3. challenges and tools to meet future needs; and
4. the road to mobilization to achieve gender equality in aquaculture and fisheries.

Out of these threads, researchers and grassroots representatives will conclude that they need to suspend pre-conceived ideas about gender roles and relationships because many of these are in flux. Researchers need to develop further and make better use of rigorous qualitative social science research methods. Through their participatory nature, and to ensure ethical approaches, such methods will bring researchers and grassroots participants closer, which is an essential step in mobilizing support for gender equality.

The AquaFish Cooperative Research Support Program (AquaFish-CRSP) Best Paper prize was won by Kumi Soejima (Japan) for her paper "Changes in the roles of women and elderly persons within oyster aquaculture in Japan." The AquaFish-CRSP Best Student Paper prize was won by Piyashi Deb Roy (India) for her paper (with R. Jayaraman, M. Krishnan and K. Criddle) "Importance of mangrove conservation and valuation to women – A case study of Pichavaram mangroves in India."

A special part of GAF4 was the Special Session in Honour of Dr M.C. Nandeesha, sponsored by the AquaFish-CRSP and dedicated to the life and work of Dr Nandeesha who established the Asian Fisheries Society (AFS) gender in aquaculture and fisheries work.

GAF4 was supported by AFS, grants from the AquaFish Cooperative Research Support Program of the USA, the Norwegian Agency for International Development, the Indian Council for Agricultural Research, the Network for Aquaculture Centres in Asia-Pacific, the Korean local organizing committee for the 10th Asian Fisheries and Aquaculture Forum, and the home agencies of the many presenters and participants.

Nothing stands still: The gendered impacts of fishery sector and personal change

Fish production, processing and trade are all changing, interacting with women's and men's lives and their business decisions, often in surprising ways.

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[1] This article is an extract from the full report of GAF4. The full report can be viewed at: http://genderaquafish.org/gaf4-2013-yeosu-korea/

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[3] The first five events were: 1998 Asian Women in Fisheries (Chiang Mai, Thailand), 2001 Global Women in Fisheries (Kaohsiung, Taiwan), 2004 Global Gender and Fisheries (Penang, Malaysia), 2007 2nd Global Gender and Fisheries (Kochi, India), 2011 3rd Global Gender in Aquaculture and Fisheries (Shanghai, China). See www.genderaquafish.org for the proceedings and other information.

Fish trade and processing

Eight years after her earlier study,[4] Kyoko Kusakabe revisited the situation of women trading fish from Tonle Sap in Cambodia across the border to Thailand.[5] The trade has changed: fish for export has declined, trade is now formal and other economic opportunities have opened up in Cambodia, leading to different outcomes for different women traders. Some savvy traders grew to become larger traders then moved to other businesses; others grew and went bankrupt; some maintained medium sized businesses and took in Vietnamese- and Thai-imported fish; others stayed small; and some new ones entered. The outcomes demonstrated interplay between the economic positions of the traders and influences from their own changing life stages and changing responsibilities, including reproductive responsibilities. The outcomes challenged earlier assumptions and exposed contradictions. For example, women could not have dominated trade because it was suitable "women's business", and still succeeded in what is a seen as a risky, dangerous and competitive business.

In Japan, local young women and elderly women and men have long been employed in shucking oysters, keeping smaller family farms viable, especially in the main farming area around the Seto Inland Sea. But the industry is now undergoing many changes. Kumi Soejima's prize-winning case study in Oku town, Okayama Prefecture delved into how the apparently small act of bringing in young Chinese women workers had far reaching positive and negative impacts on women and men.[6] Local women and elderly women and men lost jobs that gave them a sense of purpose in useful roles, and oyster enterprises developed along polarized paths, some stagnating in adhering to traditional practices, others scaling-up and diversifying their oyster products. Some women in oyster-farming families, according to their individual means and preferences, have taken the opportunity of being freed from the shucking work to become more significant business actors in family enterprises. Among the massive changes in the Japanese oyster industry, the gender changes are significant, complex but little studied and remedial actions to assist those affected, especially the elderly, are not happening.

When GAF4 was held in Yeosu in early May, the world was still reeling at the mounting death toll (eventually 1,127 people) in the collapse of a Dhaka, Bangladesh building that housed export garment factories. When Mohammad Nuruzzaman spoke about social justice and rights of 50,000 workers (80% of them women) in 90 shrimp and prawn processing factories in Bangladesh, he addressed a sensitized audience.[7] The processing sector has been harshly criticized locally and internationally for not complying with labor laws and basic human rights. To overcome these problems and spurred by the European Union and United States trade sanctions, the United Nations Industrial Development Organization joined with the Bangladesh government and the export industry in developing manuals, training trainers on the labor laws and their implementation, assessing compliance and interviewing workers over their conditions. Progress is perceptible but still leaves much to be desired. Awareness has been raised but many top executives are still not convinced; the intermittent nature of the processing loads means that much work is contract labor and compliance is thus harder to achieve; and men still fare better than women in the workplace.

Nuruzzaman contrasted three different viewpoints on women's labor conditions in the processing factories: the patriarchal, the feminist and the neutral views (Table 1). Each of these views

Table 1. Different viewpoints on women's labor conditions in the processing factories.

Patriarchs' view	Feminists' view	Neutral view
• Jobs have been created • Status of workers has escalated both in the family and in society • Thousands of other people are still unemployed • The workers can enjoy their spendings • The workers take part in decision-making in their families	• Women experience strong discrimination • Women are deprived of rights and benefits • Gender opportunities are unequal • Violence is happening against women at work	• Women's practical gender needs are being met • Good work space is created • The understanding of strategic gender needs is increasing

Source: Mohammad Nuruzzaman, http://genderaquafish.files.wordpress.com/2013/07/ppt_20.pdf

[4] Kusakabe K., Sereyvath P., Suntornratana U. and Sriputinibondh N. 2006. Women in fish border trade: The case of fish trade between Cambodia and Thailand. p. 91–10. In: Global Symposium on Gender and Fisheries. Choo P.S., Hall S.J. and Williams M.J. (eds). Seventh Asian Fisheries Forum, 1–2 December 2004. Penang, Malaysia: World Fish Center and Asian Fisheries Society.

[5] http://genderaquafish.files.wordpress.com/2013/04/ppt_7.pdf

[6] http://genderaquafish.files.wordpress.com/2013/07/ppt_17.pdf

[7] http://genderaquafish.files.wordpress.com/2013/07/ppt_20.pdf

has a degree of truth and some shortcomings. New trade unions show some promise of redressing female and male workers' injustices in fish processing workplaces. However, vigilance is needed because the export sector is likely to still continue to develop strongly and be under pressure to keep costs low to ensure profits.

Aquaculture and fishery production changes

Aquaculture in Norway is one of the greatest global success stories. Norway's farmed fish production overtook wild-capture fish production in 2005, thanks largely to increased efficiency in Atlantic salmon (*Salmo salar*) production. But as Bodil Maal (Senior Gender Adviser for the Norwegian Agency for International Development) revealed, the 600% increase in salmon production since 1990 had been accompanied by a per employee production increase of 450%, resulting in nearly jobless growth.[8] More worryingly, women's employment in the salmon industry plummeted from 20% in 1990 to just 9% in 2010. This was largely due to the concentration of farm ownership, accompanied by centralization and heavy mechanization of operations that decimated family farms and undermined local community ownership. More than half the production is done by just six stock-exchange listed companies.

In India, the state of Kerala is the most important fishing state in terms of its share of exports (40%) and the intensity of production relative to coastline. Since the 1960s, fisheries mechanization has been among the most relentless transformations but its positive and negative consequences on gender and other socio-cultural dimensions has not been well studied, according to Nikita Gopal.[9] She and colleagues analysed the largely negative outcomes for women in the offshore ring seine fishery, stake net fishery and clam fisheries of the backwaters. Conducted by the Latin Catholic community, the capital intensive ring seine fishery has become more so. As the landings have moved from beaches into harbors, women fish processors and traders have been marginalized and fish handling has become organized and taken over by men. The stake net and clam fisheries are operated by the Hindu Deevara community. Stake nets rely on traditional rights to the fishing sites. Women are important in processing the landed stake net catch. Stake net site inheritance and granting of rights as women's dowry has been suspended for two generations as the government stopped formal support for the area rights. Widows and single mothers often hold and lease out area rights to survive. In clam harvesting, women once harvested clams along with the men but men have taken over and mechanized the fishery, effectively restricting the women's work to shucking and marketing the meat. In the cement industry, the shells of the black clam *(Villorita cyprinoides)* are used as lime because of their high calcium content.

Jenny Shaw and Leonie Noble (a researcher, and a fisher and community leader, respectively, both from Australia), used Photovoice to investigate the community impacts of environmental and fishery change in Houtman Abroholas, low islands off Western Australia that are at the edge of severe climate and resulting fishery impacts.[10] Fished for 100 years, the islands entered a new phase of community fishery consultation in the 1990s under a women state premier. Unfortunately, this consultation was discontinued under subsequent conservative governments and women's inputs to the consultation process were lost, to the detriment of community-friendly management decisions on the climate-affected western rock lobster (*Panulirus cygnus)* fishery. The investigation graphically documented the devastating collapse of a once-vibrant community and its social, cultural and physical assets.[11] Women and families have suffered a loss of services, long absences and stress of reduced incomes from husbands, sometimes leading to domestic violence and loss of intergenerational connections. The study made a compelling argument not only for including women in community leadership and consultation but also in fishery management decisions. Women postulated that a different management regime (seasonal closures rather than quotas) could have saved the islands' communities as well as the fishery.

Angela Lentisco shared some lessons learned from the Spain-FAO Regional Fisheries Livelihoods Programme (RFLP) of South and Southeast Asia for which she is the gender advisor.[12] RFLP is taking a principled approach to development and turning up pleasant surprises in traditional gender role reversals. In a number of countries, RFLP finds that men are providing support to their wives who were carrying out alternative livelihoods activities. For example, in Vietnam, husbands are helping their wives with chicken raising, while in Sri Lanka men are supporting their wives' handicraft group and also making home gardening a family activity.

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[8] http://genderaquafish.files.wordpress.com/2013/04/ppt_14.pdf

[9] http://genderaquafish.files.wordpress.com/2013/07/ppt_16.pdf

[10] http://genderaquafish.files.wordpress.com/2013/04/ppt_9.pdf

[11] In May 2013, the museum exhibition based on this work won an award in its class in the Australian Museums and Galleries National Awards (MAGNAs).

[12] http://genderaquafish.files.wordpress.com/2013/04/ppt_33.pdf

RFLP teamed up with the Vietnam Women's Union to hold workshops to raise awareness of gender issues among members of fishing communities. A large number of men (approximately 40%) were also involved and this helped dispel the impression that gender was "women's business" and led to far more useful discussions on gender roles in the community. In Sri Lanka, going out to sea to fish is almost exclusively the role of men. However, by involving women in RFLP's safety-at-sea training for fishers, women learned about the importance of life jackets and other basic safety steps and encouraged their husbands, brothers, fathers and sons to adhere to them.

A great diversity of gender assets and roles

Presentations from countries in Africa, Asia and West Asia, explored the spaces, assets and roles of women in aquaculture and fisheries. We mention a selection of the presentations.

India

The edible Indian oyster (*Crassostrea madrasensis*) seems to have good potential for culture based on natural spatfall. A project in the coastal community of Moothakunnam in Ernakulam District, Kerala, by Femeena Hassan and colleagues targeted women's self help groups (SHGs) as a vehicle for testing socio-technical extension.[13] The district has a high ratio of women to men but many women are not involved in the economy directly. SHGs were trained in rack and string (ren) culture farm management, the techniques and importance of depuration and hygienic post-harvest processing, including of value-added and long life products. Early results show that the enterprises can be profitable. A longer-term challenge will be to keep the women in charge if, as expected, the enterprises become profitable.

The Pichavaram mangrove area of Tamil Nadi, southeast India, bore the brunt of the 2004 Indian Ocean tsunami, and one village, MGR Thittu was almost totally destroyed. Piyashi Deb Roy used this village as a study site to estimate the value villagers now put on mangroves for coastal protection.[14] Her presentation won the Best Student Paper Award. Using contingent valuation methods, she investigated village people's willingness to pay for mangrove protection. Slightly more women (79%) than men (67%) were willing to pay. Men, on average were willing to pay more than women, but the spreads of hypothetical payments were large for both women and men. Women's reasons for being willing to pay were wide ranging, including ecological (e.g. protection against storms), cultural (e.g. fisheries and firewood), family livelihoods (e.g. crab fattening, mangrove nurseries), ethical (e.g. a place of worship) and recreational uses in their leisure time. Women made a strong case for being given management responsibility for the mangroves, given their wider use and appreciation of the many values of the mangroves. Their stewardship could be helped through training to realize their life and livelihood interests.

Nepal

As reported by Sunila Rai,[15] a successful sequence of projects introduced polyculture of carp and small indigeneous species (SIS) to women farmers, predominantly of the important Tharu ethnic group from the foothills of the Himalayas. The SIS (14% of production) were intended mainly for household consumption because of their high vitamin A and iron levels, and the carp (86% of production, six species) for sale. Biotechnical problems were sorted out in the early years of the project in Chitwan and Kailali districts, and impact studies showed that farmers consumed nearly half their production, giving them a fish consumption rate twice the national average. In addition to nutritional and income benefits, the training and project experiences built collective assets such as confidence and local cooperation. Individual assets also grew. Leaders emerged, such as one woman who rose to become the cooperative president and another who became a technical field supervisor.

Oman

Many official reports from Arab countries say that women do not fish due to religious and cultural reasons. But in Oman, an old saying is that "behind every boat, is a woman," referring to women's activities in all stages of fishing. Modern Oman, however, is reducing women's fishing space but, as Khlfan Al Rashdi found, in special niche fisheries women are still active.[16] In Al Wusta region, near the "empty quarter" of the Arabian Peninsula, Bedouin women harvest gastropods (locally called *rahas*), echinoderms (especially high-value sea cucumbers), cephalopods and bivalves. In the marine snail fishery, women control the whole operation — from collecting, processing and selling the dried meat and the operculums (which are mixed with frankincense, burned and used as perfume) to middlemen. In the case of the overfished sea cucumbers, women make up half the fishers in the Mahout area and work on contract to a trader. The women, whose work is supported by their

[13] http://genderaquafish.files.wordpress.com/2013/07/ppt_10.pdf
[14] http://genderaquafish.files.wordpress.com/2013/07/ppt_12.pdf
[15] http://genderaquafish.files.wordpress.com/2013/07/ppt_25.pdf
[16] http://genderaquafish.files.wordpress.com/2013/07/ppt_11.pdf

families, are mainly literate, married and have children. The biggest constraints the women experience are the long distances to the fishing sites and the low prices they obtain for their products.

Challenge, institutions and tools to meet future needs

Poh Sze Choo (Malaysia) explored in-depth the different concepts of power and empowerment used in development.[17] She used the concepts as a frame within which to assess gaps in women and gender, and fisheries studies to date, especially as reflected by those presented in previous AFS, WIF and GAF events. She noted how most studies addressed the local and household level and rarely how women's lives were impacted by broader scale or sectoral processes, with the exception of a few works on global warming and globalization. Many project studies focused on economic empowerment of women, and ignored important other meaningful dimensions of empowerment. She presented three power frameworks, including Longwe's[18] practical schema that has a hierarchy of empowerment: welfare, access, conscientisation, mobilization and control. Although economic empowerment may be an important first step, it is rarely sufficient to get women beyond the lowest level (welfare), particularly through project-based help, as this is usually short lived.

Steps forward in key institutions

According to Dr Meenakumari, India's national leader of fisheries research, (presented by Nikita Gopal)[19], the number of women professionals in Indian fisheries is gradually increasing, as indicated in the workforce statistics from the Indian Council for Agricultural Research. In 2001, women were 14% of the professionals, in 2012 they comprised 20%. In classification, just over half are senior or principal scientists and more than 60% of PhD holders have done their studies in more than one state, and a similar percentage have moved institutions for work. Women tend to have led fewer projects than men and not taken advantage of as many training opportunities. These statistics lead to suggestions for women professionals to improve their careers by stepping up for leadership and training opportunities, although they have already shown their preparedness to move for education and work.

The Network of Aquaculture Centres in Asia-Pacific (NACA) took advantage of the presence of a number of gender in aquaculture experts to conduct a workshop to give it guidance on fulfilling its Governing Council commitment (March 2012) to mainstream gender into the NACA programme. The workshop asked the question: How can NACA mainstream gender into its work programme, and what strategies can it develop to achieve this?

- NACA is an important intergovernmental platform for the Asia-Pacific region, which produces the vast majority of world aquaculture products and supports most of the fish farmers; therefore, it should take a leading role on raising the profile of gender equality opportunities and issues. Further, its excellent track record in publishing and for collaborative studies makes it an ideal platform for three priority actions.
- First, NACA should develop a thematic gender gap report for Asia-Pacific aquaculture. The report should address what is being done in member countries, and what needs more attention. The paper should lift the profile of what countries are already doing and help raise NACA's profile as a champion on gender in aquaculture. The gender gap report should also be accomplished by using experts in member countries and collaborating with other regional or international bodies.
- Second, NACA should craft clear messages, in simple and concrete language on why women are important in aquaculture, what the problems are to their greater contributions, and endeavor to have women's organizations and policy-makers rally to improve the situation. The message should not be complicated and should avoid complex academic gender terms.
- Third, NACA should develop a project targeted at women entrepreneurs in aquaculture, at the small and medium enterprise level. This should be designed to fit with NACA's Sustainable Farming Systems Programme.
- For many attendees, Marilyn Porter's (Canada) magnificent overview[20] of what qualitative, feminist research methods could contribute to gender research in fisheries and the workshop she led was a highlight of GAF4. Marilyn gave an authoritative review of the rise of feminist scholarship from the 1970s and the early "add women and stir" methods, to the rise of rigorous ethnographic and qualitative approaches in which participants became partners in the research enterprise, not simply "subjects". This dimension of the research can lead to extraordinary impacts, as reported by Jenny Shaw and

[17] http://genderaquafish.files.wordpress.com/2013/04/ppt_6.pdf
[18] Longwe S.H. 2002. Spectacles for seeing gender in project evaluation. Paper presented in GEM Africa Workshop, 16 November 2002.
[19] http://genderaquafish.files.wordpress.com/2013/04/ppt_33.pdf
[20] http://genderaquafish.files.wordpress.com/2013/04/ppt_30.pdf

Leonie Noble.[21] The product of the community-based research on the impacts of fisheries management and climate change on the people of the Houtman Abrolhos (see above) was an award-winning museum exhibition called "Scene Change"[22] that had a profound emotional impact on those who saw it, particularly fishers who felt deeply and personally touched.

