



Women in Fisheries

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10 Women learn to build boats through the Women in Fisheries Network – Fiji



Inspiring profiles:
Tikantaeka
Tiim Tavita



Inspiring profiles:
Sheryne Rosalia
Kanawale

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Cover picture
Lady working in the final product
section of SolTuna, Solomon Islands
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Ten women learn to build boats through the Women in Fisheries Network – Fiji

Fiji Ministry of Fisheries and Forestry¹

Globally, small-scale fisheries are an important source of food and livelihoods for rural communities, and women play crucial roles in these fisheries, as they fish and glean for their subsistence. In a village boat, they are often able to make trips into the deeper waters to fish for bigger fish species which is often sold to interested buyers or taken to the nearest market. The huge transport challenge remains, and there are the same in communities across Fiji, a priority often for the men and their programmes for fishing.

The Women in Fisheries Network – Fiji (WiFN-Fiji) plays a huge role in building networks and partnerships to enable sustainable fisheries in Fiji. A lot of work must be done in try to make ends meet for their families.

WiFN-Fiji Director Adi Alini Tavoulevu explains, ministers, and national and regional agencies in developing, designing, and directing our activities. We also focus on appropriate, and economically sustainable, locally appropriate, and environmentally sustainable, socially recognised and valued.

WiFN-Fiji signed a Memorandum of Understanding (MOU) with the Centre for Appropriate Technology and Development (CATD) in Nadi in June 2022, with the common desire to explore synergies that will assist and promote capacity building for communities and CATD in Fiji and the Pacific region. The MOU included an agreement to provide opportunities for learning and enhancing community awareness based on ocean-related knowledge and skills, especially in the maritime areas of Fiji under the Blue Accelerator Grants Scheme, with WiFN-Fiji as implementing partner and was successful. Part of this project included a Fishing Canoe Building Workshop.

WiFN-Fiji introduced CATD to 10 women fisher participants (15-19 kg) that would make a canoe using lightweight material locally. They were able to provide feedback on the pilot canoe in the future be constructed. It is hoped that these women in Fisheries Forum conducted in March 2023, some women had shared that they contacted in March 2020, a woman contacted a bamboo raft for her 15kg to get someone to social construct around women fishers not being allowed to owned a fiberglass boat with an engine.



Workshop participant learning to build boat. (Ministry of Fisheries, Fiji)

Salote grateful for opportunity

Salote Tadokisi from Nakunaga Village in Nadi is called to participate in the training. I did not hesitate as I know that it would assist me in the future. Most times, we have to wait for the men to assist us in travelling out to sea as they see good boat success. Sometimes, there are no boats as we have to look for alternative transport. This training has been an eye-opener for us as we can now build our own canoes and use it whenever we want.

Harppera imparts life-long skills to participants

Harppera 20 years ago in design a cruising boat which solved some of the problems most canoeing boats had.

Since then, we have developed a range of low cost, sturdy, built and sailed canoes which are being built around the world. I also designed and built a 24 m cargo carrying solar/wind powered boat, the prototype of which is at CATD to be tested. It was important for us to teach these women in building boats as they can catch fish to feed their families and provide income.

¹ Ministry of Fisheries, Forestry, and Aquaculture
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Gleaning fisheries in the Asia-Pacific

Jacqueline Lau¹, Gianna Bonis-Profumo², Chelcia Gomeses³, Salanieta Kitolelei⁴, Tarryn O'Leary⁵, Ana Pinto da Silva⁶, Noviana Simões⁶ and Ariadna Burgos⁶

Introduction

Gleaning practices, collecting marine organisms from the coastal zone, are critical but poorly understood small-scale fisheries. Gleaning fisheries support food and nutrition security, contribute to coastal livelihoods, and hold important social values (Chapman 1987; Whittingham et al. 2003; Graham et al. 2020) (Fig. 1). However, they continue to be excluded from economically oriented fisheries assessments (Kleiber et al. 2014). There is an urgent need for a global perspective on the management of gleaning fisheries combined with local assessments and monitoring that integrate fishers' perceptions, views and knowledge (Burgos 2016).

Eight early career-researchers and practitioners from the Asia-Pacific and beyond, gathered in James Cook University, Townsville, Australia from 5-8 June 2023 for a professional development Workshop on Gleaning Fisheries in the Asia-Pacific (Fig. 2). The workshop was designed to provide a space for dialogue, share skills, build connections, develop professionally, and identify key challenges and research priorities about gleaning fisheries in the Asia-Pacific. The workshop included participants from Timor-Leste, Fiji, Solomon Islands, Australia and Colombia.

In this report we summarise broad information about gleaning fisheries in the Asia-Pacific, outline challenges, frameworks and methodologies for studying gleaning fisheries, and highlight priorities for future research. Note that the frameworks and approaches described here reflect the expertise of workshop participants and are not exhaustive.

Gleaning in the Asia-Pacific region

Gleaning is widespread in the Asia-Pacific region, typically occurring in the intertidal zone, including nearshore coral reef flat habitats, mud and sand flats, as well as mangroves. During the workshop we discussed different terms for gleaning; however, within the indigenous Fijian culture, the name of the gleaning technique refers to the method and the target resource. We concluded that the term 'gleaning fisheries' best covers a range of techniques, but note that what counts as gleaning may differ for different people and disciplines. For instance, from the point of view of some participants, gleaning may differ for different people and disciplines. For instance, from the point of view of some participants, gleaning may differ for different people and disciplines. For instance, from the point of view of some participants, gleaning may differ for different people and disciplines.

Gleaning is a seasonal activity and depends on the weather and the moon cycles that drive tidal flows. It can happen in the night-time and daytime. Gleaning fisheries are accessible and low-cost; they occur in a diversity of habitats including rocky reefs, coral reefs, intertidal flats and mangroves, and are often pursued by fisherwomen and children (Harper et al. 2013). Gleaning fisheries use traditional fishing methods to collect a diverse range of small fish, molluscs, shellfish, crustaceans and seaweed. Many small-scale fishers rely on these resources gathered from gleaning for their livelihoods. These resources make an important contribution to local economies through the sale of high-value catches such as octopus (Waller et al. 2023), and skills for ornamental products that contribute to income from tourism (Barclay et al. 2018).

The resources gathered through gleaning also provide key food and nutritional benefits. These benefits include providing a source of protein and essential nutrients and are particularly critical for mothers and young children, who have higher nutritional requirements and are more vulnerable to nutritional insecurity. Fish and seafood are a rich source of high-quality protein and bioavailable haem iron and alongside other aquatic foods such as seaweeds.



Figure 1. Technique for harvesting the shell *Coccoloba togirita* in Papua New Guinea. (© A. Burgos, J.C. DeJouvenet and R. Dillaha)

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Editor's note

This 38th edition of the Pacific Community's (SPC) *Women in Fisheries Information Bulletin* has 13 original articles, largely from the Pacific region.