- Applying qualitative methods does not deny that data — especially baseline and background information — are needed, but she urged attendees to recognize that qualitative methods ask different questions, the answers for which often cannot be measured. In analyzing the qualitative information gathered, researchers had to "get used to not having tables and graphs". However, non-quantitative methods were rigorous and properly used, and capable of delivering profound insights and explanations.

In reviewing a comprehensive list of methods (see table), Marilyn outlined the uses for which each was particularly suited and the challenges and compromises that may be needed.

- Interview research, especially in depth, open ended interviews
- Ethnography
- Cross cultural, comparative research
- Case studies
- Action, community-based, participatory research
- Literature-based research, content research
- Life story, narrative research, autobiography and oral history
- Visual, audio, dramatic and multimedia research (e.g. photo research)
- Historical research
- Diaries and journals

Some of the compromises may include the need to work through primary interviewers (e.g. due to time and language constraints, the confounding of results from research team interactions and hierarchies, and the dilemmas of what to do when negative social issues are discovered in the field, such as domestic violence and sexual exploitation of workers). AFS GAF researchers need to take more notice of such ethical issues. Ethical questions pervade feminist (and therefore gender) research.

Marilyn concluded her presentation by saying that there are no actual "feminist methods", just feminist use of good research methods that remain true to feminist principles of gender equality and can contribute valuable perspectives to fisheries research.

Gender equality is only possible through mobilization

In her presentation opening the session in honor of Dr M.C. Nandeesha (1957–2012), Meryl Williams showed how the AFS gender in aquaculture and fisheries efforts resulted from the specific and visionary efforts of just one person, Dr Nandeesha.[23] She traced his early steps of holding symposia on women in fisheries in the Indian Branch of the AFS and in Cambodia and countries of Indo-China, followed by getting a "toe in the door" at the triennial Asian Fisheries and Aquaculture Forums. The first activities were non-threatening ways of introducing the topic (e.g. a women in fisheries photo competition). He also brought in partners and worked to get the formal WIF/GAF symposia in AFS made academically respectable through well-published proceedings and awards. His own publications showed a concern for: a) how institutions, such as CARE-Bangladesh, delivered on their policy promises on gender equality through changing their staff recruitment policies; b) getting the basic facts and statistics together to track gender in education and research agencies; and c) how the AFS was faring in electing women Councillors.

Meryl concluded that Dr Nandeesha was a visionary committed to social justice, and with an intuitive understanding of how to motivate others to act and bring about institutional change. His loving wife, Rajeswari Dayal B said of him: "So though Nandeesh is not with us physically, his thoughts and deeds are there to guide us through these difficult times."

In order to gather views and ideas of what works and what is still needed to strengthen networking in gender, Meryl Williams, Poh Sze Choo, and Dr M.C. Nandeesha before his untimely death, developed a survey of experts.[24] The survey elicited 41 (78% from women) detailed and thoughtful responses, addressing the four-step process of forming influencing networks (based on Actor Network Theory[25]).

The first step, "Problematization", in which the problems and the "actors" are defined, received the

[21] http://genderaquafish.files.wordpress.com/2013/04/ppt_9.pdf
[22] http://museum.wa.gov.au/about/latest-news/climate-change-abrolhos-wins-magna-award
[23] http://genderaquafish.files.wordpress.com/2013/07/ppt_23.pdf
[24] http://genderaquafish.files.wordpress.com/2013/04/ppt_32.pdf
[25] Callon, Michel. 1986. Some elements of a sociology of translation: Domestication of the scallops and the fishermen of St Brieuc Bay. In: Power, action and belief: A new sociology of knowledge. J. Law (ed). London: Routledge and Kegan Paul.

greatest attention from respondents, revealing that considerable progress has been made in the general understanding of issues, even though much more specific detail is needed for most fishery situations. Out of the wealth of detail, however, only weak strategic messages have been developed, although sufficient material is available to start to craft such messages. The set of actors is still small and limited in its extent. The second step, "Interessement", in which others are recruited to the network, is still weak, but survey respondents provided a rich set of ideas on how to do it. They stressed the need for leaders and champions in the right places, but felt that an active core group of these was still to emerge. Researchers and grassroots organizations must get together if any progress is to be made. The third step, "Enrolement", in which roles for action are defined and actors formally accept their roles, is even further behind Interessement. Clearly, little progress can be made until the critical people are convinced to step up.

The final step, "Mobilization", during which the primary actors act as spokespeople and start to mobilize the passive actors, relies on achieving much more progress with Interessment and Enrolement, unless a major opportunity for rapid progress can be found.

In the ensuing discussion, participants stressed the importance of setting the agenda and getting the message out to other circles by building a common understanding with concrete examples and studies. Group members presented pros and cons and the challenges of holding standalone events on women and gender, noting the difficulties in getting sufficient attention at a mainstream conference such as the 10th Asian and Aquaculture Forum, versus the problem that a significant number of GAF4 presenters were only able to attend because they were also presenting in other sessions.

Noting that the GAF events had been totally focused on research, many participants, including researchers, stressed that future events must consist of more than research presentations and workshop. They must include different types of sessions that engaged with the women and other workers in the sector who were working at grassroots level.

After GAF4, a small group met to further discuss the next steps and agree an action plan, covering items from the immediate aftermath of GAF4 to what GAF5 would look like, and the opportunities for other GAF events at forthcoming conferences. A small group agreed to follow-up on getting funding to develop a gender in aquaculture and fisheries "101" course. The action plan also included the need for a bolder strategy, networking with other networks of similar interests and the importance of developing and getting funded site-specific collaborative research to help improve the quality of the research.

For more information:

Website:
http://genderaquafish.org/

Facebook:
http://www.facebook.com/pages/AFS-Gender-in-Aquaculture-and-Fisheries/181176555231544 |

Twitter:
@Genderaquafish |

Flickr:
http://www.flickr.com/groups/genderaquafish/

Moving the gender agenda forward in fisheries and aquaculture[1]

Meryl J Williams,[2] Marilyn Porter,[3] Poh Sze Choo,[4] Kyoko Kusakabe,[5] Veikila Vuki,[6] Nikita Gopal[7] and Melba Bondad-Reantaso[8]*

In 2012, the Asian Fisheries Society published 21 papers in a Special Issue (25S)[9] of *Asian Fisheries Science* journal. The papers were written by presenters at the 3rd Global Symposium on Gender in Aquaculture and Fisheries (GAF3),[10] at the 9th Asian Fisheries and Aquaculture Forum in April 2011.

In producing the *AFS* Special Issue, we felt a mix of optimism and pessimism: pleasure because of the breadth and depth of the knowledge presented, optimism because of emerging interest in gender in aquaculture and fisheries, and pessimism because gender in aquaculture and fisheries research has not progressed as strongly or as rapidly as it should. Despite the evidence that women play large, though undervalued, and functionally critical roles in fish supply chains, the slow progress in advancement of women reflects a global lack of priority and resources, evident also in Asia, to women and gender issues.

Let us explain the causes of our pessimism and optimism through three observations.

Women and gender are not on the agenda

First, we observe that women and gender topics are "not on the agenda" in aquaculture and fisheries. Research and action on gender receives very little support from governments, universities and external funders such as development donors and nongovernmental organizations. In Asia, a few exceptions stand out. One is the Mekong River Commission Fisheries Program and its 4 member countries fisheries departments that, for 12 years, have conducted a Mekong basin-wide Network for Promotion of Gender in Fisheries. Another exception is the International Collective in Support of Fishworkers, which has the biannual *Yemaya* newsletter on women in fisheries, takes up women's issues in its regional partners and recently held a global workshop on the gender agenda in fisheries (ICSF 2010). The *Women in Fisheries Information Bulletin* also persists thanks to the efforts of its editor, authors and the Secretariat of the Pacific Community (SPC).

The lack of attention to women and gender starts in policy-blindness. Women and gender issues are missing from key global normative fisheries (and aquaculture) products such as the Code of Conduct for Responsible Fisheries (FAO 1995) and many of its succeeding instruments and technical guidelines (Williams 2010). These instruments reveal how aquaculture and fisheries are presently framed, and hence the priorities addressed — gender is not visible.

Without focus and resources, progress is difficult and slow. Many of the authors in the Special Issue are conducting gender studies as a sideline to their main work and some have entered the field as non-specialists who have realized the need, in the course of other studies.

We have also witnessed the phenomenon of women and gender specialists in social science research departments moving on from studying aquaculture and fisheries to studies in other sectors or overarching themes such as climate change and women's mobility. Some among us are part of this

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[1] This article is an extract of a guest editorial from the Asian Fisheries Science, Special Issue 25S: "Gender in aquaculture and fisheries: Moving the agenda forward". 2012. p 1–13. Williams M.J., Porter M., Choo P.S., Kusakabe K., Vuki V., Gopal N. and Bondad-Reantaso M. (eds).

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[9] http://genderaquafish.org/events/gaf3-2/contents-asian-fisheries-science-25s/

[10] http://genderaquafish.org/gaf3-2/

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shift. In order to flourish, any field of research and education needs resources: researchers, funds and students. Like other researchers, women and gender researchers and students "follow the money". Because gender and fish sector funding is minimal, some of the most significant researchers in the field have moved on to study gender in other fields.

To compound the problem of low support, many researchers and activists have been disheartened because their advice was rarely sought, or accepted and used when given. For example, inshore fishers, and especially women, warned that the North Atlantic cod stocks were in decline years ahead of Canadian government recognition of the crisis (Neis 2000; Grzetic 2004).

Development assistance agencies often fund projects and then use the results as the basis for new projects. Few aquaculture and fisheries projects, however, have gender components and hence development assistance agencies are providing little support to gender in aquaculture and fisheries.

The lack of attention to gender in fish sector projects could be partly compensated by borrowing from gender work in other rural sectors. The quantum of gender and agriculture work seems to be increasing since the Food and Agricultural Organization (FAO) highlighted the "gender gap in agriculture" in its State of Food and Agriculture report (FAO 2011). The report also touched lightly on aquaculture and fisheries. Following this report, more attention to women in agriculture is evident among the multilateral development agencies such as FAO, the International Fund for Agricultural Development and the World Bank. In March 2012, the Indian Council for Agricultural Research and FAO and other international professional bodies sponsored the first Global Conference on Women in Agriculture.

We cannot take for granted that this flurry of attention to women in agriculture will also stimulate more research and action on aquaculture and fisheries. It is, however, a positive development that should be harnessed. Choo et al. (2008) pointed out that fisheries and aquaculture are influenced ultimately by global trends in development.

Other signs of optimism closer to aquaculture and fisheries include that several mainstream institutions are beginning to include gender work and strategies in their programs. For example, the CGIAR recently adopted a new research programme on aquatic agricultural systems. The programme focuses squarely on food security and integrated livelihood for the poor. It is an innovative and ambitious research programme that has a strong focus on gender mainstreaming. One of the six research themes is on gender equity. Such a strong gender focus is possible because the programme moved away from component crops and fisheries and focused on integrated livelihood systems. By looking at the system that women and men are working and living in, rather than looking only at fish, there is greater opportunity to address the issues of gender equity as well as other social issues.

Further optimism comes from the rising interest in value chains in fisheries research. Just because few women go out in large boats to fish, they are often not considered fishers and marginalized in fisheries sector analysis. The focus on value chains puts a new light on women's role in aquaculture and fisheries, and highlights the importance of post-harvest activities such as trade and processing. This is becoming all the more important because of the regional economic integration, such as in the Association of Southeast Asian Nations region.

Women and gender studies in aquaculture and fisheries need multiple approaches

Our second observation is that women and gender studies in aquaculture and fisheries are not monolithic and they will not be addressed by a single discipline or epistemology. This methodological plurality contrasts with the case in technical fields such as fish diseases, stock assessment, hatchery technology and safety at sea. Indeed, considerable differences of opinion prevail over gender research, and even whether "gender" approaches are weakening attention to the very urgent problems that many women, especially poor women, experience in the fish sector (e.g. Biswas 2011).

One of the problems of advancing the gender and fisheries and/or aquaculture field is the difficulty in conducting truly multidisciplinary research. Fisheries biologists realize that they need to understand about the people who are engaged in fish production, hence focus more on gender division of labor in fish production. Social scientists are concerned with social relations and structures as well as livelihood systems without much knowledge of fisheries and aquaculture systems and technologies and fish species that people are engaged with. In order to advance the field, we need to combine both perspectives. For example, the following questions can only be answered through work by multidisciplinary teams.

- With the increased demand for water for agriculture, industry, tourism and fisheries, how much water would be available for fisheries and aquaculture? How much would fisherwomen be able to negotiate for water for their own production, giving their weak negotiating power and low visibility in the sector? How

would that affect the fish availability for fishing or fish culture households? What are alternative livelihoods or possibilities of up-grading women and men's present positions in aquaculture and fisheries?

- How would fish production technology help in improving food security? For whom? Why?
- With cross-border trade facilitated, what are the implications for food security for the poor? How would aquaculture and fisheries play a role in food security for the women and men in poor households? How can poor women maintain access to fisheries resources for their food security? How can women retain or gain access to fish for processing and sale against other competitive buyers?

Another problem of gender and fisheries research is that when we look at only the gender division of labor, we often cannot deny that women are playing a marginal role vis-à-vis men. However, when we look at the dimension of household food security and livelihood, we find that women contribute as much and sometimes more than men. What are the species available for women to catch and trade, or to be consumed at home? What are the aquatic resources available for poor women for processing and trade? What are the technologies available for them? What bargaining power do women have in the value chain, including rights to exploit fisheries resources? Gender and fisheries needs to take a more systems approach in order to reveal the gender relations and problems that women face in fisheries where collaboration between social science and fisheries biologists is fruitful.

Compared with fisheries, gender and aquaculture needs a totally different framework of analysis. The issues for gender and aquaculture are more similar to issues in gender and agriculture or gender and enterprise development. Hence, basic gender analysis concepts such as gender division of labor and access and/or control over resources provide us considerable insights into the gender issues in gender and aquaculture. Thus, looking at fisheries as a system and aquaculture as a household economic production activity, existing methodologies can be expanded into the field of gender in aquaculture and fisheries.

Gender in aquaculture and fisheries studies and outreach need better foundations

This leads to our third observation, which is that much work is needed to develop and disseminate better conceptual frameworks for studies on gender in aquaculture and fisheries. Building the new foundations requires the engagement of the more academic researchers and activists who have been engaged in Asian Fisheries Society symposia, and more besides these. Until more financial and institutional support is available to this field of research, progress will continue to be modest.

Experience has shown that women and gender issues are invisible to many in the fisheries sector and advocacy is required to raise the profile of gender. Credible, dedicated and persistent champions are needed. One initial target of action is to bring about policy changes to engender aquaculture and fisheries because, without this, the mandate and platform for gender focus is lacking.

Above, we commented that many of those doing gender research are not educated in gender research methods. Beyond this small group, most experts in aquaculture and fisheries have no gender education and very little awareness of the issues. Gender training, education and extension are, therefore, needed to reach a wide spectrum of people in aquaculture and fisheries. Basic concepts need to be defined, disseminated and understood; gender disaggregated data should be routinely collected; and research and comparative analysis conducted. With development and broader use of conceptual frameworks for data collection and research design, cross country comparisons would become possible. They are presently impeded by statisticians and researchers using different approaches.

Conclusions

In summary, we find that women and gender studies are progressing only slowly in aquaculture and fisheries because they: 1) are not on the policy agendas and action plans and therefore minimal resources are devoted to them; 2) are not amenable to a single epistemology and different visions compete; and 3) require stronger conceptual foundations to be developed, disseminated and used.

Although the field of gender in aquaculture and fisheries is still under-researched and under-funded, an increasing number of people and institutions are interested in it. As presently comprised, gender in aquaculture and fisheries researchers form a loose network, comprising biologists as well as social scientists from several disciplines, placing interested parties in a good position to coordinate innovative research with a multidisciplinary approach. The collection of papers in this volume shows that we have become quite successful in visualizing women's contribution to fisheries and aquaculture. We have also been able to come up with a more structural analysis by looking at value chains and institutions, dealing with the relations of women in fisheries and aquaculture, and other actors. The field now faces more challenges due to climate change and economic integration, which would require us to do a more nuanced analysis

on different contexts and ecological, economical, political and cultural systems. We also need to highlight the issues of intersectionality — the axis of analysis is not only about women and men, but how the other factors such as class, age, ethnicity, race, caste, and religion all come into play to define and condition the relations that one would have in fisheries and aquaculture systems. We hope that in the near future, we will be able to report very optimistically on progress in gender in aquaculture and fisheries research and development.

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Gender assessment of the Pacific Adaptation to Climate Change Project

Sarah Whitfield[1]

Introduction

Background

The Pacific Adaptation to Climate Change (PACC) project is a regional climate change programme that seeks to enhance the resilience of Pacific Island countries and communities to the adverse effects of climate change. The project is funded through the Global Environment Facility's Special Climate Change Fund and the Australian Agency for International Development (AusAID), and is executed by the United Nations Development Programme (UNDP) Samoa Multi-Country Office, and implemented by the Secretariat of the Pacific Regional Environment Programme (SPREP).