Jyanti Singh shares how a Social Responsibility Assessment Tool is being used to examine Fiji's domestic longline fishery. The Fiji Ministry of Fisheries and Forestry wrote an inspiring story on the Women in Fisheries Network – Fiji's efforts to support women fishers to learn to build boats. Ann Singeo shares how women fishers in Palau are cooperating to revive a depleted sea cucumber fishery. Tara Pierce writes on restorative ocean farms as nature-positive food systems that mimic the ecosystem by cultivating multiple species in one location. Three significant publications have recently come out that are worth a read. The Pacific Community has published the *Pacific Handbook for Human Rights, Gender Equity and Social Inclusion in Tuna Industries*, a guide designed to assist fisheries practitioners in national agencies, the private sector, training institutions and civil society organisations. The Food and Agriculture Organization of the United Nations (FAO) published the Illuminating Hidden Harvests study, a mammoth report involving over 800 collaborators from around the world, including a team of over 28 gender advisors. Finally, a global review has been published on gender-based violence in fisheries that includes recommendations for fisheries practitioners and policy makers on how to work towards addressing this in their sector.

Keep those wonderful stories, inspiring projects and publications coming. As always, I am grateful for (and in awe of) our authors who take the time to share their work. We welcome several new lead authors to the bulletin – Taati Eria, Sheryne Kanawale, Muhammad Khan, Jacqueline Lau, Tara Pierce, Ann Singeo and Jyanti Singh.

Sangeeta Mangubhai

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Applying the social responsibility assessment tool to Fiji's domestic longline fishery

Jyanti Singh¹

The core social responsibility for coordinating and implementing the social responsibility tool in Fiji is mainly with a team of women working in the fisheries space – Jyanti Singh, Leba Dranivesi and Juno Fitzpatrick from Conservation International, Natalie Makhoul and Josephine Kalsuak from the Pacific Community (SPC), Sangeeta Mangubhai from Talanoa Consulting, Shaunalee Katafono from TraSeable Solutions and Emilie Carroll from Elevate.

Introduction and background

A human rights-based approach to the sustainable development in the fisheries sector is a critical pathway to realising the human rights of all, and towards balancing the interlinked and interdependent economic, social, and environmental dimensions of the United Nations (UN) Sustainable Development Goals. For decades, environmental pillars have dominated the fisheries management and seafood markets sustainability agenda. However, it is apparent that all environmental sustainability efforts have failed to recognise and include the underlying issues of human rights and labour abuses such as chronic poverty and systemic inequality, abandoning the social component (Finkbeiner 2023). Historically, there is less recognition and understanding of social accountability factors within environmental and economic sustainability efforts, in part due to the limited collection and evaluation of social data within seafood supply chains (Barclay 2012; Kittinger et al. 2017; Teh et al. 2019).

The national and regional fisheries policy objectives comprise biological and socio-economic objectives; yet fisheries scientists and managers are inclined to focus more on meeting the biological objectives, and socio-economic objectives are still poorly defined (Pascoe et al. 2014). For instance, when evaluating the Harvest Control Rules (HCRs), which are the pre-agreed management actions for a fishery and for specified fish stock and are developed to achieve the biological, ecological and socio-economic management objectives, the primary focus of the management evaluation is on the biological objectives of the fishery (Punt 2010; Barclay et al. 2023). Following the evaluation, a recent study led by Kate Barclay suggests the integration of social issues in the HCR process, where one or more quantifiable social objectives should be embedded in HCR analysis, which could make social considerations in a fishery more implicit and support in aligning the biological and ecological objectives together with socio-economic management objectives (Barclay et al. 2023).

In the Western and Central Pacific Ocean (WCPO), marine wild capture fisheries have persistently been challenged by interlinked issues such as illegal fishing, high seas management, human trafficking for labour exploitation and deplorable labour conditions, but fish stocks and fishery governance are put at the forefront without any integration of social-ecological systems, which is an emerging concept of understanding the interaction between humans and environment (Biggs et al. 2021). Thus, failure to amalgamate these social-ecological considerations results in social-ecological complications in informing the sustainability policy and practice (Biggs et al. 2021; Fitzpatrick

2021). Through transdisciplinary approaches, these issues could be addressed by including integrated system-based or place-based approaches to fisheries management (Syddall et al. 2021).

Some of the pervasive set of social issues faced by fish workers in the fishing industries are forced labour such as practices during the seafood production and processing which violate an individual's civil and political rights (Marschke and Vandergeest 2016), whereas more latent and common issues include discrimination, denial of fair access to and sharing of benefits, salary retentions, food and livelihood security, right to decent work (MacNaughton and Frey, 2011), education, health care, and cultural identity – these issues reflect violations of people's economic, social, and cultural (ESC) rights, according to the International Covenant on Economic, Social and Cultural Rights (ICESCR). Hence continued violations of these rights pose challenges to socio-economic sustainability of fisheries that require the same amount of consideration and effort as other fisheries management measures such as overfishing and unsustainable fishing practices (Teh et al. 2019).

The scale of forced labour, modern slavery and inhumane treatment have been well documented by investigative media journalism but less has been actioned to address these human rights issues through the available data. The global slavery index figures produced by the International Labour Organization (ILO), Walk Free Foundation, and the International Organization for Migration (IOM) estimated about 50 million people were living in modern slavery on any given day in 2021, with about 28 million in forced labour (Walk Free and The Global Slavery Index Report 2023). These estimates produced from 160 countries noted an increase in 10 million from the 2018 global slavery index. Haas et al. (2023) in their study highlighted the global estimates of forced labour from ILO that indicated about 2 million workers in fisheries, aquaculture and agriculture are exposed to forced labour. The opaque nature of fishing operations makes it difficult to identify the true extent of human rights abuses. Estimates suggest that over one quarter of fishing vessels globally may use forced labour (Joo et al. 2023).

Interlinked issues of illegal fishing and human trafficking for labour exploitation

Declining fish stocks resulting in revenue falls, coupled with growing demand for cheap seafood, has increased the fishing crew abuses (Environmental Justice Foundation 2019). Consequently, fishing vessels are forced to go farther out to high seas, lengthening fishing trips and causing a rise in fuel

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costs. To minimise these costs, vessel operators tend to reduce the costs related to safety of labour, living and working conditions, and vessel maintenance, which leads to undermanning and tiredness that cause human errors and accidents onboard fishing vessels (FAO 2015). The UN Office on Drugs and Crime (UNODC) reports that many fishers are traded from vessel to vessel and, because they cannot escape, are “de facto prisoners”. A narrative has been emerging that fisheries violations such as human trafficking, the use of forced labour and drug trafficking are closely linked with illegal, unreported and unregulated (IUU) fishing and the depletion of fish stocks (Liddick 2014; Telesetsky 2014; Mackay et al. 2020). The fishing vessels and crews spend extended periods of time at sea to increase catch volume and to remain profitable. Some tuna longliners, for example, stay at sea for months or even years when aided by at-sea transshipment (Wold 2021). The IUU fishing contributes to losses of social and economic opportunities, detrimental impacts on food security and environmental protection, and serious impairment of efforts to rebuild depleted fish stocks (FAO 2002), and therefore providing proper work conditions for crew is critical to fisheries management.

Gender and equity in tuna supply chains

The Universal Declaration of Human Rights and other human rights treaties (Resolution A/RES/70/1, UN General Assembly) established the sustainable development agenda for 2030, which implies that any management actions and policies to be developed in meeting Sustainable Development Goal 14 (Life below water) will be inclusive of the human rights ethics together with gender equality. Mangubhai et al. (2023) state that gender-based violence occurs in the fisheries sector when forced labour is present, revealing different gender roles and responsibilities on vessels that foster hypermasculinity. Tuna fisheries are recognised as a highly masculine industry, where women are treated as a minority; however, this perception fails to account for all the women involved in tuna value chains. In the Pacific Island countries, onshore employment is higher than at sea, with more opportunities for women. About one third of tuna employment in Pacific Island Forum Fisheries Agency (FFA) member countries is at sea on fishing vessels and as fisheries observers, and two-thirds is onshore in processing and ancillary services, and fisheries management (FFA 2020).

Fiji's industrial tuna fishing has been linked with sex work and human trafficking (SPC 2004; Sullivan et al. 2008; Schoeffel 2015; Syddall et al. 2021). Prieto-Carolino et al. (2021) claim that more male fishers are onboard fishing vessels while women are largely engaged in handling, processing and marketing, and in business administration. Similarly, the FFA member countries reported that women were 44% of all the employment in tuna fishing, processing, and fisheries management in 2019, decreasing from 52%



Two Fiji flagged fishing vessels at Muai-Walu Port 1. @Jyanti Singh

in 2016 (Barclay et al. 2022). There is gender division in industrial tuna fisheries where 70% of women are employed in processing facilities (canneries and loining plants), 30% in the public sector and less than 1% in the harvesting sector (Barclay et al. 2021). The economic, social and health impacts on women vary widely depending on the scale of the operations and people's positions and power within the operations in processing facilities.

The Western and Central Pacific Fisheries Commission (WCPFC) is the regional fisheries management organisation responsible for long-term conservation and sustainability of the highly migratory fish stocks (tuna) and the management of fisheries operating in the Western Central Pacific Ocean. WCPFC has a non-binding resolution (Resolution 2018-01) on labour standards for crew on fishing vessels that revolves around CCMs (members, cooperating non-members and participating territories) establishing the minimum standards in accordance with the international standards for crew labour conditions on the fishing vessels flying their flag and operating in the WCPFC convention area in their national legislations and regulations with proper enforcement of these legislations and regulations (WCPFC 2023a). Recently, in 2020, a draft binding Conservation Management Measure (CMM) on labour standards for crew on fishing vessels was proposed by Indonesia, which was then referred to the WCPFC intersessional working group; since then, workshops and meetings have been conducted in developing this CMM (WCPFC 2023b; Haas 2023). The most updated draft of the CMM in 2022 has been renamed to conservation management measure on safety and security of crews on fishing vessels (WCPC 2021).

The process of diffusing social management measures and policies (human rights policies) and gender-based policy approaches at WCPFC level and at national level has been slow in entering the larger tuna fisheries management systems and sustainability frameworks (Syddall et al. 2022). This indicates the lack of understanding because of limited social data and significance placed on social attributes of management. Within the Pacific Island region, the long-term sustainability of tuna fisheries requires increased investment in social and environmental sustainability and key enabling conditions to strengthen governance, capacity and market engagement. There is a need for sector-wide implementation of effective tools to protect human rights at sea. In the Pacific, there is an opportunity for governments, businesses, and civil society partners to work together to reduce the risk of social abuses onboard fishing vessels and implement social safeguards, bringing together market incentives, governance improvements, and innovative tools and technologies. This paper provides a brief overview of conducting a social responsibility assessment in Fiji's longline fishery, a first of its kind to be rolled out in South Pacific fisheries.

Jurisdictional approach to tuna

Conservation International's Jurisdictional Approach to the Pacific Tuna Initiative, launched in mid-2021 in Fiji, is a place-based approach undertaken in commodity-producing regions and promotes sustainability through aligned incentives among key stakeholders, including producer communities, government, and supply chain companies in the Pacific Islands region (Kittinger et al. 2019). The jurisdictional approach aims to strengthen the fishery



management by ensuring the long-term benefits of the tuna resource for the region are achieved through world-leading practices in *environmental sustainability, social responsibility and cultural perpetuation*.

Moreover, this approach provides for mapping the knowledge and regulatory deficiencies and the supply chain risks that may be perpetuating human rights abuses in the WCPO, providing technical support to the stakeholder-led development of place-based policy commitments, improvement plans and/or verification systems to ensure sustainable production practices, together with the protection of biodiversity and safeguarding of human rights in alignment with FFA's Harmonised Minimum Terms and Conditions (HMTCs). The approach will also strengthen existing partnerships, and develop new relationships between Fiji's domestic offshore fisheries sector, government, civil society, national and international market actors, and other stakeholders that can collectively contribute towards a holistic and harmonised approach to ocean protection and sustainable fisheries production in Fiji.

The Monterey Framework for Socially Responsible Seafood

Conservation International (CI), together with an array of environmental practitioners, human and labour rights advocates, academics, and industry representatives, has developed the Monterey Framework for socially responsible seafood (Kittinger et al. 2017), a consensus framework that defines the aspects of socially responsible seafood. The Monterey Framework unifies a continuum of social issues experienced in the seafood sector and is based on the FAO Voluntary Guidelines for Securing Sustainable Small-Scale Fisheries (a co-designed and negotiated resource with input from over 4000 fish workers and other stakeholders from 120 countries over a two-year process), the UN's Universal Declaration of Human Rights, the ILO fundamental conventions and the ILO Work in Fishing Convention and all international protocols and standards encompassing treatment of fishers, communities, safety practices, and access to food and first aid, among other key rights and needs (Conservation International 2021b).



A Fiji flagged vessel at Muai-Walu 1 port that participated in the Social Responsibility Assessment @Jyanti Singh

The Monterey Framework is built on three principles:

Principle 1: Protecting human rights, dignity and access to resources

Principle 1 supports the fundamental human rights of fish workers to be respected, labour rights protected, and decent living and working conditions provided, particularly for vulnerable and at-risk groups. Rights and access to resources are respected and fairly allocated and respectful of collective and indigenous rights.

Principle 2: Ensuring equality and equitable opportunity to benefit

Principle 2 supports recognition, voice, and respectful engagement for all groups, irrespective of gender, culture, and political or socio-economic status, ensuring equal opportunities to benefit to all, through the entire supply chain.

Principle 3: Improving food and livelihood security

Principle 3 supports the nutritional and sustenance needs of resource-dependent communities so that they are maintained or improved by securing and improving livelihood opportunities including fair access to markets and capabilities to maintain income generation.

The Monterey Framework consists of these three pillars that address civil, political, economic, social, and cultural, collective and indigenous human rights. Having the alignment with the Monterey Framework recalls government and businesses' legal and ethical obligation to meet global

standards and helps fulfil UN Sustainable Development Goal 14 to conserve and sustainably use the oceans, seas and marine resources for sustainable development (Conservation International 2023).