> "Acknowledging the different yet complementary roles of men and women in ensuring the well-being of their families and the development of their society, (the ministers) affirmed the necessity of taking into account the knowledge, experiences and priorities of both women and men in order to develop effective climate change strategies…"
>
> Communiqué issued from the Pacific Women's Ministerial Workshop on Climate Change Nadi, Fiji July 2012

The PACC project involves 14 Pacific Island countries[2] and incorporates a range of support and activities at local, national and regional levels, including mainstreaming climate change into policy and planning; pilot adaptation demonstration measures; technical support and capacity building; and associated communication activities. Pilot adaptation initiatives at the local level are focused on one of three sectors: food production and food security, water resources management, and coastal zone management. The project began in 2009 and has been extended until 2014. There have been challenges along the way and countries are in varying stages of progress. Pursuing a decidedly iterative approach, an important aspect of the project is to document and share lessons learned and good practices both within and between Pacific Island countries and the region.

Scope of the gender assessment[3]

The Government of Australia, through AusAID, provided additional funding to the PACC project, which included dedicated funds to strengthen the focus on gender. In 2012, a comprehensive gender assessment was undertaken to assess the level and degree to which the PACC project had addressed gender. Gaps, oversights and examples of good practices were given equal consideration in order to identify suitable entry points to integrate gender into the project. Findings and recommendations were provided in order to guide national and regional project management teams in the implementation of gender mainstreaming .[4]

Gender and climate change in the Pacific: The social dimensions of resilience and adaptive capacity

What are the linkages between gender and climate change?

It has been widely reported that climate change is expected to seriously affect Pacific Island communities. Women and men are critical actors of change, possess a range of skills and coping strategies, and are often key repositories of vital local and traditional knowledge. Consideration of the different needs and adaptive capacities of women and men ensures that everyone benefits from climate change initiatives.

Social and economic inequalities compound adverse impacts and decrease the ability of certain individuals and groups to cope and adapt to climate

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[2] PACC countries include Cook Islands, Federated States of Micronesia, Fiji, Marshall Islands, Nauru, Niue, Palau, Papua New Guinea, Samoa, Solomon Islands, Tokelau, Tonga, Tuvalu and Vanuatu.

[3] For further details and to obtain the full document, contact Taito Nakalevu, Regional Programme Director, PACC Regional Program Management Unit, SPREP, taiton@sprep.org

[4] Additional aspects to the assessment included gender training and technical support for initial implementation of gender mainstreaming.

change and extreme weather events. Gender, along with many other variables such as socioeconomic status, age and physical ability are key factors that can heighten people's risk to the adverse impacts of climate change.

Countries around the world exhibit varying manifestations of gender inequality and the Pacific is no exception. While significant advances have made to close gender gaps, and there is great variation within and between them, in all Pacific Island countries there remain differences between the opportunities available to women and men. Over the years, gender roles have been changing. However, despite these advances, throughout the region women continue to be under-represented in formal governance structures (at all levels) and often do not have equal opportunities to build capacity and develop skills, particularly in technical fields.

Excluding women from planning and decision-making processes relating to climate change can result in a loss of important perspectives and valuable expertise. These oversights can potentially result in practices and strategies that further damage resources and ecosystems, negatively impact livelihoods and incomes, and inadvertently entrench or exacerbate vulnerabilities and gender inequalities.

Community members should understand predicted climate trends and associated risks that are likely to affect their lives and livelihoods. The lack of representation by women in village development committees can result in limited access to climate data and information to plan and undertake effective adaptive activities that would benefit households and communities.

Policies and adaptation measures can and should be designed to bring benefits to both women and men. Policies and projects that fail to fully take into consideration gender issues can ultimately worsen outcomes for both women and men, whereas gender-aware policies, projects and programmes can lead to more sustainable adaptation, as well as contribute to a reduction in gender inequalities.

Why should PACC integrate gender?

PACC supports national efforts to develop and implement climate-related policies and adaptation measures that will enhance the resilience of Pacific Island governments and communities, and build the adaptive capacity of community members at various levels. Sustained attention to the gender dimensions of climate change will enable PACC to provide more effective support to countries and communities. A strengthened focus on gender will ensure that climate change mainstreaming initiatives and adaptation measures ultimately benefit the women and men in the region that are, and will be, particularly impacted by climate change.

Throughout the Pacific there are increasing efforts to gather evidence of successful climate changing mainstreaming and adaptation approaches. There is a need for additional evidence that demonstrates to policy-makers and practitioners how climate change will impact women and men differently and how sustained and comprehensive

Mainstreaming gender into climate change the Pacific way

Throughout the Pacific, members of households and communities cooperate to achieve shared goals. Mainstreaming gender into climate change does not mean looking at women and men in isolation or necessarily developing separate initiatives to meet different priorities of women and men. In many cases, women and men are likely to reach a consensus about proposed adaptation measures, and both may ultimately benefit from the intervention. A focus on gender means recognising that climate change will not impact everyone in the same way. Climate change is likely to impact women and men differently, depending on a host of factors, including gender roles and gender divisions, and gender-specific uses of resources.

Households, communities and countries in the region have different cultural traditions that are important foundations of social cohesion. However, culture and tradition do not always favour all members of society. In some settings, women, or other socially or economically marginalised groups may not have the same degree of access to climate predictions, data from technical assessments and capacity building related to proposed adaptation measures. These groups may not be in a position to participate in climate change initiatives in a meaningful way or take part in decision-making that will directly affect their lives and livelihoods. While there may be efforts to include women and marginalised groups and provide an avenue for them to voice their concerns, their views and solutions may not have equal weight when it comes time to making decisions.

Taking into account different impacts, experiences and perspectives will not obstruct wider objectives to increase resilience at community level. Taking into consideration a diversity of views from women, men and potentially marginalised groups ultimately improves climate change adaptation by taking into account the different vulnerabilities and capacities of all family and community members.

attention to gender ultimately improves the effectiveness of climate change mainstreaming and adaptation measures.

By widely disseminating lessons learned in relation to its efforts to implement gender mainstreaming, PACC can make a significant contribution to enhance the knowledge and practices of government, climate change professionals and practitioners, and community members in the region. Through sustained efforts to substantively address the gender dimensions of climate change, PACC can act as a catalyst to strengthen the focus on gender in climate change in Pacific Island countries and throughout the region.

Methodology

Using a gender mainstreaming approach,[5] all stages, components and aspects of the PACC project were examined to identify existing gaps and areas that would benefit from a strengthened focus on gender. A wide range of criteria was used to assess the extent to which the project had addressed gender, which included:

- attention to the gender dimensions of the impacts of climate change and gender-based vulnerabilities and capacities;
- the use of sex-disaggregated data, gender analysis and gender expertise;
- support for equal opportunities and benefits associated with technical capacity building and adaptation;
- participation and decision-making at all levels and in all stages;
- levels of gender awareness; and
- commitment and political will among staff and key stakeholders.

These factors were considered in relation to the existing local, national and regional context, as well as the current institutional environment of the project.

An extensive literature review was undertaken of relevant research, resource guides, toolkits and workshop reports dealing with gender and climate change (and to some extent disaster risk reduction) from the region and elsewhere. Additional documents, including national and regional development strategies, relevant policies and plans, and recent communiqués from Pacific women ministers and Pacific Island leaders were reviewed to get a broader national and regional perspective.

A comprehensive desk review of all project documentation was undertaken.[6] Various technical reports for the pilot adaptation measures were reviewed, including vulnerability assessments, socioeconomic assessments, cost–benefit analyses, and design documents. Financial forms and tracking sheets were also examined to determine the level of resource allocation to gender.

Consultations were undertaken with key national and regional stakeholders from the various Pacific Island governments, as well as representatives of women's ministries or departments, non-governmental organisations (NGOs), community-based organisations (CBOs), regional agencies, the United Nations and donor agencies, as well as researchers and specialists involved in the project. Surveys were completed by national project coordinators and in some cases assisted by project teams.[7] Supplementary gender questions were provided in order to gather information for the regional climate change mainstreaming guidelines in development at the time. Interviews were held with coordinators, government counterparts and members of core project teams.

In-country consultations and site visits were undertaken in pre-selected countries according to geographic location, sectoral area of focus and stage of implementation.[8] Depending on the desired approach of the project teams, methodologies for the country visits included stakeholder meetings, a multi-stakeholder workshop, community consultations with village women, focus groups consisting of community representatives and CBOs, and household interviews and informal discussions with community members.

During the PACC Multi-Partite Review and Technical Workshop held in Nauru in August 2012, several coordinators and government representatives were interviewed and gender training was undertaken for participants and partners, including SPREP, UNDP and AusAID. The training introduced basic concepts related to gender and climate change,

[5] Gender mainstreaming is concerned with integrating a gender perspective and analysis into all stages of the project, policy and programming cycle. Gender mainstreaming aims to ensure that both women and men benefit equally from development processes, and seeks to address areas where inequalities have been identified in order to enhance sustainable development and promote gender equality.

[6] Documents reviewed included: the project inception report, project proposal, project implementation reviews, presentations, documents and reports from annual multi-partite reviews, annual project implementation reviews, the regional project logframe, quarterly progress reports, annual work plans multi-year work plans, annual reports, monitoring reports, trip reports, and minutes of meetings, as well as training and workshop reports.

[7] PACC Cook Islands did not complete the survey.

[8] Country visits were undertaken in the Federated States of Micronesia, Fiji, Nauru, Palau and Tonga.

involved group work to examine potential gender-differentiated impacts of climate change within each of the sectors, and included an introduction to sex-disaggregated indicators. The meeting offered an important opportunity to observe PACC processes and gain insight into the institutional context of the project.

Limitations

The biggest challenge for the assessment concerned the review of the large amount of un-collated project documentation. At the same time, gaps in documentation from some countries, as well as poor and uneven project reporting made it difficult to form a detailed understanding of projects, their progress and the lessons learned to date. This was further compounded by the fact that logframes had not been developed for the projects at the national level, and the directions and outcomes of several adaptation measures were still being refined.[9]

Although it was timely to undertake the training at the Multi-Partite Review, pressing and ongoing project management issues heightened the risk of potential backlash to gender. During the meeting, coordinators were required to complete various templates and only two coordinators managed to submit detailed information regarding the gender dimensions of climate change mainstreaming.

It was not possible to exhaust all avenues and meet with all stakeholders that could potentially collaborate with the project to support gender mainstreaming in climate change at national and regional levels. The exploration of these partnerships is an important next step for project staff, SPREP and donor partners.

Assessment findings

Project design and planning

- ✓ Gender analysis and expertise should be included in the original design.
- ✓ Gender should be mainstreamed into the overall project goal, objectives, outcomes and results.
- ✓ Climate change initiatives should be informed by national and regional gender equality policies and strategies, as well as gender issues previously identified in the sector.
- ✓ Climate change adaptation requires an analysis of the vulnerabilities and capacities of women, men and other groups.
- ✓ Gender roles, gender divisions of labour and gender-differentiated resource uses are critical concerns in the identification of climate change impacts on men and women.
- ✓ Beneficiaries of climate change adaptation should be disaggregated by gender and other variables.
- ✓ Women and men should have equal opportunities to be involved in decision-making related to climate change initiatives and adaptation measures.

All efforts should be made to ensure that gender issues are substantively and comprehensively addressed in the project design and planning process. Although this did not occur in PACC, it is still worthwhile to consider in what ways the project should have addressed gender at the earliest stage and how this initial oversight affects the project's current efforts to mainstream gender.

The design of the adaptation measures did not take into consideration whether and how existing gender inequalities should be addressed while concurrently tackling climate change. The absence of gender analysis results in a lack of consideration of gender differences.

Gender language and concepts in the original design documents are confusing and, reportedly, poorly understood by project staff and technical advisors. Wording such as "gender-sensitive" and "gender-inclusive approach" is included without an appreciation of what the implementation of these concepts should entail. No subsequent references to gender are found in any other parts of the project documents. In recognition of this shortcoming, gender inputs were incorporated into the project proposal, but with limited clear guidance on comprehensively and substantively mainstreaming gender into the project.

The project principally aims to reduce vulnerabilities and enhance resilience and adaptive capacity of the following sectors: water resources management; food security and food production; and coastal zone management. There are few references in project documents to the social and economic impacts on community members. Project design and planning documents do not examine potentially vulnerable groups nor do they explicitly identify women or any other group as being particularly vulnerable to climate change. Project designs do not take into consideration gender roles and gender-differentiated resource uses. Adaptation measures are designed to broadly benefit families or the community as a whole. Projects do not explicitly consider whether and how the lives and livelihoods of men and of women are likely to be impacted, either negatively by climate change or positively through mainstreaming initiatives or adaptation measures.

[9] The Mid-Term and Technical Review for the project was being undertaken concurrently.

Given the lack of sex-disaggregated data and reporting, a definitive assessment of the numbers and nature of participation by women, men and specific groups in the project design and planning process is not possible, even though project photos and participant lists show that men often heavily outnumber women. Although they may have been involved in the planning stages of several PACC projects, there is no record of the inclusion of women, national women's ministries or departments, and women's NGOs and CBOs in stakeholder analyses, or in the identification of the priority sector and the proposed adaptation measures.

Consultation reports do not highlight different views or priorities that may have been expressed by different groups during community meetings and focus groups.[10] Perspectives about proposed adaptation measures were consolidated without any apparent attention to differences, which tends to obscure the perspectives and solutions identified by women, men, young people or other groups. The general lack of reporting in this regard suggests that gender or age-specific needs and concerns, experiences and recommendations are essentially inconsequential to the design of adaptation measures.

Project implementation

Mainstreaming climate change

- ✓ Climate change policy and legislation should be guided by national gender equality policies and strategies, as well as gender issues identified in regional, national and sectoral development frameworks .
- ✓ Climate change policy and legislation should consider the needs, aspirations and priorities of women, men, young people, and particularly vulnerable groups.
- ✓ National women's machineries (NWMs)[11]and women's NGOs should be meaningfully involved in the development and implementation of climate change policy and legislation.
- ✓ Gender should be comprehensively and coherently integrated throughout climate change policies and legislation.

In many Pacific Island countries, gender is increasingly being recognised as an important dimension of climate change policy development. PACC climate change mainstreaming outputs are in various stages of development, approval and implementation. Several PACC-supported policies have integrated gender in terms of process and content to varying degrees, and this is principally a reflection of an existing supportive and enabling environment for gender equality and gender mainstreaming.

Some mainstreaming outputs demonstrate a good understanding of gender, and detail several strategies to achieve results for gender equality. However, in all cases, comprehensively integrating a gender perspective into policies remains a work in progress, with various gaps noted below.

Although mainstreaming outputs seek to ensure that in-country activities are consistent with national development priorities and objectives, polices do not draw on national commitments and efforts to address gender and climate change. Overall, PACC mainstreaming outputs do not refer to national gender policy and legislation, or gender equality commitments at national or regional levels. For example, the PACC Cook Islands project does not make any reference to the Cook Islands National Gender Equality Policy, which includes extensive coverage of climate change, and details the different needs of women in outer islands, young women and girls, and women with disabilities.

Several project outputs note the participation of women's organisations or list national women's machineries among the stakeholders involved in policy development although the extent of their participation and contribution remains largely undocumented. None of the projects note any specific constraints to the meaningful participation and decision-making among women or other groups in the policy-making process. Additional evidence is needed to determine if NWMs and women's groups are able to move beyond participation in isolated consultation events to being fully engaged in enduring partnerships throughout the implementation and monitoring phases of the policy.

In general, policies tend to note climate-related changes but not the possible effects that these will have on the daily lives and livelihoods of women and men**.** Although gender roles and gender-specific impacts of climate change were reportedly addressed during consultations and focus group discussions, there is no record or evidence to show that they were analysed or actually used to inform policies.

General statements about women or gender are not accompanied by clearly articulated gender equality goals. Where gender is identified as an area of concern, no references are made to underlying root causes of inequality and exclusion. In most cases,

[10] The only exception encountered was the consultation report for PACC Samoa, which included a brief list of different priorities for each of the groups.

[11] The term "women's national machineries" refers to national ministries, departments and/or divisions that deal with women and women's issues.

gender is referred to in isolation without any consistent relationship with the rest of the document. None of the policies identify capacity and resource requirements for the implementation, monitoring and evaluation of gender mainstreaming or specific gender aspects.

Pilot adaptation projects

- ✓ Adaptation measures should be underpinned by rigorous social science, particularly in relation to pilot communities.
- ✓ Sex-disaggregated data and gender analysis are needed to understand the gender dimensions of climate change.
- ✓ Women and men need relevant information, knowledge and skills to support adaptation measures and climate change initiatives.

There is little evidence that projects systematically made use of existing data, research and analyses that might guide the projects from a social perspective. Overall, projects devote limited attention to the social (let alone gender) dimensions of vulnerability, adaptation and resilience compared with the degree of detail afforded to infrastructure design aspects of adaptation measures.

None of the technical assessments undertaken to inform PACC pilot projects[12] address the social and gender dimensions of vulnerability, nor do they identify and consider existing or potential capacities and coping mechanisms among women and men in the pilot communities that might increase individual, household and community resilience to climate risks. Projects do not critically assess the challenging but equally critical sociocultural feasibility of adaptation measures. There is little recognition that there may be different economic costs and benefits for women and men or that the perceptions of these may differ. Preliminary environmental impact assessments undertaken for the project do not examine gender issues or collect sex disaggregated data in relation to gender-specific roles and resource uses.

Quantitative and qualitative data disaggregated by sex and other variables were not consistently collected for all pilot communities. Where small amounts of disaggregated data were collected, they were either not relevant or not analysed from a gender perspective. The general lack of relevant disaggregated data in the projects precludes a gender analysis and hinders an understanding of how climate change potentially impacts the lives and livelihoods of women and men, and how adaptation measures are expected to bring benefits to women or specifically vulnerable groups.

Gender roles and gender divisions of labour are critical aspects of climate change adaptation

Technical support

- ✓ Women and men at all levels should have equal opportunities to build capacity, particularly in technical fields related to climate change.
- ✓ Women, men or specific groups may need to be specifically targeted for capacity development and behaviour change.

PACC supports the capacity building of a wide range of partners and individuals at all levels. Particular emphasis has been placed on training national counterparts in relation to key technical assessments. The exact proportion of male and female participants in these capacity building initiatives is not known because data were not collected on the gender balance of beneficiary support. However, the general consensus among those interviewed suggests that the majority of participants in technical training have been men.

The lack of data, analysis and reporting in terms of gender balance in capacity building suggest a lack of awareness regarding the existence of any imbalances or gender inequities that should be addressed through specific strategies or affirmative actions. It should be noted, however, that PACC Solomon Islands reported that it is now normal practice to actively promote gender balance, and projects

[12] These include vulnerability assessments, socioeconomic assessments, cost–benefit analyses, climate change modeling, preliminary environmental impact assessments, as well as other site-specific assessments.

specifically request the involvement of both women and men in capacity building activities.

According to project documents, training in pilot communities is generally targeted at households, community members, technical officers and selected farmers. With no references to either women or men, it is unclear whether the intention is to build capacity among women, men or both. Interviews with coordinators revealed that various activities and capacity building activities at the community level implicitly involve women, men or both, in keeping with traditional gender roles and without any intention to specifically address any gender issues per se.

Communications

- ✓ Women and men, particularly at the local level, need to be well informed and motivated in order to adapt to climate change.
- ✓ Women and men may require different communication strategies in order to address climate change.
- ✓ Images about climate change should also aim to promote gender equality.

In many countries, community and household consultative activities, coupled with tangible infrastructure outputs has resulted in high levels of general awareness of PACC among both women and men, principally in relation to adaptation measures. General climate change awareness workshops and training have been undertaken in several countries, in some cases within the pilot communities, and often involving a number of communities without any particular link to the pilot adaptation measure. There was a notable lack of meaningful and sustained involvement in a few pilot communities, which precluded an examination of gender differences in the levels of awareness and understanding of climate change and PACC. However, communication activities were scheduled to begin in these sites in the near future.

Discussions during in–country visits highlighted that women and men in the pilot sites are largely familiar with climate change as a vague general concept. An understanding of climate change appears to be mainly connected to current realities and hardships rather than climate and risk projections for their locality, or actions and changes in behaviour at the household and/or community level to build resilience.

Consultations revealed that in many cases, technical data and detailed updates about the project had not consistently reached the wider population in the pilot communities, particularly women. Communication plans developed for the PACC project focus on activities and outputs, and lack a strategic focus

Specific strategies may be required to ensure that women, who are not generally considered to be the head of the household, are able to share their views about proposed adaptation to climate change measures.

on project outcomes and results beyond increased general awareness of climate change. Plans do not include stakeholder analyses that would identify and effectively target particular groups, such as women or women's NGOs and CBOs, which might require specific communication strategies.

A rapid review of PACC communication materials revealed a balanced photographic representation of women and men for some projects and photos mainly of men in others. Overall, photos featuring technical aspects of the demonstration projects tended to depict men. Few photos depicted the gender dimensions of the adverse impacts of climate change or the expected benefits that adaptation would bring, specifically for women and men, and none showed women or men undertaking non-traditional activities.

Partnerships

- ✓ Effective partnerships at various levels can maximise knowledge and technical skills in gender and climate change among all parties.

The gender dimensions of climate change have become a growing concern throughout the region and there is a wide range of partners seeking to

integrate gender perspectives into climate change initiatives, yet few PACC coordinators are involved in gender and climate change activities and partnerships at the national level. Any collaborative efforts to date in this regard have been undertaken on a relatively ad hoc basis. There are a number of potentially promising partnerships at all levels that have yet to pursued.

There is a dearth of formal mechanisms to enable PACC and partners at both the national and regional level to systematically share information, explore collaborative opportunities, and develop capacity in order to integrate gender more effectively into climate change initiatives. However, PACC is presently involved in a regional initiative to develop a Pacific Regional Gender and Climate Change Toolkit. This collaboration offers a valuable opportunity for PACC to contribute specialist knowledge and perspectives, and share initial lessons learned regarding the project's efforts to integrate gender into climate change mainstreaming and adaptation.

Lessons learned

- ✓ More evidence is needed to up-scale and improve the integration of gender into climate change mainstreaming and adaptation.
- ✓ Pacific Island countries and the region as a whole need more evidence to support and advocate for gender mainstreaming in climate change mainstreaming and adaptation.
- ✓ Good practices and lessons learned about gender and climate change should be shared at national and regional levels.

An important aspect of PACC is to share lessons learned to improve climate change mainstreaming and adaptation. Lessons learned should convey how climate change initiatives might be designed and implemented to address a range of gender issues and gender-specific vulnerabilities. Given that gender has not been substantively addressed in the project to date, and general reporting has been inadequate, countries have yet to synthesise and share lessons learned in this regard.

Monitoring and evaluation

- ✓ Effective monitoring and reporting frameworks and systems are needed to synthesise lessons learned and good practices about gender and climate change.

Effective monitoring is needed to identify progress, problems and solutions, communicate technical, financial and capacity needs, and synthesises lessons and share good practices about effective climate change mainstreaming and adaptation. To date, measuring progress and results has been generally limited because work plans and reports focus on activities, outputs and budgets, rather than outcomes, progress and results.

For various reasons, general reporting has been particularly challenging for the project, which also makes it difficult to examine even limited progress and lessons about gender. Available reports do not include sex-disaggregated data or report on any gender dimensions of the project. Project monitoring and trip reports also do not address gender. Terms of reference for project reviews or project evaluations do not systematically stipulate gender expertise or competencies related to gender analysis. In addition, there is no indication of explicit strategies to involve women and men, including in the pilot communities, in the monitoring and evaluation of PACC supported policies, or in adaptation measures.

Participation and decision-making

- ✓ Women and men should have equal opportunities to participate and make decisions in project governance and management structures.
- ✓ Both women and men at the community level should be meaningfully involved in climate change initiatives.
- ✓ Women and men should be considered active agents of change of climate change adaptation.
- ✓ Climate change initiatives benefit from increased engagement with NWMs and women's NGOs and CBOs.

In many countries, women and other groups are excluded from planning processes, and implicit rules often limit women's ability to participate in community discussions and decision-making. Equal opportunities for meaningful participation and decision-making are important considerations for gender equality that cut across all areas of the PACC project.

Gender imbalances in formal governance structures are often an indicator of prevailing attitudes and cultural norms regarding women's role in planning and decision-making. Gender balance in PACC governance structures varies by level, but without exception all project steering committees and technical or operational working groups are composed of more men than women. Several local project governance structures teams include female members and closer gender balance occurs in countries where there is already a generally conducive environment for gender equality (i.e. sociocultural norms and practices, policies, institutional and political commitment). However, there is no record of the nature of women's contributions or the comparative level of their participation and decision-making in these structures, which makes it difficult to draw any conclusions regarding gender equality.

As is common practice in the region, widespread consultative activities and separate focus groups were undertaken as part of project activities. However, there is limited evidence or substantive reporting that highlights if and how different viewpoints or priorities among women or certain groups actually influence priority-setting or decision-making. While the norm is to build consensus, the absence of disaggregated reporting inadvertently re-emphasises homogeneity rather than diversity.

In general, there is not a strong emphasis on community members, either women or men, as *active agents* in climate change adaptation. There is limited attention to the concept of empowerment among community members generally,[13] and women specifically. NWMs, women's NGOs and CBOs in some countries have been involved in certain aspects of the projects. However, in general, these stakeholder groups are not formally represented in project structures nor are they consistently engaged as vital partners throughout the project.

An enabling environment for gender mainstreaming

Effective integration of gender into climate change requires:

- responsive institutional arrangements;
- gender awareness, competencies and skills; and
- commitment, political will, and dedicated resources.

Success factors for gender mainstreaming include a supportive policy environment, adequate capacity and resources, as well as political will and commitment. It is, therefore, important to consider the institutional context in which PACC currently operates in order to assess the potential success of gender mainstreaming.

Gender awareness or "sensitivity" is not a required skill or competency for Regional Programme Management Unit (RPMU), coordinators or PACC team members. Several PACC teams had at least one member that had undertaken gender training. The vast majority of coordinators and stakeholders expressed support for the increased attention to gender in PACC. Interest generally reflected personal convictions for improved gender equality, as well as practical concerns to secure funding.

A few coordinators were more reticent about gender mainstreaming and stated that "gender is not an issue". This mainly reflected prevailing misconceptions that: 1) there were no significant gender inequalities either within the pilot communities or at the national level, and/or 2) attention to equity issues, gender roles and resource use was not needed to effectively meet project objectives. Consultations highlighted that it is not widely understood that climate change affects women and girls differently from men and boys. Several people did not understand or necessarily agree with this basic premise.

Several stakeholders view gender as an externally driven process, a donor pre-condition for additional funding, and an additional layer on top of already onerous reporting**.** A small minority stated, "the donor push for gender has been too quick" and "they have not sufficiently considered the cultural context". They expressed concern that the rights-based approach had "done more harm than good" and felt it was important to "separate gender and climate change from politics".[14] One individual viewed the attention to gender and specific groups as a strategy of exclusion and separation that runs counters to Pacific culture: "can divide communities…takes place at the expense of the wider good… and once you start…you complicate issues and stretch capacity."

SPREP senior management have not provided a directive or actively pursued efforts to mainstream gender into SPREP's projects and programs. The SPREP Draft Gender Policy has reportedly been slated for redrafting for some time. The assessment revealed general uncertainty among various staff members regarding the existence of a policy and/or its current status. The SPREP Gender Committee had not met for over a year. Most, but not all, SPREP staff and UNDP and AusAID representatives had participated in some form of gender training but on the whole felt they did not have the necessary technical expertise to support gender mainstreaming. The SPREP Communications Team noted a high level of interest in mainstreaming gender into communications.

Global gender policies, strategies, plans and gender assessments from UNDP and the Global Environment Facility have not translated into concrete support for implementing gender mainstreaming in the PACC project. Project resources have not been allocated to gender mainstreaming or women's empowerment at either the national or regional level.[15] Funding authorisation and certificate forms do not include a budget line to support gender.

[13] PACC Fiji, however, noted plans to begin to support community empowerment in the pilot sites.

[14] This view was particularly prevalent where there was strong opposition to the ratification of the Committee on the Elimination of Discimination Against Women (CEDAW). Several design documents refer to environmental human rights conventions, although none refer to CEDAW or examine climate change using a rights-based approach.

[15] PACC Vanuatu noted its participation in a short training session on gender facilitated by UNDP Samoa Multi-Country Office in 2011.

There was no record of UNDP Pacific Centre or UNDP sub-offices in Papua New Guinea, Solomon Islands or Fiji having provided support to PACC for gender mainstreaming. Given the lack of dedicated personnel and expertise to support gender, the Pacific-based AusAID offices, as well as the regional office in Fiji has also not supported PACC in this regard to date.

There appears to be a high level of commitment to gender mainstreaming within RPMU. However, gender is being addressed at a point when other project management issues have consumed all parties for some time. There have been ongoing discussions that existing human resource capacity within RPMU overall is insufficient, as well as a longstanding request from the project for dedicated personnel and expertise to support gender and community development. At present, RPMU and SPREP do not have sufficient expertise or capacity to effectively support gender mainstreaming.

Key recommendations

Given the breadth and complexity of the project, a wide range of recommendations were proposed to strengthen PACC's focus on gender. These are summarised below.

1. Prioritise technical expertise and resources for gender mainstreaming

PACC and SPREP will only be able to take on an active and potentially catalytic role in this increasingly important aspect of the regional and global climate change dialogue if sufficient resources, capacity and technical expertise are allocated. Project coordinators and RPMU will require regular guidance and ongoing technical support to effectively implement gender mainstreaming in PACC throughout the life of the project. Human and financial resources should be clearly allocated for gender, and coordinators should be informed about the available technical support and funding that is available for gender mainstreaming at the national level. Coordinators are encouraged to identify and source in-country expertise, including gender experts and researchers with relevant sector experience to support gender mainstreaming activities. RPMU should maintain a roster of experts who can support gender mainstreaming and gender analysis at both the national and regional level.

2. Significantly increase attention to social science

PACC adaptation measures should be well grounded in the social context, as well as the physical and environmental setting. Increased effort should be made to underpin the projects with rigorous social science and these findings should be integrated with sound technical information and data. Projects would benefit from in-depth social studies at the pilot sites that focus on the various and varied social and cultural aspects that can profoundly influence and even inhibit adaptation choices and behaviour. Should time allow, PACC should undertake detailed social and gender analyses in at least one pilot site for each sector and explore collaborative opportunities with in-country development partners that are undertaking more extensive social studies and research.

3. Collect sex-disaggregated data and undertake gender analysis to identify gender-differentiated benefits and impacts of adaptation measures

Quantitative and qualitative data, disaggregated by sex and other variables, are needed, along with a gender analysis to demonstrate the potential adverse impacts of climate change on women, men and other groups. It is important not to make broad assumptions about gender-specific climate change impacts or roles. Disaggregated data are needed to clearly identify any benefits that adaptation measures might bring for certain groups, as well as any gender-differentiated impacts associated with pilot adaptation measures. Project teams are encouraged to identify and address existing data gaps related to gender-specific vulnerabilities, capacities, impacts and benefits in relation to adaptation measures. In countries where community engagement will continue or is planned, opportunities may exist to collect relevant sex-disaggregated data and undertake a gender analysis to better inform the project. Where communities are experiencing "assessment or consultation fatigue" other means will need to be identified to gather data. All attempts should be made to maximise the use of existing information and data. In some cases, it may be possible to extract data collected for the PACC socioeconomic assessments and vulnerability assessments or from other projects (i.e. participatory or community vulnerability and capacity assessments).

Environmental impact assessments (EIAs) present important opportunities to collect relevant sex-disaggregated data. Terms of references for EIAs should substantively address the range of locally specific social and gender issues relevant to the proposed adaptation measures. EIAs should identify the expected gender-differentiated benefits of adaptation measures and address any potential negative impacts faced by groups of women, men and others. Appropriate mitigation measures should be recommended and implemented to ensure that benefits and opportunities of adaptation flow equally to women and men, meeting both practical needs and strategic gender interests. Gender expertise should be sourced to ensure that EIAs and subsequent adaptation designs effectively

and comprehensively address social and gender impacts for improved project outcomes. Environmental monitoring and management plans should stipulate or strongly encourage gender balance and be designed to build capacity and leadership skills among women and men.

4. Undertake research and develop case studies to identify the gender dimensions of climate change

After its completion, the project should be able to collect and share lessons about the gender dimensions of climate change mainstreaming and adaptation. Data about gender and climate change are sorely lacking in the region. Planners, policy-makers and practitioners need quantitative and qualitative data to integrate gender into climate change mainstreaming and adaptation. A compilation of case studies at the regional level would be very useful. Where feasible, selected PACC countries could be identified for more in-depth analysis and used as case studies to highlight a range of gender issues relating to each of the three sectors: water resources management; food security and food production; and coastal zone management. Wherever possible, the analysis and research should use participatory approaches and aim to build capacity with national stakeholders and local pilot communities. PACC coordinators, partners, technical advisors, as well as women and men at the community level, should be involved in an exploration of the gender dimensions of climate change in order to build skills and knowledge. In this endeavour it may be worth exploring a collaborative undertaking with other partners.

5. Develop a PACC Gender Action Plan (along with country gender action plans and gender scorecards where feasible)

A PACC Gender Action Plan should be developed with well-defined objectives and agreed-upon roles and responsibilities. The plan will ensure accountability and effective and systematic monitoring of gender mainstreaming at national and regional levels. It will enable RPMU to support countries in their efforts to address gender in the context of climate change, and guide PACC's contributions in this regard at the regional level. Brief country gender action plans should be developed to guide and support the monitoring of gender mainstreaming at the national level.

A gender scorecard could be developed to standardise gender objectives (or gender goals) and assist RPMU and countries to monitor progress and measure overall results in gender mainstreaming. The scorecard would be aligned with national strategies and actions, and allow flexibility according to different country contexts and sectors. The gender scorecard would be completed annually by RPMU and PACC teams and/or independent reviewers.

6. Integrate gender into country logframes and work plans

Gender mainstreaming is a process, not a compilation of single one-off activities. Ongoing strategies and key actions to strengthen gender should be integrated into all aspects of the annual work plans and logframes. Wherever possible, sector-specific sex-disaggregated indicators and data sources should be identified, along with a range of gender indicators.[16]

Along with adaptation measures, gender should be explicitly addressed throughout climate change mainstreaming processes and outputs in a coherent, integrated and comprehensive fashion. Where PACC-supported policies and legislation have already been drafted, these should be reviewed using a gender perspective, and the findings disseminated and discussed with policy-makers, implementers, partners and community members. Where documents have yet to be written or are still in draft form there is an opportunity to examine and incorporate relevant social and gender issues.

Gender dimensions outlined in national development strategies and related sectoral policies, plans and legislation should be highlighted, along with relevant aspects of national gender equality policies and legislation. Gaps and oversights in these documents should also be noted. Any lessons learned concerning the gender dimensions of PACC pilot adaptation measures should inform the mainstreaming outputs.

7. Develop strategies to address gender imbalances in project structures and gender-based inequalities related to participation and decision-making at all levels

Significant gender imbalance exists in various PACC project structures at national and local levels. Rather than automatically revert to traditional structures, Programme Management Units are strongly encouraged to initiate discussions with technical teams, steering committees and local project committees in order to address these imbalances. Where women from pilot communities are underrepresented in decision-making processes, PACC coordinators and project teams, along with community members, are advised to critically examine and discuss how tradition and culture pose challenges to equality in participation and decision-making within the project's context. Any quantitative and

[16] It is expected that a list of pre-developed indicators will be included in the forthcoming Pacific Gender and Climate Change Toolkit.

qualitative changes regarding the participation and decision-making of women and any marginalised groups should be monitored and reported on.