Social Responsibility Assessment (SRA) Tool

CI has worked to operationalise the Monterey Framework from high-level principles into practice through the Social Responsibility Assessment (SRA) tool.

What is the SRA tool?

The SRA is a co-developed tool for conducting human rights risk assessments in seafood supply chains (Conservation International 2021b). The SRA is used to assess the risk of social issues, identify areas in need of improvement and inform the development of an action plan that aligns with international best practices outlined in the UN Guiding Principles on Business and Human Rights (UNGPs). It is only one component of a more holistic human rights due-diligence framework. Following the UNGPs, the components of a due diligence program includes embedding responsible conduct into a business's policies and internal systems, assessing adverse impacts, preventing and/or mitigating impacts, ongoing monitoring, and then communication, both internal and external, about how adverse impacts have been addressed. The SRA tool is to be used in a broader 5-step human rights due diligence process with adequate verification and remediation measures, with worker representation, legally binding and enforceable agreements, and changes to brand purchasing practices (Conservation International 2021b).



Fiji flagged vessel unloading at Muai-Walu Port 1. @ Jyanti Singh

The primary aim of the development of this tool is to assess the risks of existing and potential social issues in the fishery at the vessel, farm, and processing facility level, identify the important information gaps and areas in need of improvement and inform the co-development of a continuous improvement plan. Together with assessing the fisher worker voices and their treatments in industrial fisheries and small-scale fisheries, this tool includes assessment for corporate social responsibility to help understand and improve the everyday well-being of workers in the seafood industry. Corporate social responsibility is the process of treatment of the stakeholders of a company in an ethical and responsible manner and the responsibility of the organisations in illustrating the impact of their operations on society and the environment through transparent and ethical actions that contribute to sustainable development as per the local legislations and international standards (Hopkins 2006; Bermúdez and Mejías 2018). In recent decades, corporate social responsibility has been emerging in many high- and medium-to-small-scale companies, which can benefit companies in integrating their operations in alignment with their social environment, thus strengthening their relationships and achieving greater audience recognition by their sourcing buyers (Caceres et al. 2023). The assessment of corporate social responsibility in the fisheries sector examines internal human right policies, recruitment guidelines, codes of conduct and grievance mechanisms for fishing crews and fish workers in the fisheries sector.

An alliance of existing social certifications, ratings and standards has been used to develop the social responsibility assessment tool. Concurrently, with these certifications, ratings and social standards, the SRA tool also has integration of all relevant International Labour Organization (ILO) standards and protocols defined for small-scale and industrial fisheries. Among these existing certifications, ratings and standards are the certification and ratings collaboration framework on social responsibility for the seafood sector (Opal 2018), Fishery Improvement Plan (FIP) Rapid Assessment Protocol (OSMI 2018), Seafood Slavery Risk Tool (SSRT), Capture Fisheries Standard (FTUSA), and Clearview, to name a few. A full list of all the certifications and ratings included in the

SRA tool can be found in the social responsibility guidance document (Conservation International 2021b).

A local representation of social science and human rights expertise in forming an assessment team is essential in deploying this SRA tool in a selected geography. Primary and secondary data collection are both used in this tool, where primary data collection involves desk-based research while secondary data collection requires field-based interviews, surveys, and focus group discussions with workers. Data collected through these data programs (primary and secondary) are analysed to develop a set of recommendations and a corrective action plan for the fishery, which is shared with all fish workers, their representatives and the relevant local stakeholders to initiate the co-design of an improvement plan.

Applying the SRA Tool in the context of Fiji

The SRA tool has been applied to Fiji's longline fishery to scale the implementation of the holistic human rights risk assessment processes at the level of fish worker (captains, crew, and observers), vessel, and management/fishing company in the country. Through the multistakeholder collaboration of local and inter governmental stakeholders such as Ministry of Fisheries, Fiji Fishing Industry Association, Pacific Community (SPC) and Pacific Island Forum Fisheries Agency (FFA) and a local social responsibility group, the SRA is applied to identify and improve social issues in the fishery, promoting the fish worker well-being and decent work in the seafood sector of Fiji as one of the sourcing jurisdictions of the WCPO.

The high-level SRA implementation plan is carried out in three phases in Fiji:

Figure 1 presents the high-level SRA implementation plan which is used to pilot the SRA tool in Fiji's longline fishery.

Phase 1: Desk-based research

Phase 1 provides a multi-level, desk-based risk assessment of the geography, flag state, enterprise policies, regulations, and procedures. At the jurisdictional level this desk research collates all the secondary information available on the domestic labour laws from legislations, regulations, policies,

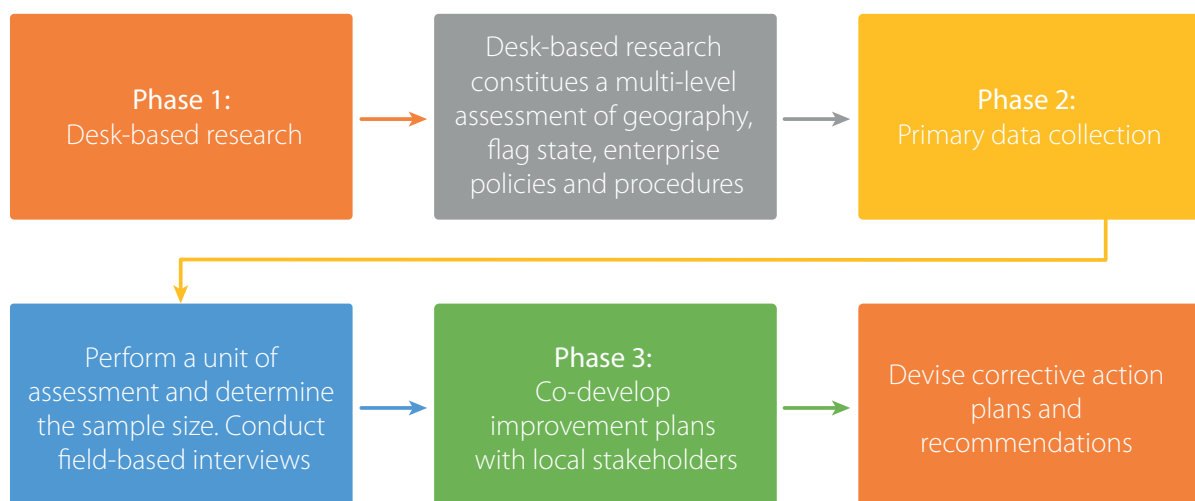


Figure 1. High level Social Responsibility Assessment (SRA) Implementation Plan

strategies and guidelines that address the social responsibility performance indicators of holistic human rights and specifically rights for fish workers and migrant workers in the country. In addition to this, the desk research evaluates the ratification status of all relevant ILO conventions in the country. The SRA also reviews the fishing companies' codes of conduct, internal policies, and guidelines to assess the corporate responsibility indicators of the SRA.

Phase 2: Conducting primary data collection

The primary data collection using the SRA tool is performed as an on-site assessment of the targeted fishery or seafood sector in a geography.