Countries are encouraged to include, but also move beyond, broad-based consultations and separate focus groups as measurements of stakeholder involvement because these alone are insufficient to measure equality in participation. Consultative activities should be results-oriented, strongly linked to broader strategic outcomes of climate change adaptation, and accompanied by attention to the dimensions and degree of participation and decision-making by women, men and other groups. Records of PACC meetings should provide quantitative and qualitative data regarding the contributions and decisions made by women and men, as well as representatives of women's and men's groups. Minutes should highlight any gender-differentiated, and potentially conflicting, priorities.

In relation to overall project management, all future terms of reference for project staff and consultants should include evidence of a minimum level of gender awareness. Hiring processes should explicitly promote equality of opportunity and affirmative actions in order to address any gender imbalances.

8. *Strengthen partnerships, including with national women's ministries and departments and women's NGOs and CBOs, and regularly engage with gender focal points*

PACC is strongly encouraged to increase engagement and explore partnerships and mutually beneficial arrangements with NWMs, women's NGOs and CBOs. In several countries NWMs possess the necessary resources and technical skills to effectively address the gender dimensions of climate change, and the project should immediately begin to draw on NWMs' knowledge, experience and contacts. In countries where capacities and resources of NWM may be limited, coordinators are encouraged to address any constraints relating to their involvement in the project.

National women's ministries, along with women's NGOs and CBOs are keen to increase their level of involvement in climate change initiatives.

> "While some women and women's groups are participating more in developing national plans of action for the environment, climate change, disaster management and food security, overall they are still largely absent at national and regional decision-making tables, and rural women's needs and perspectives are not prioritised by government."
>
> Communiqué issued from The Pacific Women's Ministerial Workshop on Climate Change
> Nadi, July 2012

Wherever feasible, project teams should ensure that NWMs, and representatives from women's CBOs and NGOs are involved in a meaningful way in all stages and components of the project. Where they exist, PACC teams are also encouraged to engage with relevant government gender focal points. Token representation by these individuals and groups should be avoided. Measurements of participation should move beyond attendance at meetings. Qualitative indicators should be used to record how NWMs, and representatives of women's NGOs and CBOs contribute to the project, both generally and specifically, to promote gender equality.

Where partnerships between PACC and NWMs or women's NGOs and CBOs are strong, factors of success and lessons learned should be documented and shared as good practices. Countries should note why these partnerships are important and how they make a difference to climate change mainstreaming and adaptation, as well as gender equality. Where new partnerships need to be established, PACC should systematically documenting the process, monitoring progress and sharing any challenges and lessons learned. Coordinators should also regularly seek feedback in this regard from partners.

9. *Share climate change knowledge and develop capacity (particularly technical knowledge and skills) among both women and men*

Project activities should ensure both women and men at all levels understand the science underpinning the adaptation measures, have equal access to technical data and assessment results, as well as equal opportunities to be involved in technical

aspects of the project. Affirmative actions should be considered where there has been, or is likely to be, a significant gender imbalance. Where required, affirmative actions should be undertaken to improve gender balance in relation to technical training and increase equal access to scientific data and information. In order to address existing stereotypes, efforts should be made to train both women and men in non-traditional roles.

Training at all levels should be examined to determine if it is "gender blind" and integrate a gender perspective into future training in terms of both process and content. Any training and extension services undertaken with pilot communities should comprehensively addresses the gender dimensions of adaptation. RPMU and countries should systematically collect and report sex-disaggregated data of participants in training and report on efforts undertaken, as well as constraints, to achieve gender balance and provide equal access to technical information and skills.

10. Support capacity building in gender and climate change at various levels

Ongoing capacity building is recommended for coordinators and project teams, RPMU, and key stakeholders including NWM, women's NGOs and CBOs, and civil society organisations (CSOs) to acquire the knowledge and skills to substantively integrate a gender perspective into climate change adaptation.[17] Given the remaining timescale of the project, gender training should be demand-driven and align with work planning and activities at the country and regional level so as not to unduly interfere with project outputs. Where feasible, PACC should coordinate training at the national level with interested partners. A one-on-one mentoring approach has proven successful for other training and technical support and in some cases is recommended for RPMU and coordinators as part of an effective and efficient approach to capacity building in gender mainstreaming. Gender training at all levels should involve both men and women and project teams are encouraged to identify and mobilise local gender expertise to support capacity building initiatives.

Mainstreaming gender means trainers and technical support personnel in all areas should possess a certain level of gender awareness, commitment and skills to be able to address relevant gender issues. In this regard, future terms of reference should stipulate this requirement and all training should be reviewed to ensure it incorporates a gender perspective, particularly when it is assumed to be gender neutral.

11. Undertake effective communication for development in climate change to support strategic gender-aware objectives

PACC communication activities should be strategically designed and implemented to support the overall objectives of the project, which includes efforts to promote gender equality. Complex seasonal climate forecasts should be conveyed to local community members so that men and women understand the potential impacts of climate change on their lives and livelihoods. PACC communication activities should address the practical needs of women and men (e.g. improved water supply, more climate-resistant crops, improved access to basic services), as well as strategic gender interests (e.g. increased opportunities for women in planning and decision-making and leadership roles). Images and modes of communication, as well as knowledge products and information, education and communication materials, should concurrently promote gender equality and address strategic gender interests in the context of climate change. For example, IEC materials could feature women involved in technical aspects of the project or in decision-making roles, as well as men engaged in non-traditional areas to help to change stereotypes and alleviate inequitable workloads for women.

Moving beyond awareness-raising activities, PACC communication should aim to address socioeconomic and cultural factors that can either support or hinder adaptation. Activities should focus on women and men as active agents in adaptation rather than simply passive beneficiaries of information. Communications at all levels should not only inform men and women about the gender dimensions of climate change adaptation but also motivate them to change behaviour and undertake actions to support existing good practices, alter inappropriate ones, and develop new adaptive capacities for enhanced resilience. PACC is encouraged to engage with existing communication structures, including those that are gender-segregated (e.g. *talanoa* sessions, women's church groups) to support adaptive behaviour change.

Rather than blindly target women in the pilot communities, project teams are encouraged to identify constraints among women or other groups that might prevent equal access to information. Areas of concern might include language skills and levels of literacy, access to certain modes of communication and equitable participation in structures where information is transmitted. Additional or innovative strategies, messages, modes and channels of communication may be required that present

[17] It is expected that PACC and SPREP will be involved in future training of Council of Regional Organisations in the Pacific agencies which will be supported by the Pacific Regional Gender and Climate Change Toolkit currently in development.

Women should have equal opportunities to be involved in monitoring and evaluating "hard" and "soft" adaptation measures.

alternatives to traditional settings and social structures where women and young people may be marginalised. Women and representatives of women's groups should be explicitly asked about their specific information needs and preferred channels of communication. Strategies might include, for example: i) asking villages that normally select one (usually male) representative to select two representatives — one woman and one man; ii) creating time during meetings to explicitly allow women's representatives an opportunity to actively contribute; or iii) ensuring all formal project team meetings or updates are followed up by meetings specifically held to debrief and discuss the project with women in the community.

Coordinators and project teams will require technical assistant to support gender-sensitive communications. PACC is encouraged to develop an effective working partnership with the SPREP Communications Team in order to support the substantive integration of gender dimensions into PACC communication materials and activities and materials at both national and regional levels. The Knowledge Management Officer may be required to play a key role to support the implementation, monitoring and evaluation of gender mainstreaming in PACC communications and knowledge management. RPMU and coordinators are encouraged to make linkages with other partners addressing the communication aspects of climate change, as well as communication specialists and journalists in the region who are well versed in addressing gender.[18]

12. *Integrate gender into project monitoring and evaluation processes*

Project reporting should be results-based, moving beyond the presentation of inputs, activities and outputs to focus on changes and benefits for communities and the women and men within them. Wherever possible, the project should provide evidence to demonstrate whether and how the project brings changes and benefits for women, men, and other groups. Guidelines and activities for any replication and up-scaling activities should substantively and coherently address gender dimensions.

PACC steering committees and technical teams are encouraged to regularly address gender during meetings and submit detailed minutes to RPMU. Narrative and financial reporting should include technical and financial resource allocations, and highlight specific activities undertaken to support gender mainstreaming in the project. Reports should clearly demonstrate progress and outcomes in this regard, along with ongoing challenges and actions taken to address them. A short set of questions or a checklist could be developed to support more effective reporting related to gender.

RPMU and coordinators are strongly encouraged to substantively report on gender in future missions and trips, and in relation to PACC contributions workshops and conferences at all levels. Specific attention should be paid to any challenges and specific outcomes in this regard (as well as note where these are absent); this can be done even when the event does not specifically focus on gender, the contribution by PACC is relatively small, or the learning with regards to gender fairly minimal. Systematic reporting in this regard would enable RPMU to monitor and report on gender and climate change contributions made by PACC at national and regional levels. Consolidating data would also be useful as it gives an indication of the level of attention to gender and climate change that can be used to support advocacy for policy development.

Both women and men at community and national levels, including those from marginalised groups, should be fully consulted and meaningfully

[18] For example, Pacific Gender and Climate Change Coalition and Fem'Link Pacific.

engaged in monitoring and evaluation activities. Women, men and young people at the community level, women's groups, NWMs and other groups should have the opportunity to independently monitor and evaluate their own participation and decision-making in the project, as well as their levels of increased knowledge and adaptive capacity attributable to PACC.

Gender criteria should be included in technical reviews and be consistently monitored. All project reviews and evaluations, including the terminal evaluation, should comprehensively and coherently address gender.

13. Collect and disseminate lessons learned and good practices relating to the gender dimensions of climate change mainstreaming and adaptation

Coordinators and project teams should regularly discuss and document lessons learned, good practices and challenges related to gender mainstreaming at all levels. Countries that are making progress in addressing gender should to share their experiences with national stakeholders and other PACC countries, particular those working in the same sector. Countries that are encountering challenges to address gender are also strongly encouraged to share their experiences.

PACC experiences and learning with regards to gender and climate change should be clearly heighted and showcased on the project website. The site could feature photos and short synopses organised around key thematic areas such as "the use of sex-disaggregated data and gender analysis", "participation and decision-making at the local, national and/or regional level"' and "meaningful involvement by NWMs and women's NGOs and CBOs". PACC should seek the support of SPREP communications staff in this regard.

Coordinators and RPMU are also encouraged to substantively incorporate a gender perspective into presentations and contributions at national, regional and international climate change and disaster risk reduction events.

As the project nears completion it would be worthwhile to make a compilation of these experiences and lessons learned. There may be an inclination to report solely on successful examples of gender mainstreaming in the project although it would be equally important to document examples of maladaptation and gaps in policy and practice that have resulted from a lack of attention to gender. Gathering the whole range of experiences for the final project evaluation is important. PACC will have made a significant contribution if the project is able to document and disseminate a whole range of lessons learned, good practices, and ongoing challenges related to gender and climate change mainstreaming and adaptation.

Strategic partnerships, for example with women's marketing associations, can strengthen PACC's focus on the effects of climate change on food security and food production.

14. Disseminate resource material and information about gender and climate change at the national and regional level

National stakeholders and regional organisations need relevant resource materials and tools to help them mainstream gender into climate change. A wide range of climate change and disaster risk reduction projects, initiatives and networks have been established at the national and regional level with either a strong or partial focus on the gender dimensions of climate change. PACC should contribute to a more structured, streamlined and effective regional approach to consolidate information about gender and climate change activities, partners, and networks and networks.

PACC should actively ensure a range of information related to gender and climate change is included and specifically highlighted on the site.[19] RPMU should ensure that PACC coordinators receive timely updates about gender-related additions to the site, particularly in relation to capacity building opportunities.

[19] This might include, for example, gender assessments, research studies, relevant project and policy updates, tools and resources, as well as a roster of gender specialists and sectoral experts with gender expertise.

A regional gender and climate change guide or toolkit is currently being spearheaded by SPC and GIZ (German aid for sustainable development). PACC should continue to play an active role in this regional collaborative initiative.

15. Explore national and regional partnerships, and strengthen collaboration and coordination in order to address the gender dimensions of climate change

PACC is strongly encouraged to explore the full range of potential partnerships at both the national and regional level that will help to strengthen the project's focus on gender. Immediate first steps to strengthen the project's focus on gender should include enhanced engagement and active collaboration with UNDP and AusAID country offices, as well as the UNDP Pacific Centre. Reflections about the effectiveness of donor support for gender will provide important lessons for both PACC and donor partners and executing agencies.

Coordinators are encouraged to engage with existing in-country gender and climate change and/ disaster risk reduction networks. Where these networks do not exist, PACC should consider developing a coordination mechanism to engage more systematically with partners and donors to address the gender dimensions of climate change. At a minimum, RPMU and coordinators should widely disseminate updates and information about PACC progress in gender mainstreaming with all potentially interested partners.

16. Undertake advocacy for gender and climate change at all levels

In view of a proposal put forward by some of the countries, an appropriately worded "directive" about gender could be sent by RPMU and SPREP in order to raise the profile of gender and increase the level of commitment and support for gender mainstreaming in climate change at the national level.

Ultimately, the integration of gender into PACC will be heavily reliant on the initiative taken by RPMU and project coordinators. Countries are encouraged to undertake suitable actions to advocate for a strengthened focus on gender in climate change mainstreaming and adaptation. For example, this might include encouraging water and climate change champions to include a focus on gender issues or approaching key climate change decision-makers to advocate for gender equality.

PACC and SPREP are strongly encouraged to consider how they can make a play a more strategic role to support gender equality in the wider regional context. In particular, PACC should collaborate with national and regional partners to ensure that gender is comprehensively and coherently integrated into the new regional road map and strategy on climate change and disaster risk management.

Concluding remarks

Given the belated consideration of gender in PACC there may be a desire for immediate action and results. However, gender mainstreaming is not a "quick fix" solution but a process that takes place over time. In some countries and communities, introducing gender or enhancing women's role in decision-making may be relatively straightforward. In other cases, involving women may prove to be exceptionally challenging. Increasing awareness of gender inequalities and building commitment and political will to address personal convictions and long-held beliefs about gender is no easy task. Gender training is an important aspect of building awareness and commitment although it is not a panacea for gender equality and it may take time to address deeply rooted structural inequalities.

Several countries have addressed gender to some extent in the policy-making process and outputs, while others have overlooked these dimensions altogether. Some village committees have strong representation and participation by women and men, while others comprise mainly male members and decision-makers. It will not be possible to integrate gender into all components in all countries in the same way. All countries should address gender in a substantive way, meet minimum levels of compliance, and take concrete steps to improve the focus on gender equality. However, the expected results of gender mainstreaming will vary and implementation should proceed according to the particular context of each country and pilot community.

The current workload and priorities, resources and capacities within RPMU, and project teams, along with the broad scope of the project contribute to an exceptionally challenging environment to introduce gender mainstreaming. Addressing gender should not become an added burden for coordinators or RPMU. Wherever possible, gender should be integrated into existing project frameworks, as well as current and planned activities and strengthened reporting mechanisms. Any additional tools and frameworks will need to be simple and practical.

Given the stage of the project, it will be important to focus efforts at both national and regional levels where there is a high probability of progress and results. It would be worthwhile taking a strategic approach that focuses on selected countries, communities and project components with the greatest likelihood of successful implementation and where there is adequate capacity to examine the lessons learned about the gender mainstreaming process.

How men and women use their time in Tuvalu: A time use study

Karen Bernard[1]

Introduction

To address some of the adverse effects of climate change, Tuvalu has identified seven priority areas that are embedded in its National Adaptation Programme of Action (NAPA) framework. These areas include: 1) increasing the resilience of coastal areas and settlements to climate change; 2) increasing pit-grown *pulaka* (swamp taro) productivity through the introduction of a salt-tolerant *pulaka* species; 3) adapting to frequent water shortages by increasing household water capacity; 4) improving water collection accessories and water conservation techniques; 5) strengthening community health through the control of vector borne and climate-sensitive diseases; 6) promoting access to quality potable water; and strengthening community-based conservation programmes on highly vulnerable nearshore marine ecosystems. Ensuring the adaptation to nearshore coastal shellfish fisheries resources and coral reef ecosystem productivity, and strengthening community disaster preparedness and response potential are other important areas of concern.

The United Nations Development Programme (UNDP) in partnership with the Government of Tuvalu are currently implementing a Global Environment Facility-administered Least Developed Country Funds Project entitled "Increasing resilience of coastal areas and community settlements to climate change in Tuvalu", including the Australian Agency for International Development-funded upscaling initiatives which began in June 2011.

This project aims to address the coastal, agricultural and water priorities out of the seven priority areas. The project was implemented over four years, beginning in November 2009. However, due to a number of institutional realignments with complementary baseline programmes, actual investments by the project only started in 2010. The lead executing agency is the Department of Environment under the Ministry of Foreign Affairs, Trade, Tourism, Environment and Labour, where a Project Management Unit provides general coordination and oversight for the project. The project receives high-level guidance and oversight from a Project Board, which is chaired by the Director of the Department of Environment.

This time use study was conducted as part of the external mid-term review commissioned for the Tuvalu climate change adaptation project. At the time of the study, the project was under way on all islands of Tuvalu and focused mainly on three types of activities: installing and repairing water tanks, supporting home gardens, and coastal protection measures.

The objective of the study was to gather evidence on how men and women use their time during a typical day in various locations of Tuvalu. In most countries, men and women tend to engage in different types of activities, due to social and cultural roles, and such differences were expected to be seen in Tuvalu as well.

Methodology

Interviews were held in three locations — Funafuti, Niutao and Nanumea — in April 2013.

The approach involved one-on-one interviews, recording what the person did for every half hour throughout a 24-hour day. Activities considered were chosen mainly to reflect livelihood options commonly found in Tuvalu and which are affected by climate change. Almost everyone interviewed reported on the same day, which was a regular weekday — in most cases the previous Thursday. Each interview took approximately 10–15 minutes.