Unit of assessment

Before the primary data collection, a unit of assessment of the fishery involved is conducted by an SRA assessor by identifying the sample size, given the complexity of the participating fishery, that is representative of all the fishing vessels taking part in the Improvement Plan. For Fiji's case, Fiji's domestic fishery is surface longline fishery that mainly targets South Pacific albacore tuna and a total of 16 fishing companies with approximately 69 fishing vessels (including both Marine Stewardship Certified (MSC) and non-MSC vessels) and four fish landing sites.

Informed consent and survey tools

Prior to carrying out the primary data collection, an informed consent for participants, either in written or verbal form, is important to safeguard all the participants. This includes providing a brief overview of the research, its objectives, any anticipated associated costs and the potential benefits of the research. Additionally, the participants are assured of the confidentiality and anonymity of the research, that there are no correct and incorrect answers to the research questions and that their participation in this research is voluntary.

In the context of Fiji, the SRA tool for this pilot study is applied only to fishers (fishing crew and workers) on Fiji flagged and foreign vessels that are licensed to fish within Fiji's Exclusive Economic Zone (EEZ), and other EEZs and high seas, vessels, and to fishing industry management level; at this stage of the study it does not extend to fish processing facilities of Fiji's longline fishery. However, in a parallel study, the SRA is being rolled out in processing plants of New Caledonia's domestic fisheries. For Fiji, the primary data collection is through field-based interviews of fish workers (crews, captains, and observers) and management with a structured key informant survey with standard questions: a minimum of 45 interview-based surveys including both local and migrant fish workers, coupled with at least nine fishing vessel assessments and a minimum of three to five fishing company document reviews of fish worker contracts and other key documents. To perform Phase 2 of the high-level SRA implementation plan, it is important to partner with local human rights groups that show some knowledge of the domestic fishing fleet and have a good social science background.

Cultivating multi-stakeholder partnerships

The prosperity of business, society and environment lies in interconnectedness, which represents a fundamental shift in approach, promoting a unique level of cooperation and

collaboration across governments, businesses, civil society organisations, NGOs, and foundations. Through multi-stakeholder collaboration of these key development actors the challenges and opportunities could be explored in a way that achieves greater impact than an approach by a single body (Stibbe and Prescott 2016). In Fiji's SRA context, a *multi-stakeholder partnership or an SRA assessment team* was formed between the Pacific Community (SPC), Talanoa Consulting, Elevate, Fiji Fishing Industry Association (FFIA), Ministry of Fisheries and Conservation International to undertake this pilot study in Fiji's longline fishing industry. This denotes a multi-level partnership ranging from local, to regional and international collaboration to drive improvements in the social dimensions of Fiji's longline fishery. Cooperation thus provides various inputs to the study of fisheries, gender and equity, human rights backgrounds as well as awareness of the SRA tool itself.

To conduct the primary data collection for SRA it is very important to engage locally with partners that have the knowledge of the operational nature of the fishery together with human rights expertise and the social science background to successfully trial this tool.

Phase 3: Co-developing improvement plans with local stakeholders.

Phase 3 sets out the analysis of the results of the field-based interviews, vessel assessments and document review and, where human rights risks are identified, the corrective action plans and recommendations developed in collaboration with local stakeholders.

Nurturing continuous dialogue and workshopping with local stakeholders

In order to co-develop the corrective action plans and recommendations, there is a need to build trust and positive relationships with the local stakeholders such as government (across different sectors including ministry of fisheries and ministry of employment, productivity and industrial relations) and the fishing industry to ensure continued dialogue and workshops on working through the analysis of the SRA assessment and deriving approaches in co-designing the action plan and set of recommendations. After the corrective action plan and recommendations have been co-developed with local stakeholders they are shared with the fishing industry, informing required improvements and market and governance reforms, and advising on government policies against which fishery improvements could be monitored and established over time.

To support the implementation of the SRA tool, CI has co-developed a guide to data collection that provides templates and guidance for determining the unit of assessment, vessel assessment and physical inspection templates, document review guides, secondary data collection, and fisher and worker survey instruments (Conservation International 2021a). In collaboration with the Center for Communities and Conservation, CI and partners co-developed a manual for SRA assessment implementation, focused on conducting social science research, using a rights-based approach, applying free, prior, and informed consent, integrating a gender lens, and applying a fisher/ worker-driven approach.

Key milestones of the early SRA process in Fiji's longline fishery

This section provides a brief on the key early milestones of applying the SRA process in Fiji's longline fishery and includes the following.

- Facilitation of the first-ever Fiji multi-ministry round table with FFIA, Ministry of Commerce, Trade, Tourism and Transport, Ministry of Employment, and Ministry of Fisheries to gather beneficiary impact, including around Fishing Crew Recruitment Guidelines and Fishing Crew Dispute Mechanisms. Key responses centred on supporting the implementation of the Social Responsibility Assessment tool across FFIA vessels and the ratification of ILO C188 Work in Fishing Convention. Beneficiaries identified the need for strategic partnerships to drive the environmental and social responsibility agenda within the domestic longline fishery, including local civil society organisations (CSO) and regional agencies such as SPC, Pacific Island Forum Fisheries Agency (FFA), International Labour Organization (ILO-Fiji), Ministry of Fisheries and the Ministry of Labour.
- Continued bilateral engagement with the local tuna industry and with government around the idea of a national-level fisheries improvement initiative given the recent US import ban of tuna from certain Fiji-based vessels.
- Increase in human rights capacity by attending the FFA Regional Dialogue on the Human Dimensions of the Pacific Tuna Fisheries, and the SPC and Danish Institute for Human Rights workshop on advancing equity in small-scale fisheries management and Fiji crewing policy.
- Preliminary research findings on the Indonesia and Fiji migration corridor for fishing crews on Fiji flagged and licensed vessels for addressing responsible recruitment gaps in the domestic fishery.

Conclusion

In conclusion, given the growing concern about labour abuses globally, the fishing crews and observers onboard fishing vessels are extremely vulnerable to human right abuses due to the remoteness of their work, prolonged periods at sea and poor employment regulations. The FFA's Harmonised Minimum Terms and Conditions (HMTCs) for Pacific Island countries and territories (PICTs) standardises the licensing terms and conditions across all FFA member countries to effectively regulate fishing access in their waters and address the conditions of crew employment (derived from the ILO Work in Fishing Convention C188) on foreign fishing vessels that are licensed to operate in Pacific Island EEZs. Although there are international and regional standards set for the protection and well-being of fishing crews and observers, less has been actioned to regulate and strengthen the existing legal frameworks, regulations and policies at national jurisdictional levels. There is need for more work at jurisdictional scale to properly implement international and regional labour standards domestically through various projects and tools. Hence, we conclude that this Social Responsibility Assessment (SRA) tool serves as one of the

potential mechanisms in implementing international and regional labour standards through driving improvements in national fishing industries and supply chains, and informing national fisheries regulations on corrective action plans and recommendations for human rights policies for the welfare of fishing crews and observers in the Pacific.