Activities included: cooking, washing or cleaning (*cleaning*); caring for children, elderly or sick relatives (*care*); tending to family garden, poultry and animals (*gardens*); office work (*office*); farming for commercial sale (*farming*); fishing on boat or in deep ocean (*fishing*); gleaning reefs or mangroves (*gleaning*); tending *pulaka* (*pulaka*); travelling for work, studies or other activities (*travel*); leisure and/or relaxing and meals (*leisure*); sleeping (*sleeping*); studying or schooling (*study*); and other activities (*other*).

The majority of interviews were held in the Tuvaluan language and conducted by a Tuvaluan researcher (the Project Assistant) as this was considered more comfortable for those being interviewed. The data gathered were double-checked and verified to correct any minor mistakes.

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During the time use study, 101 people were interviewed; of these, 51 were women and 50 were men. Ages ranged from 18 to 82 years, with a median being 44 years. Interviews were distributed equally between each of the three locations: Funafuti, Niutao and Nanumea. Equal numbers of men and women were interviewed in each location.

This time use study was conducted so that based on this information the project could be adjusted to make sure that both men and women, and various age groups, have valuable and worthwhile participation in project activities. Once gathered, the data were analysed in terms of implications for the project's scope and activities, and detailed recommendations were made on how to correct any shortcomings of the project.

Results

There are notable differences in the way that men and women in Tuvalu use their time during the course of the day (Figs. 1, 2 and 3), but there are also considerable similarities in the way women in the three survey locations use their time; this is also the case for men among the three survey locations (Figs. 4 and 5).

Women spend substantially more time cooking, washing and cleaning than do men (Figs. 1, 2 and 3). Men spend an average of 47 minutes each day on these tasks, while women spend an average of 3 hours and 42 minutes. These are the main activities that require the use of water. Women spend somewhat more time caring for children, elderly and sick relatives, but overall, little time is dedicated to this activity by anyone: women spend on average 1 hour per day on this task, while men spend on average 10 minutes per day.

Men spend more time than women tending to home gardens and feeding pigs and poultry — activities that use small amounts of water. Only men are engaged in *pulaka* pit tending and fishing from boats. Gleaning from reefs or mangroves was carried out only by people on Funafuti. Tending *pulaka* pits was, in fact, reported to be done currently only by men on Nanumea (Fig. 2). Neither men nor women engage in commercial farming (Figs. 1, 2 and 3).

The incidence of simultaneous activities was quite low. However, it is interesting to note that when reported, these were gender-differentiated. Men reported fishing and travelling simultaneously, and women reported cleaning or washing while at the same time looking after children, or tending to small livestock.

Other activities reported outside of the established categories were also gender differentiated; women reported engaging in weaving and handicrafts, while men reported building houses and canoes, repairing fishing nets and screen printing. Almost all reported half an hour or slightly more in prayer devotion daily.

From top to bottom:
Boys playing on airport runway on Funafuti.
A woman making a traditional broom.

Both men and women have substantial leisure time, and so are available to engage more in project activities. Excessive overall workload (comprising paid and unpaid work) does not seem to be an issue of concern for most people, only for some individuals. However, in this regard, Funafuti has a somewhat different pattern to the other two islands.

Overall workload was found to be heavier on Funafuti. As compared with the other two islands, both men and women of Funafuti are getting half

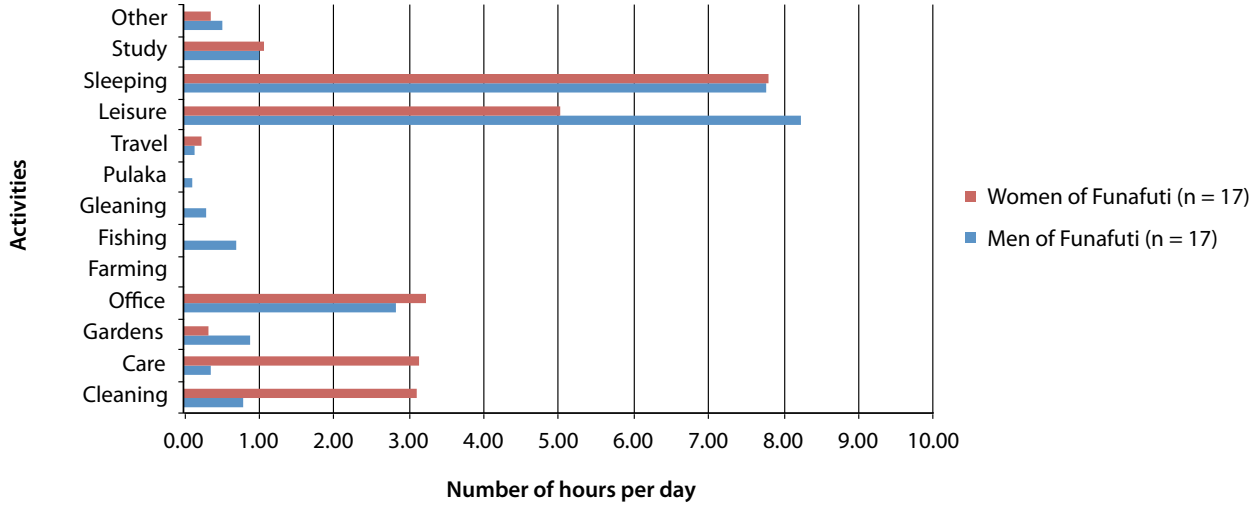

Figure 1. Time spent on specific activities by men and women of Funafuti (men's age range: 18–75; women's age range: 18–82).

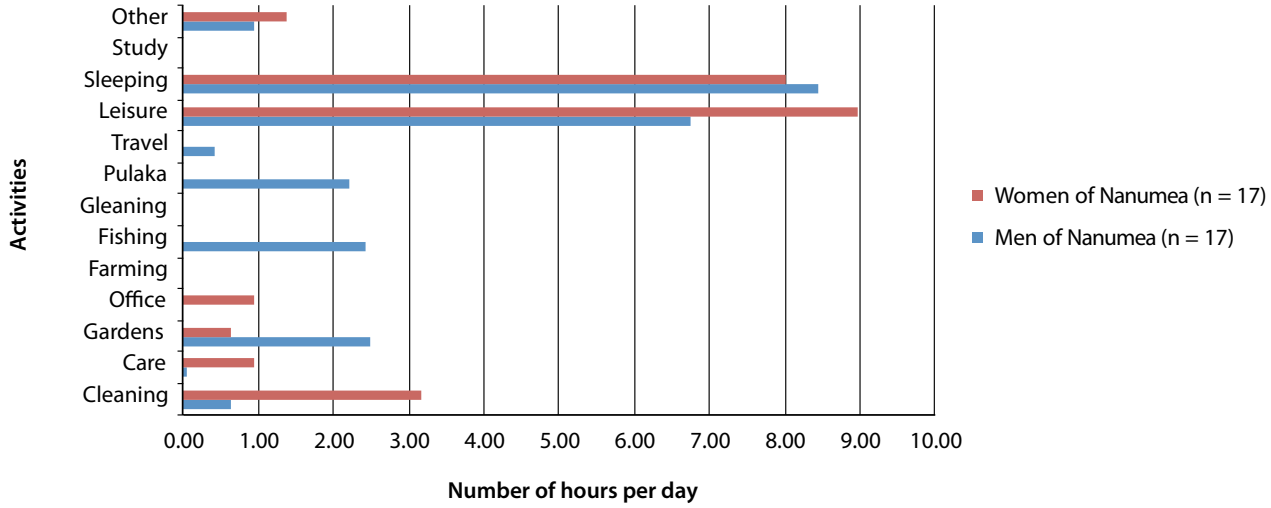

Figure 2. Time spent per day on specific activities by men and women of Nanumea (men's age range: 19–73; women's age range: 21–81)

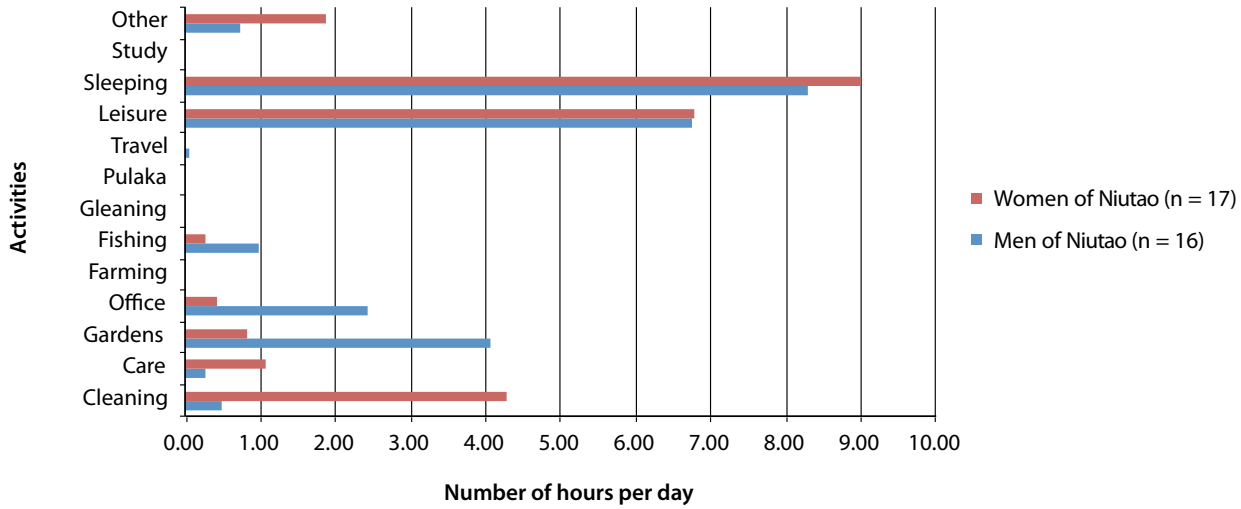

Figure 3. Time spent per day on specific activities by men and women of Niuatao (men's age range: 22–60; women's age range: 22–80).

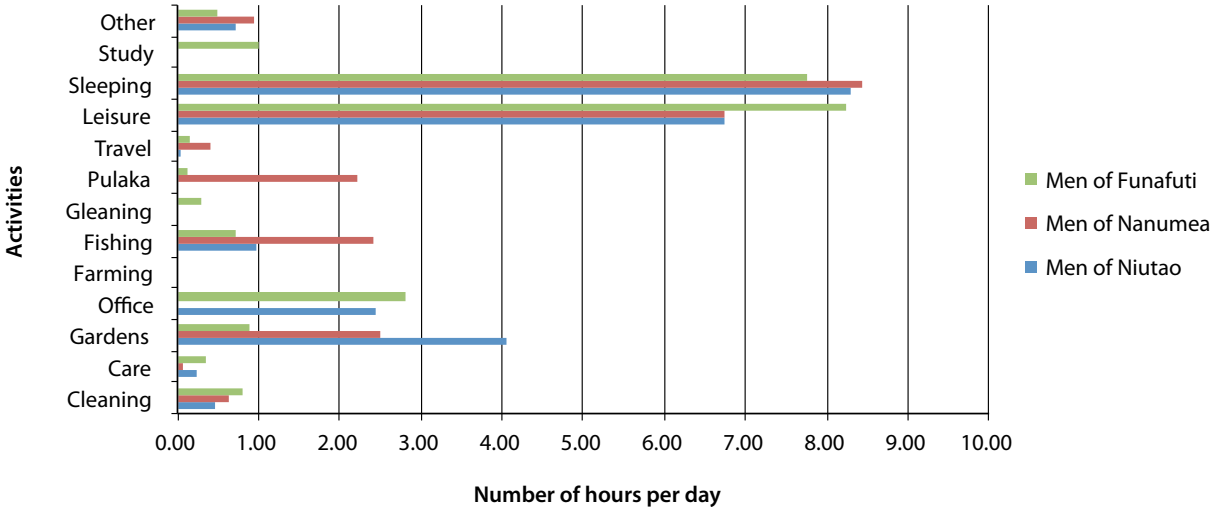

Figure 4. Comparison of time spent by men on specific activities on the three islands of Funafuti, Niutao and Nanumea. In total, 50 men — ranging in age from 18 to 75 — were interviewed on the three islands.

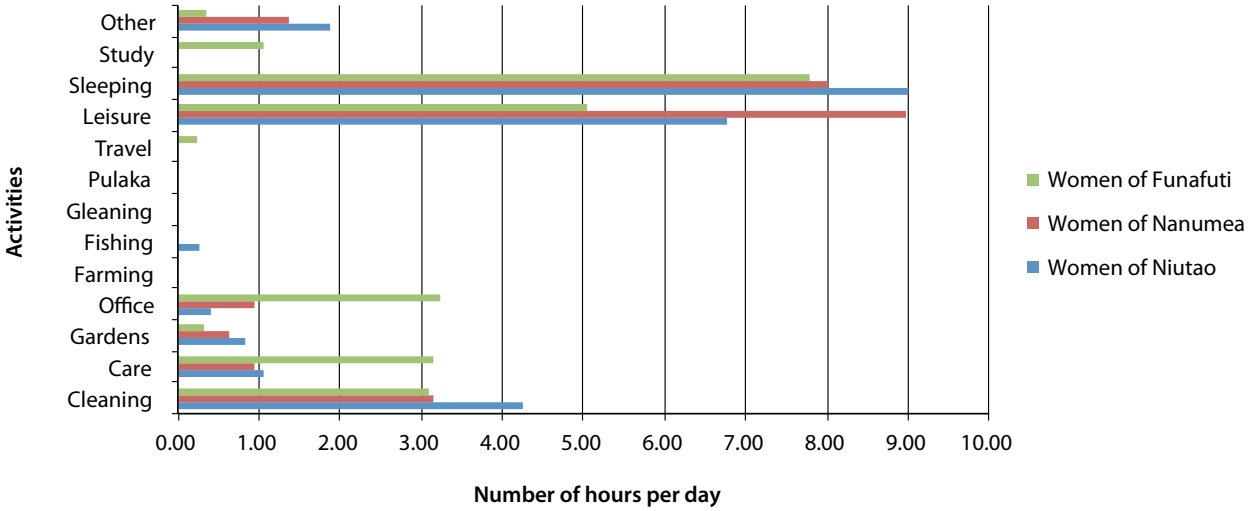

Figure 5. Comparison of time spent by women on specific activities on the three islands of Funafuti, Niutao and Nanumea. In total, 51 women — ranging in age from 18 to 82 — were interviewed on the three islands.

an hour less sleep (Figs. 4 and 5). Also, notably on Funafuti, men appear to have twice as much leisure time (approximately 6 hours) as do women (approximately 3 hours), whereas in the other islands, this is more equitable (Figs. 4 and 5).

Youth have approximately 1.5 more hours of leisure time on average than do older people. After leisure, youth spend the majority of their time on menial tasks such as cleaning, washing and cooking (more than 2 hours per day), and to a lesser extent taking care of small livestock and home gardens (Fig. 6).

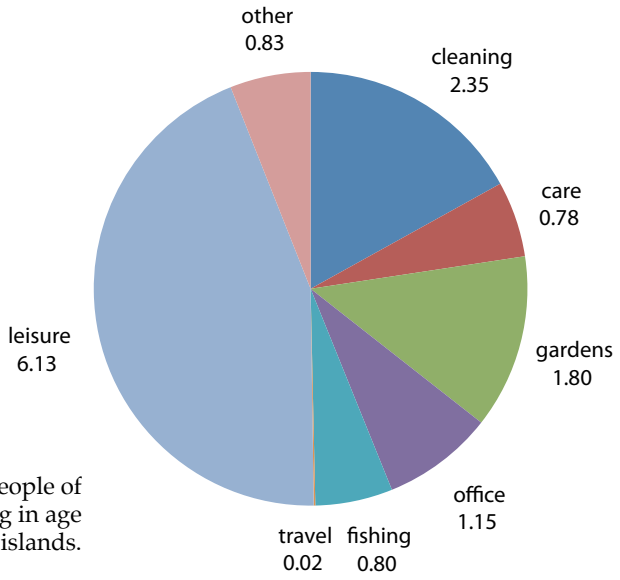

Figure 6. Time spent on specific activities by young people of Nanumea and Niutao. In total, 30 youth —ranging in age from 19 to 34 — were interviewed on the two islands.

Recommendations

In addition to the time use study, information was gathered from the community through focus group discussions. Participants were organised into separate groups for these discussions: one group each for older men, younger men, older women and younger women, so that all would be comfortable to speak freely. On the basis of this information, a number of recommendations were made for the project to ensure maximum benefits for both men and women, and ultimately a more effective and successful project. Some examples of recommendations include:

- ✓ Apply quotas of 50% for equitable participation of men and women in project activities and capacity building opportunities. This would entail a "ground up" approach, in which women's active participation becomes habitual (for both women and men) and at the same time, through training and capacity building, women would acquire and exercise relevant skills that would in turn empower them.
- ✓ Designate certain project activities as primarily targeting the following subgroups, based on their interests: younger men, older men, younger women and older women. This will tend to ensure that all groups engage in the project in meaningful and appropriate ways.
- ✓ Project expenditures need to be monitored. For example, some equipment purchased under climate change adaptation projects, such as chainsaws, petrol and cement mixers, tends to be used for activities prioritised by men. Most likely, there is a need for projects to prioritise inputs, supplies and employment opportunities in response to the expressed needs and interests of women.
- ✓ Women stated that they are very interested in becoming more involved in home gardens; therefore, they should have consistent access to the basic resources and inputs required to do this. Materials and tools can be designated for the women and channeled via the local women's group.
- ✓ Any training provided on home, gardening techniques and climate change impacts on agriculture should ensure the invitation and inclusion of women, with particular outreach to younger women.

From top to bottom:
Women taking part in a focus group discussion on Niutao.
Young men planting mangrove seedlings.
Boat traditionally used by men for fishing in Tuvalu.
Young women on Niutao.

Project team and collaborators.