Acknowledgements

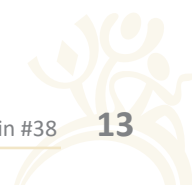
Conservation International acknowledges Walmart Foundation for funding the Jurisdictional Approach to Tuna project in Fiji, under which this social responsibility work is applied. Conservation International also acknowledges the support from our local and international partner organisations such as Ministry of Fisheries, Fiji Fishing Industry Association (FFIA), Pacific Community (SPC), Worldwide Fund for Nature (WWF), Talanoa Consulting Fiji and Elevate.

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Cooperation among women fishers to revive depleted sea cucumber fishery

Ann Singeo¹

Fish stocks around the world are nearing their limits, with 75% being overfished. This is even more pronounced in the case of sea cucumbers, where 81% of them are currently overfished (Anderson et al. 2011). These creatures are easily collected and stored, and their reproductive strategy relies on high densities for successful breeding, making them particularly vulnerable to overfishing and collapse (Uthicke et al. 2009). The increasing demand for luxury seafood products in China has resulted in “boom–bust” fishery collapses documented across the Pacific and Indian Oceans (Purcell et al. 2013).

The sea cucumber fishery in Palau is of cultural and economic significance, especially for women in rural fishing communities. Unfortunately, wild sea cucumber stocks were depleted by 88% when the government allowed exports for six months in 2011 (PICRC Technical Report, 2014). Recent studies by Palau International Coral Reef Center and Ebiil Society indicate that there is no sign of a wild stock recovery. Women make up 58% of sea cucumber fishers in Palau, with 32% of them regularly gleaning. An estimated 27% of gleaners collect to sell and they go out to sea several times per week (Singeo et al. 2021). The loss of the sea cucumber fishery will have a significant impact on women and families, displacing women’s and girls’ ancestral traditions and knowledge of ecology, biodiversity and management practices.

The goal is to increase community resilience by restoring locally depleted sea cucumber wild stocks and sea grass habitat health, to the extent possible, and support local livelihoods, with a particular focus on the gleaners – primarily women – who rely on the wild resource for their food security and livelihoods. Sea cucumber overfishing will likely bring structural changes to ecosystems including vulnerable coral reef and seagrass systems (Bennett et al. 2018). Sea cucumbers have biological and ecological attributes that make them well-suited to aquaculture: they feed low on the value chain, occur naturally in high densities, and are native, reducing environmental risks. Aquaculture provides opportunities to produce marine species seedlings and release cultured juveniles into the water.

To overcome the potential risks and challenges involved in sea cucumber farming, we have combined the vast ecological and biological knowledge of lifelong sea cucumber fisherwomen with Western scientific expertise. This community-based, small-scale aquaculture farm project also involves the Bureau of Fisheries as our partner, which has provided technical assistance in the essential tasks of spawning and nursing sea cucumbers in the hatchery for subsequent release by Ebiil and women fishers. Despite the challenges posed by sea cucumber farming, our team has developed improved hatchery and releasing strategies through piloting.

To mitigate risk, we have worked closely with the women fishers to identify traditional fishing grounds for the targeted species of sea cucumber for restoration sites. Our work sites include the communities of Ngarchelong and Ngardmau, where women fishers’ involvement spans resource mapping, restocking, and ecological monitoring. The early results of this project are encouraging. Using the same monitoring design used by PICRC sea cucumber study in 2011, we monitored species survival in the areas restored. We have observed a remarkable 99%–100% increase in the biomass of white sandfish (*Holothuria scabra*) in two of the first sites restored in Ngarchelong State, Toluk el Bad (site 1) and Medal a Matul (site 2), according to Ebiil’s ecological monitoring data. Additional observations are adult aggregation for potential spawning in the wild. If these observations continue for all restored areas, then we have a good chance of restoring Palau’s sea cucumber wild stock and women fisheries in the future. Additionally important is the improved fishery and habitat protection and management policy necessary to prevent a repeat of past predicaments and potential collapse.

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Women fishers reseeding sea cucumber in the wild (using buckets). Ebiil Society women fisheries photo collection. ©Sharon Truce.

Woman fisher gleaning with a basket. Ebiil Society women fisheries photo collection. ©George Stoyle



Ten women learn to build boats through the Women in Fisheries Network – Fiji

Fiji Ministry of Fisheries and Forestry¹

Globally, small-scale fisheries are an important source of food and livelihoods for rural communities, and women play crucial roles in these fisheries, as they fish and glean for their families. If there is a village boat, they are then able to make trips out to the deeper waters to fish for bigger fish species which is often sold to interested buyers or taken to the nearest markets. The huge transport challenge remains, and these are the same in communities across Fiji as priorities often lie with the men and their programmes for fishing.

The Women in Fisheries Network – Fiji (WiFN-Fiji) plays a huge role in facilitating networks and partnerships to enable opportunities for women to be informed about all aspects of sustainable fisheries in Fiji. A lot of work must be done in addressing the challenges that women face, especially as they try to make ends meet for their families.

WiFN-Fiji Director Adi Alani Tuivucilevu explains, “We work in partnership with other NGOs, government ministries, and national and regional agencies in deciding, designing, and delivering our activities. We also focus on helping to build an environmentally sustainable, socially appropriate, and economically viable fisheries sector in Fiji, in which the contribution and role of women in this sector is recognised and valued.”

WiFN-Fiji signed a Memorandum of Understanding (MOU) with the Centre for Appropriate Technology and Development (CATD) in Nadave in June 2022, with the common desire to explore synergies that will assist and promote capacity building for communities and CATD students in Fiji and the Pacific Region. The MOU included an agreement to provide opportunities for learning and enhancing community development based on ocean-related knowledge and skills, especially in the maritime areas of Fiji. Under this new partnership, CATD applied for funding under the Blue Accelerator Grants Scheme, with WiFN-Fiji as its implementing partner and was successful. Part of this project included a Fishing Canoe Building Workshop.

WiFN-Fiji introduced CATD to 10 women fisher participants who learned to assemble a canoe using lightweight material (15–19 kg) that would make it easy for women fishers to handle. They were able to provide feedback on the pilot canoe design during the workshop. It is hoped that these women might in the future be trainers and teach other women fishers interested in assembling their own canoes. At the Women in Fisheries Forum conducted in March 2023, some women had shared that they currently pay FJ\$50 to get someone to construct a bamboo raft for them to be able to fish. Accessing a boat is expensive given the fuel prices, not to mention the social construct around women fishers not being allowed to control a fibreglass boat with an engine.



Workshop participant learning to build boat. ©Ministry of Fisheries, Fiji

Salote grateful for opportunity

Salote Tadokai is from Naikawaga Village in Namara, Tailevu, and was part of the week-long training in Nadave earlier this year.

“I am a mother of six children and when I was called to participate in the training, I did not hesitate as I knew that it would assist me in the future. Most times, we have to wait for the men to assist us in traveling out to sea as they are good boat masters. Sometimes, there can be excuses so we have to look for alternative transport. This training has been an eye-opener for us as we can now build our own canoes and use it whenever we want.”

Harryproa imparts life-long skills to participants

Trainer during the week-long training, Ron Denney started Harryproa 20 years ago to design a cruising boat which solved some of the problems most cruising boats had.

“Since then, we have developed a range of low cost, easily built and sailed cruisers which are being built around the world. I also designed and built a 24 m cargo-carrying solar/wind powered boat, the prototype of which is at CATD to be tested. It was important for us to teach these women in building boats so they can catch fish to feed their families and provide income

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from any surplus. This program aimed to show that women could build their own boats which are light enough to carry home to avoid the inevitable damage from leaving them on the beach. The importance of building their own boat is that it gives them pride and ownership, plus teaches them how to maintain and repair the boats, something often missing from donated boat programs.

The boats were built from polyethylene terephthalate (PET) the same material as soda bottles, foam, fibreglass and epoxy resin. The point of these boats is that they are, to all intents and purposes, everlasting. If they are damaged, they are easily repaired. They will not rot or deteriorate. While 'everlasting' is a problem with most products, it is not for these boats, as long as somewhere in the world, someone needs a canoe to fish from. If when this is no longer the case, the material in the boats could be recycled. It is as simple as I could make it. The boats are not pretty, but they are functional, light and easily built. The hulls are each made from two pairs of rectangular foam panels and one or two bulkheads.

The foam is fibreglassed on a flat surface. The panels are then glued together. The shapes are self-forming, there are no frames or jigs required. The beam joining the hulls and the paddle are also built on a flat table, with no measuring required apart from the length. Power tools are not required as they are built with a utility knife, scissors, scraper, tape measure, sheet of sandpaper and a square. Future boats will be owned by the women who build them. That is the purpose of

the 'train the trainer model'. The ones we built in the workshop will be given to the participants to test and alter if required. They will also get a prototype I built which we are modifying. The women have certainly gained confidence and the ability to build a boat from which they can fish and the capacity to teach others."

Ministry applauds concerted efforts

In closing the week-long workshop, Director for Fisheries Ms Neomai Ravitu expressed the Ministry's gratitude to the facilitator and trainer, Mr Robert Denney.

"Your guidance and support have been invaluable in ensuring the success of this workshop. To the participants, I want to commend you for your hard work, determination, and resilience. You have shown us that women are capable of achieving great things when given the opportunity and support they need. Your commitment to learning and applying new skills will undoubtedly have a positive impact on your communities, and we look forward to hearing about your successes in the future, through the Women in Fisheries Network. I encourage you all to continue to work together, share your knowledge and skills, and support one another in your endeavours. Let us build on the foundation that has been laid here and continue to empower women in our fishing communities, industry and beyond."

This article is based on an article published in the Fiji Times on 1 May 2023.



Successful workshop participants were presented with a Certificate of Competence in Sustainable Fishing Canoe Building. ©Ministry of Fisheries, Fiji

Opportunities for women in restorative ocean farms

Tara A. Pierce¹ and Ariella D'Andrea²

Restorative ocean farms (ROFs) are nature-positive food systems that mimic the ecosystem by cultivating multiple species in one location. These farms provide highly nutritious food and contribute to the restoration of marine environments. The design, species selection and business plans of ROFs are site specific. In Pacific Island countries and territories (PICTs), species can include sea cucumbers, oysters for meat and pearls, sea grapes and other seaweeds. Additionally, ROFs may incorporate ornamental species such as aquarium coral. Growing multiple species (polyculture or integrated multi-trophic aquaculture) allows a single farm to reach multiple markets and have multiple annual harvests.

ROFs play a vital role in restoring the marine ecosystem. They improve water quality, mitigate the localised effects of ocean acidification and create habitats for juvenile fish. By maintaining the health of coastal areas, ROFs ensure the continuation of ecosystem services and the abundance of marine resources. The socioeconomic benefits of ROFs are significant, and include job creation, food security, positive nutritional outcomes, poverty alleviation, gender and social

equity, intergenerational collaboration and the integration of traditional knowledge. Whether public or private entities, ROFs prioritise supporting local communities' needs. In short, ROFs reimagine current aquaculture practices to align human needs with ecosystem services.

PICTs often have a dual tenure system, where customary tenure refers to traditional forms of land and resource ownership and management, including for marine resources, and statutory tenure refers to the state's legal ownership and management of those resources (O'Connor et al. 2023). Women are often excluded from decision-making on marine resources at community level because traditional leaders do not always represent their community's diversity (Integrated Aquatic Solutions 2022). This creates further inequities, as climate change disproportionately affects women (UNDP 2015).

The United Nation's Sustainable Development Goals (SDGs) specifically include Gender Equality because it has been proven that empowering women and girls helps economic growth and development (UNDP n.d.). Many PICTs

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have committed to the SDGs, and ROFs provide a path forward on multiple fronts, including Gender Equality (SDG 5) and Life Below Water (SDG 14). Under SDG 5 target 5.a, states committed to undertaking “reforms to give women equal rights to economic resources, as well as access to ownership and control over land and other forms of property, financial services, inheritance and natural resources, in accordance with national laws” (UNGA 2015, p. 18).

ROFs may follow community-based fisheries management models that offer leadership and economic opportunities for women. However, gender-inclusive policies, consultation and training are needed to increase the capacity of the aquaculture sector in the Pacific region (Integrated Aquatic Solutions 2022).

Around the world, women’s participation in aquaculture is vital. For example, Blue Ventures in Madagascar demonstrates the potential benefits for women in community-based sandfish aquaculture. Increased work opportunities for women were observed, along with the potential for community savings to benefit the wider population and ecotourism opportunities through farm tours (Klückow 2020).

There are excellent examples in PICTs as well. The Australian Centre for International Agricultural Research (ACIAR) project “Diversification of Seaweed Industries in Pacific Island Countries”, implemented between 2013 and 2018, has shown positive impacts of gender inclusivity. Under this project, Samoan women travelled to Kiribati to share their expertise in harvesting, processing and selling sea grapes. This training programme empowered both the trainees and the trainers. For one Samoan teacher, it was her first time leaving the country. A Kiribati participant said, “when I share my new skills it will join the community together ... [a]nd it will mean food for health, for all” (Paul 2020, p. 68). Immediately after the workshops, Kiribati began developing a market for its own species of sea grapes (Paul 2020).

In Va’ulele, Fiji, the community established the first pearl-meat oyster farm in collaboration with J. Hunter Pearls, the Wildlife Conservation Society and the Pacific Community (SPC). Women and youth groups have been given opportunities for income generation through activities like spat collection, mabé pearl production, and pearl shell handicraft production. These engagements empower women by providing them with decision-making opportunities within households and crucially supporting livelihoods within communities. Men and women agree that women’s participation strengthens relationships and ensures the smooth operation of the oyster farm. Unaisi Seruwaia, Secretary of the Va’ulele Yaubula (Natural Resources) Committee, shared her experience: “Being appointed as one of the committee members has given me the confidence to voice my opinion on issues concerning the community pearl farm and to ensure the team takes full ownership in working together to achieve their goals” (Vitukawalu et al. 2021, p. 33).