- ✓ There is a need to establish a cash-for-work scheme. There could be modest compensation for planting trees along the coastline, using one work brigade comprising younger women, and one comprising younger men. This should be based on solid technical guidance and assessment of locations for planting and varieties of trees to use, to prevent failure of these activities. This activity would capitalise on young people's physical strength and energy in constructive ways, and would teach them valuable life skills such as a work ethic and productivity, as well as some technical competencies.
- ✓ Fishing is often considered to be a men's activity, yet women in the community expressed a clear interest in getting more involved in certain types of fishing. A boat could be designated for women's use to ensure their access. Several women stated that they would like to engage more in fishing from the shore (*sisi*); therefore, it is recommended to purchase basic fishing equipment, such as lines, rods and tackle; designate it for women's use only; and deliver it on island via the local women's group.
- ✓ Decisions on the optimal location of any new water tanks provided by the project should ensure that women's opinions and interests on this matter are solicited, obtained and documented, along with those of men. This is important because the time use study showed that women are more involved than men in daily activities requiring significant water usage (e.g. cooking, cleaning, washing and to some extent home gardens).
- ✓ Young women should be prioritised for technical skills training under the project; this may include monitoring water tanks, making climate observations, maintaining and operating desalination units, testing water quality, and other technical work. This would provide avenues for young women to access meaningful work involving skills development because many young women are often idle and/or occupied in menial labour, without any clear career prospects or personal development.
- ✓ Any project activities involving payment for work should be equitable. That is, equal numbers of men and women should be engaged in paid tasks (although the tasks may vary), and for the same rate of pay. Otherwise, socially prevailing inequities in opportunity and remuneration are reproduced by the project and there is no transformational change. Often, the temporary employment opportunities provided under projects (including this one) mainly benefit the men (as in tree planting and installing and maintaining water tanks).

Acknowledgements

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All pictures by Karen Bernard.

Gender roles in the seaweed industry cluster of the southern Philippines: The DICCEP experience[1]

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Abstract

Recognising the long value chain of seaweed production, a seaweed industry cluster was developed to enhance seaweed production in Davao, southern Philippines. The seaweed industry cluster was an inter-agency, multi-sectoral initiative to develop a road map for the seaweed industry and its stakeholders in Davao Region. This was designed to increase the income of fisherfolk, improve the regional contribution of the industry, and to sustain productivity and competitiveness. Based on the industry cluster approach, a capability-building project was implemented through the Davao Industry Cluster Capacity Enhancement Project (DICCEP). After training on the industry cluster approach, three pilot projects were implemented: 1) established seaweed farms for the benefit of farmers, 2) created a directory of seaweed farmers and traders, and 3) developed a database on seaweed production. DICCEP also trained 95 farmers and housewives on seaweed value-adding and entrepreneurship. The project helped farmers to generate income, and processors to develop new value-added seaweed products. Throughout, DICCEP was sensitive to the gender breakdown among participants in the cluster. Although men took the main leadership roles, women were active in production and, particularly, post-harvest processing. Men were also active in post-harvest processing and their skills should not be overlooked.

Introduction

The seaweed industry is an important aquaculture industry in the Philippines, and in 2008, accounted for nearly 70% by volume of aquaculture production. More than half of the production came from Mindanao regions but, within Mindanao, the Davao Region contributed only 0.12% to the total Mindanao production in 2003. From this low base, however, the production volume has been increasing rapidly: the 2004 production was 80% higher than that for 2003, and the 2005 production was 53% higher than the 2004 production.

By province, within the Davao Region, Davao del Sur accounts for 67% of the total regional output followed by Davao Oriental at 33%. In 2005, the prospect of establishing a processing plant in Davao City encouraged the industry to continue improving its production performance.

Compared to other Mindanao regions, the Davao Region has the lowest utilisation of its total potential seaweed production area. The existing area planted with seaweed is 447 ha with Davao del Sur accounting for about 50%. Between 2005 and 2010, the utilised area was expected to expand by about 188 to 252 ha. Yield was also expected to increase to between 2,511 and 2,762 tonnes, based on the current rates of 3.93 tonnes ha-1 Davao Oriental was also expected to improve its yield as it had the largest potential area for expansion (BFAR/DTI 2005).

Seaweed production in the Davao Region is dominated by small-scale farmers who still suffer from problems of low productivity due to unfavourable

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farm locations, diseases and vulnerability to markets that they access through rural traders, wholesalers, retailers and processors. The produce of the more progressive farmers usually passes more directly to markets compared to the longer routes used by small-scale farmers. The progressive farmers have better access to transport and so can sell directly to the big exporters and/or processors. The produce of the small-scale farmers, on the other hand, has to pass through a series of middlemen before it reaches the exporters and/or the processors. Because exporters or processors determined the buying price, the small -scale farmers who are the majority of the producers receive only a small part of the value and profit. A large share goes to the middlemen, assemblers and wholesalers. The large-scale exporters/processors may be subsidiaries of foreign processors, independent exporters or processors/exporters. Growers have limited market information about the buying prices, and they have limited control over the pricing of products. As a result, they are poorly rewarded for their efforts and risks. Post-harvest inefficiencies also cause wastage and reduce both product quality and the incomes of farmers.

The seaweed industry cluster approach

To support the various actors in the industry, the seaweed industry cluster approach was implemented to enhance seaweed production in the region. The Manual of Operations of the DICCEP described the industry cluster concept and its approaches (DTI-JICA 2010).

An industry cluster is a geographic concentration of a specific industry together with its supporting and peripheral industries and service providers. It has potential to address four important factors for economic development: 1) demand conditions, 2) input factor conditions, 3) firm structure, strategy and rivalry, and 4) related and supporting industries. A cluster approach is an organised effort to increase the growth and competitiveness of a cluster within a region, involving cluster firms, government and/or the research community, and leveraging the potential of the industry cluster.

The Davao Industry Cluster, established in June 2009, is led by a Cluster Team that is the core organisation of the cluster approach. The Cluster Team's role is to maximise the advantage of industry clustering by networking with relevant stakeholders and support agencies, planning the actions of initiatives of the Cluster, and carrying out activities to improve competitiveness and growth of the industry.

Gender roles in the Davao industry cluster for seaweed

Under the Cluster Team for the seaweed industry cluster, Project Implementation Teams (PIT) (or Technical Working Groups [TWG]) are organised to implement the project efficiently. The activities of the TWG/PITs enable proactive collaboration, particularly securing the participation of those who have expertise in the diverse and relevant fields. A gender analysis of participants in the teams showed that project management is not totally dominated by men but also includes women (e.g. two of the six members of the Cluster Team are women). However, the team leaders are usually male.

The cluster aims to promote a globally competitive seaweed industry to improve the socioeconomic conditions of the stakeholders. To achieve this, the cluster collaborates with the private sector, government agencies, academe, fisherfolk and other stakeholders for a well-coordinated approach and unified direction. It includes several different associations of seaweed farmers, local buyers and traders, processors, academics and concerned government agencies.

After production, harvesting and early stage processing, dried seaweed from the Davao Region is sold to local traders and/or buyers in Davao del Sur, Davao Oriental and Davao City. Once the required volume is aggregated, the traders sell their stocks either to Martsons Inc., the sole seaweed processor in the region, or to seaweed processors in Cebu. Three projects carried out by participants in the Davao Industry Cluster illustrate the characteristics of the industry cluster approach and the gender roles in the Davao seaweed industry.

Project 1. Establishment of model cooperative farms.

In 2010, recognising the large potential of the seaweed industry, the Davao Seaweeds Industry Cluster Team, which is a core team composed of representatives from different organisations, identified two potential municipalities for the establishment of seaweed model farms. These were farms at Tambo, Island Garden City of Samal in Davao del Norte (initially with one model farm) and Punta Biao, Digos City in Davao del Sur (also with one model farm). The model farms were established in order to address the issue of low productivity due to such causes as unfavourable weather and vulnerability to diseases. The project was also designed to assist farmers with addressing financing and marketing concerns.

To ensure seaweed quality and to reduce post-harvest losses, technicians from the Philippine Bureau of Fisheries and Aquatic Resources (BFAR) and local consultants provided the 13 Punta Biao and 21 Samal farmers who operate as a group on the two model farms with hands-on development training. The training courses conducted were: 1) comprehensive basic and upgrading skills on seaweed

farming incorporating good mariculture practices and proper harvesting and drying; 2) basic entrepreneurial skills and knowledge; 3) organisational development and value formation; and 4) an orientation seminar on financial record keeping and credit raising. The training strengthened cooperation and provided farmers with the competence to manage the seaweed farms professionally.

The gender participation was balanced at Punta Biao in Digos City (total of 13 farmers) but women dominated (71% of the 21 farmers) at Tambo in Samal.

Project 2.
Profiling of seaweed production in model farms.

In 2009, academic institutions were included in the project. Schools, universities and colleges, and the Philippine Council for Aquatic and Marine Research and Development (PCAMRD) Zonal Center V, which is mandated to undertake research and development functions, participated. A database of seaweed farms in Davao Gulf was created so the farms could be monitored to establish trends in production and identify industry gaps and potential areas for intervention. Academics also conducted a value chain analysis of the seaweed industry in major production centres in Davao Region and on the model farms. The aim was to establish baseline information to help producers improve the efficiency of the marketing system and increase their incomes.

In total, 99 seaweed farmers and traders were surveyed in Punta Biao and 25 in Samal. Males carry out about 60% of the seaweed farming in each area. Of the two traders in Punta Biao, one was female and the other male. Trading in Punta Biao was dominated by females (six of seven traders).

In 2009, 21 producers in Tambo, Samal, were surveyed to determine their full range of activities. For all of the seaweed producers who responded from Tambo, seaweed farming was their primary source of income and fishing was their secondary income source. All of the seaweed farmers operated their seaweed farms on a household scale, with members of the family as helpers, and not through a cooperative or organisation. Thus, the Project's efforts to create the industry cluster and help the farmers cooperate in grading, packing and storing was a contribution to more efficient marketing. The size of seaweed farms of the respondents were 1.0–3.2 ha.

Of all the respondents, including seaweed farmers and others, most fished as their primary occupation (56%), with seaweed farming as a secondary source of income. The remainder, 44% of respondents, farmed seaweed as their sole source of livelihood. Other secondary sources of income included fishing (39%), sea cucumber collecting (29%), fish vending (14%), managing a *sari-sari* (small goods) store (5%), working in a rice mill (4%) or as a security guard (3%), while 1% each gained income from mat making, working as a barangay health labourer, laundry worker, construction labourer and driver. All respondents who were seaweed growers were members of a seaweed association and they operated their own seaweed farms. From among the respondents who engaged in seaweed farming as a secondary source of income, most of them (80%) owned a seaweed farm of 0.25 ha, 18% of them have 0.5 ha, and 1% own 1.0–1.5 ha farms.

Project 3.
Promotion and trawining programme for seaweed value-adding.

Project 3 aimed to: 1) create greater demand for seaweed by promoting value-added products; 2) provide training on the technology for seaweed value adding; 3) help promote the nutritional value of seaweed; 4) contribute to poverty alleviation; and 5) provide training to change the attitudes of farmers.

Many issues contributed to the limited production and utilisation of seaweed, among these were: 1) a lack of skills on value adding; 2) limited awareness on the nutritional values of seaweed; 3) a negative attitude among farmers; and 4) a lack of training and promotion programmes. To address these issues, efforts were geared towards promoting value-added seaweed products and developing skills for production to augment income of farmers as well as reforming the attitude of farmers. The seaweed farmers who took advantage of the value adding courses were gender balanced in the Punta Biao course but women dominated in Samal (15 out of 21 attendees).

Seaweed is in demand due to the variety of its uses. With its high nutritive value, local utilisation is not limited to fresh salad preparation or dried forms for phycocolloid extraction. Seaweed is also included in foods such as *Eucheuma* cupcakes and tarts and in organic fertilisers such as KD Foliar Fertiliser. In Samal, more women than men (about 70% out of 21 total) were involved in seaweed value-adding, whereas in Punta Biao, the female and male numbers involved in value adding were similar. This implies that both men and women show skills for value adding.

Conclusion

The Davao Seaweed Cluster provided an integrated platform for understanding better the industry structure, engagement of women and men in different parts of the supply chain, and issues faced by the industry. The cluster also enabled the producers to be reached and involved in planning and

training, including value adding activities. It also drew in the combined skills and knowledge of the farmers, private sector, government and academe.

The cluster in the Davao Region in the Philippines, was found to have both female and male participants. Even at the management level (Cluster Team), women have roles in planning, although the Cluster Team is led by a man. At the seaweed production and value-adding level, where farmers and housewives as family members are involved, a greater percentage of women are involved in Samal, Davao del Norte than in Punta Biao, Davao del Sur. The sample sizes on the model farms were small and few strong conclusions can be drawn on the difference. Men as well as women were found to have a significant role in value adding in both model farm locations.

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Gender roles in the mangrove reforestation programmes in Barangay Talokgangan, Banate, Iloilo, Philippines: A case study where women have sustained the efforts[1]

Farisal U. Bagsit and Caridad N. Jimenez*

Abstract

A study was conducted to understand the roles played by female and male members of the Talokgangan Concerned Citizens Association (TaCCAs) in the mangrove reforestation programme in Barangay Talokgangan, Banate, Iloilo, Philippines. When established in 1997, more members were men than women, but by 2010 most of the members of TaCCAs were women. Most members now are over 50 years of age, have elementary education, and have been residents since birth. Respondents reported that they joined the TaCCAs to help their community, to benefit from government projects, to organise as a group and to have other sources of income. Women's participation was higher in the planning process, during meetings, nursery development and in maintenance, as well as in mangrove management and protection. Men were involved in the construction and maintenance of fences in the mangrove area. Some of the benefits the respondents enjoyed from the mangrove replanting included protection from strong waves during typhoons, stability of the soil where their houses stood and monetary incentives from selling mangrove seedlings. Some of the issues encountered by the members included lack of support from other community members, lack of funds, and conflict within the household over time devoted to the work.

Introduction

Banate-Barotac Bay has traditionally been recognised as one of the richest fishing grounds in Panay Island, Philippines. However, fisheries production has significantly declined due to illegal fishing practices and the destruction of important habitats. Hence, the Banate-Barotac Bay Resource Management Council Inc. (BBBRMCI) was created in 1996. The BBBRMCI is an inte r-local government unit (LGU) alliance between the municipalities of Barotac Nuevo, Anilao, Banate and Barotac Viejo, in the Province of Iloilo, which aims to restore, preserve, and create opportunities and save the Bay from further deterioration.

Starting in 1997 under the resource generation component of a unified coastal resources management (CRM) plan, one of the early initiatives of the BBBRMCI was the rehabilitation of mangrove forests. In total, the four municipalities combined have 180.68 ha of mangrove cover (BBBRMCI et al. 2010).

One of the major efforts under this initiative was awarding 3.5 ha of mangrove area in Barangay Talokgangan, Banate, Iloilo to the Talokgangan Concerned Citizen Association (TaCCAs), a people's organisation (PO) that was also established in 1997. The BBBRMCI, the Philippine Department of Resources (DENR) and TaCCAs entered into a Memorandum of Agreement (MOA) in 2006 for the co-management of the mangrove area. The Local Government Code of the Philippines mandates that the LGUs enlist the support of POs and non-government organisations (NGOs) in the formulation and implementation of development policies and programmes (IIRR, LGSP, and SANREM CRSP/Southeast Asia 2001).

While detailed information on the techniques for mangrove reforestation is available, and the government as well as the private sector appears willing to invest substantial amounts of funds into mangrove rehabilitation, the success of these efforts varies greatly, and is often limited in scale and time (Erftemeijer and Bualuang 2011). People's participation and responses play an integral part in project implementation. Sound policies and programmes should draw on insights from development projects with respect to understanding the roles of women, men, and institutions and of people's interactions with the environment (Rola 1995). To date, there is little information on gender in natural resource management. Most empirical studies on gender focus on agriculture (Kumar 2011; Lu 2010; Rola 1995), water and sanitation (Rathgeber 1996), post-harvest

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activities and trade (Tran-Nguyen and Zampeti 2004; Siason et al. 2001; Lopez-Rodriguez 1996).

Hence, this study was conducted to describe the roles played by female and male members of the TaCCAs in the mangrove reforestation programme in Barangay Talokgangan, Banate, Iloilo, Philippines. Specifically, it aimed to: 1) determine the gender roles in the protection and management of mangroves, and 2) identify the issues encountered in the implementation of the mangrove reforestation project.

Materials and methods

Primary data were generated using a semi-structured interview complemented by a focus group discussion (FGD) with all active members of the TaCCAs. The questions referred to information on the roles played by the women and men relative to mangrove nursery development and maintenance, mangrove planting, mangrove management, protection and maintenance, reasons behind participation in the mangrove reforestation project, the benefits they derived from the mangrove resource, as well as the issues they encountered in the project implementation. Secondary data were also used.

Results

The study was conducted in Barangay Talokgangan in the municipality of Banate. Barangay Talokgangan is a coastal barangay located about 1 km north of Banate town proper. It has a total land area of 17.72 ha and a total population of 2,488, with 520 households (JICA and BBBRMCI, 2008). Some residents are engaged in farming, fishing, fish trading, fish processing, hired services (e.g. motorcycle or pedicab driver, carpentry work, laborer) and government service, while others are employed in private agencies (e.g. as security guards or sales ladies). There were two POs established in the area, the Talokgangan Small Fishermen Association (TaSFA) and TaCCAs.

The majority of the 13 respondents were women (11), of whom most were married (12) and older than 50 years of age (12). All members had attained elementary education and most had been residents of Barangay Talokgangan since birth (10). The average number of children of the respondents was four, the majority of whom were older than 18 years (12). The average annual income was PHP 35,199.84 (~USD 819). Some of the respondents augment their meager earnings by selling mangrove seedlings/propagules from the mangrove reforestation project nursery. TaCCAs members are able to sell large quantities of mangrove seedlings/propagules in a single transaction (e.g. USD 133) to students and government agencies engaged in mangrove tree planting. Net proceeds from selling the seedlings/propagules are divided equally among the TaCCAs members who participate in the potting and selling of mangrove seedlings/propagules for a particular transaction. In a household, the person who earns the money decides on how and where to spend his/her income.

The respondents' primary reasons for joining the TaCCAs included: to help other people and their community (8), to benefit from government projects/avail of loans (6), to be organised as a group (3), and to have another source of income (3).

Household chores fall within the responsibilities of the women. Women also played a significant role in most of the activities of the mangrove reforestation project, compared to their male counterparts who undertook fewer tasks (Table 1). Women's participation was higher than that of men's in the mangrove nursery development and maintenance, and planting, protection, management and maintenance of mangroves. Men on the other hand, were more involved than women in preparing fencing materials (cutting bamboo), and constructing and maintaining fences in the mangrove area. Planning and decision-making however were tasks shared by women and men.

Respondents spent an average of three to four hours per week usually from 06:00–09:00 hours, depending on the workload, to perform their duties as co-managers of the mangrove area.

Some of the benefits the respondents enjoyed from the mangroves included protection from strong waves during typhoons, and stability of the soil where their houses stand. Respondents recognised that mangrove stands along the shore had helped buffer their houses by serving as wind and wave breaks. Before the reforestation project, seawater reached the barangay's main road, about 0.3 km from the shoreline, during typhoons. In recent years however, with the mangrove reforestation project, residents noticed that during typhoons their houses were no longer inundated by seawater.

Another benefit the respondents enjoyed was the monetary incentive from selling mangrove seedlings/propagules and this motivated the TaCCAs members. While respondents acknowledged the remuneration they received from selling mangrove seedlings/propagules, they expressed their concerns about the unpaid balance for the planting materials and labour in their previous transactions with a government agency that hired their services.

Issues encountered by the TaCCAs members during project implementation included lack of support from other community members, loss of planting implements, lack of funds to support their activities and marital disputes in the household.

Table 1. Gender roles in the mangrove reforestation project.

Activity	Men	Women
Mangrove nursery development and maintenance		
1. Preparing planting materials		✓
2. Preparing nursery area		✓
3. Potting seedlings/propagules		✓
4. Cutting bamboo stakes (for the fence)	✓	
5. Fencing	✓	
6. Purchasing polybags and other materials for the nursery		✓
Mangrove planting		
7. Transfering of mangrove seedlings/propagules to the planting area		✓
8. Digging holes prior to planting		✓
9. Planting mangroves		✓
Mangrove management, protection and maintenance		
10. Attending meetings		✓
11. Planning	✓	✓
12. Decision-making	✓	✓
13. Coordinating with other agencies/organisation		✓
14. Sales		✓
15. Monitoring		✓
16. Clean-up of mangrove area		✓
17. Accounting of income and expenses		✓
18. Safekeeping of funds		✓
19. Installing sign boards		✓

Discussion

The TaCCAs was organised, through the assistance of the BBBRMCI, in response to deteriorating conditions in the coastal barangay of Talokgangan. It initially started with 28 members: 17 men and 11 women. Some of the male members were also members of the TaSFA while the females were wives of fisherfolk who were TASFA members. At the time of the study (October 2010), only 13 of these members remained active and 11 of them were women. Membership diminished when the Aquasilviculture Livelihood Project implemented by the TaCCA s within the mangrove area failed. Gradually, the men lost interest in the PO since they could no longer see potential income in the mangrove reforestation project. Since the establishment of TaCCAs in 1997, its leadership changed twice but each time it was headed by a man. At present, a male heads the organisation.

The average age of the respondents was 59, an observation that raises concerns for the sustainability of the mangrove reforestation project. Younger members will need to be recruited to TaCCas if the initiative is to continue.

The average annual income (~USD 819) of the respondents is well below the PHP 62,000.00 (~USD 1,442) annual income of the Philippine bottom 30% income group, which is considered poor (Ericta 2011). With this very minimal income, most of it is spent on food for the family. Others leave some provisions for their children's education and medicine. Since incomes are inadequate to cover other expenses than food costs, proceeds from the mangrove nursery, although small, contribute significantly to the household expenses, giving the women a greater sense of self-worth.

The women's performance of household chores is a reflection of their traditional roles as mother, wife, and housekeeper (Santiago 2008). Although half of the women respondents had work such as operating a small store or dressmaking, they reported that they gave priority to their mangrove activities when their participation was especially needed.

This was demonstrated in their high participation in most of the mangrove activities. A similar study entitled "Role and contribution of men and women in mangrove rehabilitation in Region VI, Philippines", presented by Dr Alice Joan Ferrer during the 9th Asian Fisheries and Aquaculture Forum and the 3rd Global Symposium on Gender in Aquaculture and Fisheries (GAF3) also showed high levels of women's participation in the mangrove rehabilitation activities in three of the six sites in Western Visayas, Philippines.

In the TaCCAs case, most respondents had grown-up children who had started their own families and this allowed the women to be more involved in the mangrove reforestation activities than if they had been raising their own children. Because it gave additional family income, the women found time to do their mangrove reforestation duties especially when there was a large order for mangrove seedlings/propagules and even when there was a conflict in their schedules. Most of the women's work (e.g. acting as a barangay official or dressmaking) was done within the community, allowing them to go to the mangrove reforestation site at times convenient to them. The women considered maintenance activities in the mangroves to be "meetings". Since they were all neighbours, they relayed discussions about recent plans and commitments of TaCCAs during their meetings to those who were not able to attend. The woman Barangay Councilor, who was a member of TaCCAs, facilitated effective coordination and communication with the Banate LGU and with the BBBRMCI. Consequently, a good feedback mechanism was in place for monitoring and extending technical assistance related to the co-management of the mangrove resources. This observation is contrary to the results of the study conducted by Plaza-Moralde (2007) in Samal Island, Davao Province, where men had higher participation rates compared to women in all phases of mangrove rehabilitation activities. In Barangay Talokgangan, the men were not always around to participate in most of the mangrove reforestation activities because they have regular employment activities.

Although women and men in coastal communities are dependent on coastal zone ecosystems for their livelihood, women and men depend upon, exploit and manage coastal resources in different ways. In the Philippines, a number of initiatives highlight the significant role of women, particularly in coastal resources management (Lopez-Rodriguez 1996; Tambuyog Development Center 1999). As shown by the members of the TaCCAs, women perform multiple roles. Rola (1995) showed that women involved in upland farming systems in the Philippines undertake household tasks and also generally do farm work, off-farm work and non-farm labour. In addition, activities of women have a direct bearing on the welfare of the family as they generally look after all the members of the household.

Planting mangroves entails time and effort. Government agencies that contract the services of TaCCAs for their own mangrove planting activities need to realize that people's time has a cost to them. Replanting their own mangroves, however, also benefits the local community and people should be prepared to make some investment of their own time.

One of the issues encountered by the TaCCAs members during project implementation was the lack of support from other community members because the others considered mangrove activities a waste of time. One respondent reported a marital dispute due to her absence from the household. Domestic violence and abuse occurs particularly when the wife takes part in resource conservation activities rather than remains at home and does household chores (Jimenez 2004).

This paper highlights the significant role played by women in a mangrove reforestation project. The members of TaCCAs, almost all of whom are now women, are determined to sustain the organisation in spite of its low membership. The commitment and cooperation of the members to serve TaCCAs has increased their consciousness of coastal resource management. The reforestation project has afforded them protection along the coastal zone and has also provided them additional income through the sale of seedlings/propagules. These are concrete benefits felt by TaCCAs members and the community as a whole, which can serve to promote more active participation in the organisation and other similar initiatives. Community involvement, particularly in this case women's participation, can sustain a development project. By contrast, the fishermen's association, TaSFA has not remained active because some of its members transferred to other places in search for alternative employment. According to one respondent, the declining catch from the seas can no longer feed their families. Another reason that contributed to the inactivity of the TaSFA was that no member took the lead in reviving the organisation. The previous leadership had issues with the management of finances, resulting in loss of confidence among the members.

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Strengthening livelihoods: A Vietnamese fisheries programme helps improve women's roles and participation in fisheries decision-making[1]

Angela Lentisco[2] and Hoang Thi Phuong Thao[3]

The Regional Fisheries Livelihoods Programme (RFLP), in collaboration with other fisheries institutions, has been trying to improve women's representation in decision-making as part of its goal to improve the livelihoods of fishing communities and the management of fisheries resources in six countries.

Since September 2009, RFLP has been working on five main components: co-management, safety-at-sea, post-harvest, livelihoods and microfinance. A strategic and cross-cutting component running through the main components is gender mainstreaming, implemented through the inclusion of gender equality considerations in the various stages of programme intervention.

One of the six countries implementing RFLP is Vietnam, where the project has been rolled out in three central provinces: Quang Nam, Quang Tri and Thua Thien Hue. A baseline survey carried out at the beginning of the programme indicated that there was a division of labour among fisher households of different fishing groups. In marine fishing households, only the men went to sea to fish, while in lagoon fishing households, both men and women used boats to fish. While most women of offshore fishing households were less likely doing the housework. In the afternoons, they helped their husbands repair fishing gear. They thus appeared to have very little free time for relaxation or entertainment. Further, the children in lagoon fishing households also joined their parents in fishing, in contrast to marine fishing households where women and children did not usually perform any such income-generating activities.

The baseline survey also noted a generational change in the livelihoods of fishing communities: fishing no longer appeared to be the choice of many young people. The lagoon and inshore fishers, in particular, did not want their children to be fishers, and many young people were moving into big cities to earn money. Despite the presence of a network of fisheries associations in the province, the survey also revealed a low level of awareness among both fishers and government staff of the concept of co-management. Women knew even less about co-management than men.

One objective of RFLP is to improve co-management. In Vietnam this translated into providing support to set up fisheries associations (FAs), although at the start of the project, FAs began by recruiting only male fishers. Later, appropriate measures were taken to ensure that FAs promoted membership among women.

Incentives to promote women's membership in FAs included promoting household membership, with both husband and wife together having to pay only a single membership fee; and financial support only for those livelihoods projects where women were FA members. As a result, the numbers of women in FAs increased considerably. Participation increased from 12 women out of a total 1,196 members in 2011 to 471 women out of 2,081 members in 2013.

Consultations held in Vietnam with RFLP's 14 communities in the three provinces during April and May 2012 revealed an increasing interest in a wide range of non-fisheries income-generating activities among both women and men. Activities included land-based agricultural efforts such as raising pigs, chickens and rabbits, and peanut cultivation. Other small business-related options included small-scale production for shoe and garment factories. Improving existing activities such as fish-sauce making and strengthening marketing links was also discussed.

The greater involvement of women in livelihood activities would further increase their workload because women still must attend to household work. However, it was reported that due to declining catches and RFLP supporting livelihoods activities involving women, male fishers were willing to spend more time helping with traditional "women's activities", such as pig- and chicken-raising. Men were also reported to have started contributing to household chores, so that women could dedicate more time to income-generating activities.

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Net gains

YouTube is a sea of resources for documentaries on women in fisheries[1]

Ramya Rajagopalan [2]

YouTube is an online resource that allows people to discover, watch and share originally created videos. YouTube allows for the easy creation of theme-based channels, a facility that is increasingly being used by organizations to upload video content on specific issues. There are several interesting international channels on fisheries on YouTube. This column covers a few of the major ones.

The Food and Agriculture Organization of the United Nations (FAO) Channel http://www.youtube.com/user/FAOoftheUN videos?live_view=500&flow=list&sort=dd&view=0) carries an informative introductory video to the Voluntary Guidelines on the Responsible Governance of Tenure of Land, Fisheries and Forests in the Context of National Food Security. Besides this, there is a video featuring interviews with governments, regional organizations, civil society organizations and academia on the upcoming international small-scale fisheries (SSF) guidelines (www. youtube.com watch?v=w0ryLppJ3iM).

The documentary "Lifting the Veil", covering Tunisia's clam fisheries, shows how FAO and its partners are actively strengthening the role of women in the beach clam fisheries subsector.

The channel of the FAO' s regional office in Asia-Pacific has a five-minute presentation on the invisible role of women in the small-scale fisheries as part of an Asia news flash (www.youtube.com/watch?v=Aa8llGee-Dk).

FAO regional offices have also uploaded other interesting documentaries, such as one on women in fisheries in Cambodia (www.youtube.com/watch?v=XL xkAM n ED yQ) and a seven-minute interview with a local chief of Community Fisheries in Cambodia, Nuor Chhai, which highlights the important issues that her community faces and how the Regional Fisheries Livelihood Project has helped improve community livelihoods.

Another interesting channel is that of the United Nations University (UNU). This has a few informative documentaries about *satoumi* — coastal areas in Japan where the sea and human beings coexist intimately. One documentary features *satoumi* in Hokkaido (www.youtube.com/watch?v=yRlB6fwW98U&list=PL8QnLThpVNcXJKx9285vQmyiTmo90s_2y), which shows the various ways in which the coastal community preserves a uniquely balanced interaction between the terrestrial and marine ecosystems. A more detailed documentary on *satoumi* in this channel (www.youtube.com/watch?v=KkgHbrXoXes) shows how the practice is linked to livelihood maintenance.

The UNU channel also has a documentary on the Ama women divers of Japan who have been practising sustainable fishing for hundreds of years (Where the Sea Whistle Echoes: www.youtube.com/watch?v=sTIf2vA-_JQ). Another splendid view is a documentary that follows the experience of a number of large and small fishing communities in Miyagi and Iwate Prefectures. Key individuals from these communities explain the impact on their lives of the 2011 tsunami (Standing Strong Again: Rebuilding the Fishing Community of Kesennuma—www.youtube. com/watch?v=miGwjQa0txo)

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Chronicles of oblivion

A documentary film on female fishworkers from Odisha, India[1]

Produced by Dakshin Foundation, Directed by Priyanjana Dutta, with the support of Duleep Matthai Nature Conservation Trust

Duration: 25 minutes, Language: English

Odisha means the "land of the people". There are an estimated 35,304 full-time fishers in the Indian State of Odisha (formerly known as Orissa). Of them, 7,973 are women. Besides these full-time women fishers, there are 12,499 women who work as part-time fishers. The film "Chronicles of oblivion" documents the lives of Odisha's women fishworkers in different parts of the State.

Among the women shown in the film are the crab-catchers of the Bhitarkanika wildlife sanctuary. Since the entry of these women into the sanctuary area is completely restricted, they have to constantly fight the fear of arrest by forest guards or of being attacked by crocodiles and other wild animals. Many feel that it would probably be better for them to learn some other trade. These illiterate women are often also cheated by fish sellers. Their lives typify the challenges that fisherwomen of Odisha face as they pursue their traditional livelihoods in the face of modern day restrictions from the government and the development process.

There is very little support for female fishworkers in government policies and plans. The focus of existing policies has been on increasing fish production and modernizing the fisheries. They exclude the needs of traditional fishing and of women engaged in these activities. The women, over the years, have developed their own means of livelihood, fishing in creeks and rivers, using small nets to catch crabs and fish. The film tries to show how important it is that these women be included in government planning and decision-making process in the fisheries sector.

But what promise does this State hold for its forgotten people? Women from marine fisher communities have historically been a neglected lot. The stories of women living along diverse landscapes of Odisha's 480-km coastline are of struggles for survival.

The daily lives of fisherwomen hinge on numerous uncertainties. Confronting a situation of depleting fish catch and unsustainable fisheries, women located along biodiversity-rich habitats also have to contend with the fickleness of legal conservation restrictions, which have dealt a severe blow to their livelihoods and ways of life. The film reveals the insidious impact of sea turtle conservation as seen through the eyes of the women fishworkers of Odisha. These women and their families are losing access to their land and other resources and are frequently displaced in the name of conservation or development. Further, these fishers also face problems of identity as they are often regarded by government regulators as illegal immigrants from Bangladesh.

The stories of Odisha's women fishworkers guide the narrative of this 25-minute-long film, revealing the highly unequal and invisible world that they inhabit.

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Two leaflets promote careers for women and men in fisheries

If you have a taste for adventure, you could become an on-board observer on a tuna fishing boat. If you want to work with local communities and design marine resource management plans, you will likely need a degree in fisheries science. If you are a woman, you may want to join the growing number of female fishery workers who hold positions of responsibility in the tuna industry.

These are just a few examples of careers covered by two leaflets produced by the Secretariat of the Pacific Community to inform women and men about jobs in the fishing industry (see: http://www.spc.int/fame/en/projects/scicofish/activities/179-brochures).

The following texts are extracted from the leaflets.

Fisheries Observer, a career for both women and men

For many Pacific Island countries, fisheries are the most valuable natural resource. At the front line of protecting those fisheries is the Fisheries Observer. Because they are present at the fishing grounds, observers are the "eyes and ears" of fisheries managers, scientists and compliance officers. As an observer, you will collect information from commercial fishing vessels, and ensure that it is accurate and unbiased. The role of the Fisheries Observer is crucial because for some data, the observer is the only person who can independently verify the data supplied by fishermen. The data may later be subject to scientific review or court interrogation, so needs to stand up to scrutiny. There is no doubt that working conditions are tough on a fishing boat. You need to be prepared to handle unusual, sometimes difficult, working conditions. But you don't have to be a superhero to apply.

Can women apply? Absolutely!

Attitudes are changing and more and more women are seen as being just as capable as men in the fisheries industry. At the end of 2012, around 40 women from Solomon Islands, Marshall Islands, Kiribati, Palau and Papua New Guinea had been certified as Fisheries Observers.

Careers for women and men in the tuna industry

Around 60% of the tuna caught, canned and eaten around the world comes from the western and central Pacific — the world's biggest tuna fishery. The job market in the tuna industry is growing fast and employers are eager to attract more young people from around the region. And, with recent changes in regional policies, exciting new opportunities have opened up for people of all ages who are keen to create and manage their own businesses.

Women and men – equal opportunity

Over the past 20 years, attitudes towards women working in the tuna industry have change, and people have come to acceptance that careers in the industry are equally appropriate for men and women. More and more training and development opportunities are opening up in tuna processing, quality control, and research and management, and the number of women working in these areas is increasing. These women are demonstrating that there are no physical barriers to them doing the work.

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