As ROFs emerge in PICTs, it is hoped that gender-inclusive initiatives will ensure that communities feel the benefits of gender equity that have already been seen in single-species aquaculture (monoculture) projects.

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Engagement of women in fisheries in Pakistan: Two case studies

Muhammad Moazzam¹

This article explores how women in Pakistan working in the fisheries sector are overexploited and underpaid by middlemen.

Introduction

According to the recent Illuminating Hidden Harvests report, 72.5% of the estimated number of people employed part- or full-time in small-scale fisheries employment or engagement in subsistence activities are found in ten countries including Pakistan (FAO et al. 2023). An estimated 4.5 million people are engaged in small-scale fisheries in Pakistan (FAO et al. 2023). The fisheries sector is dominated by males, and females are marginal or not involved in this sector of Pakistan. Although there is a lot of dialogue about gender equality in various economic sectors in Pakistan, including fisheries, progress is lagging due to social pressure, traditions, and religious restriction. Traditionally women who are involved in remote coastal villages in the meandering creeks of the Indus Delta help their husband, father or brothers in pre- (e.g. mending nets) or post-harvesting (e.g. drying fish). There have been isolated cases where women have accompanied their family members who are sick or old because there is no other means of earning an income, except through fishing.

This article sheds light on the role of women in small-scale fisheries in Pakistan by presenting two case studies: the traditional involvement of women in shrimp peeling and processing, and net weaving, including their contribution to the national economy and how they are being over-exploited and underpaid by middlemen.

Shrimp industry

The shrimp freezing industry was established in Karachi in the late 1960s, and provided an opportunity for women to engage in post-harvest processing. Women were employed to behead and peel shrimp before packing. Twenty seafood processing plants located in Karachi provided employment for 15 to 20 women in each plant. Initially only large sized shrimps (locally called *jaira* and *kalri*) were processed but by the late 1970s export of small size shrimp (locally known as *kiddi*) commenced, which required peeling before packing. As a result, an ancillary shrimp peeling industry was established, providing further work opportunities for women.

Currently, the shrimp peeling industry is based mainly in slums and squatter settlements along Karachi Fish Harbour such as Machar and Madina colonies. Working in extremely unhygienic conditions, these peeling sheds are made of thatched structures. There are estimated to be 50 peeling sheds in Karachi, each employing 50 to 200 women. This is a highly seasonal industry which has large labour requirements in August to October and January to March each year. In

these peeling sheds, *kiddi* and squid are processed. Usually a *thekedar* (i.e. a middleman) owns and operates peeling sheds, and women are paid on the peeled product – usually PKR 55–75 (USD 0.19–0.26) per kg. For squid, the women are required to remove the skin and inner tube, and they are paid PKR 20–25 (USD 0.07–0.09) per kg. An individual woman usually peels about 20 to 50 kg per day, and is thus able to make a reasonable living. Unfortunately, there are issues with the industry. Firstly, only illegal Bangladeshi immigrant women are currently employed in the shrimp peeling industry. During the peak period of peeling activity (August to October), Bangladeshi women fly into Pakistan and engage in peeling activity. Additional middlemen exploit these women by making them work long hours, forcing them to work in extremely unhygienic conditions and underpaying them. Peeling of shrimp and squid is an integral part of the fish processing industry; however, operation of these squalid peeling sheds is undermining the integrity of the industry in Pakistan.

Net weaving

The Pakistan fishing industry relies on imported fishing nets, twine, ropes, and other gear mainly from Korea, China, and other South and Southeast Asian countries. Substantial quantities of nets and other gear are also smuggled in from Iran. Men are often hired to weave and make nets in coastal villages, towns and cities. Nets, twine and ropes for fishing are made of nylon and other plastic products, and their prices are dependent on global petroleum prices; the prices for fishing nets, especially pre-woven nets, have increased in the past few



Women helping in fish drying in coastal village in the Indus Delta.
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years. The tuna gillnet fishery is an important industry, and it is estimated that about 700 fishing boats are engaged in fishing operations in coastal and offshore waters of Pakistan, as well as in the Exclusive Economic Zone of Pakistan and in the Area Beyond National Jurisdiction.

Tuna gillnets being used by Pakistani vessels are extremely long, exceeding 7 km in length, costing around PKR 20 million to 30 million (USD 69,000–104,000), and usually such nets must be replaced every three to four years. Each boat carries 2.5 to 3.0 tonnes of plastic gillnets. Previously such multifilament nets made of soft nylon used to be smuggled in from Iran, which has its own net-weaving industry. With the global increase in prices of plastic products due to hikes in petroleum prices and economic restrictions, it became difficult to rely on smuggled nets. Although nets and fishing implements continue to be smuggled in from Iran, the prices are high.

Pakistan does not have a net-weaving industry and there are no nylon twine-making facilities, and so the country continues to be reliant on imported nets and twine. To source cheaper fishing nets, one of the suppliers decided to start up net weaving in Pakistan. Initial attempts were made to contact fishermen groups but none was willing to be involved. While discussing in Gaddani, one of the fishermen suggested women may like to be involved in net weaving. Using twine available with one of the family, the wife of a fisherman weaved a small piece of net to the gillnet specifications of the tuna industry.

Gaddani is a coastal settlement located along Sonmiani Bay about one hour's drive from Karachi. It is located north of the Gaddani Ship-breaking Yards and has a population of about 10,000. A large percentage of the population in Gaddani is engaged in fishing or fisheries-related industries. The boats based in Gaddani are mainly engaged in gillnetting and the use of line gears (handlines and longlines). There is no processing plant established in Gaddani, and therefore the entire catch from Gaddani is transported to Karachi for processing, export, and local consumption.

Gaddani is the only coastal town where women are engaged in net weaving. These women get the material from middlemen who get orders from individual fishermen or from the shops in the coastal towns including Karachi. Middlemen provide weaving thread to individual families and later collect the finished product (net).

Only adult females are involved. No children are involved because it requires strength to make strong knots in the nets. Net weaving involves specialised needles which are locally manufactured from wood or bamboo. In addition, a piece of square wood is used to maintain a fixed mesh size. Net weaving in most cases is a family affair and all adult women including mothers, daughters, daughters-in-law, sisters-in-law, and other female relatives living in the same household participate in this weaving activity. This adds additional income to families, making them better off than other fishing communities living along the coastline which are entirely dependent on the income generated by fishermen.

The net-weaving profession has challenges in terms of the women being entirely dependent on middlemen who pay these women only a meagre amount of PKR 30/kg (USD 0.1/kg). Some women have taken loans from these middlemen for the purpose of repair of their houses and for other purposes, thus becoming entrapped in a vicious circle of indebtedness and poverty, as these women are paid much less (PKR 20/kg, USD 0.066/kg) than other women.

The nets woven by women in Gaddani are being used in the subsurface gear called *paro* which means stiff net and is considered more efficient than machine-made soft nets of Iranian origin, which get entangled more frequently, including during subsurface gillnet fishing.



Shrimp and fish processing engages scores of women in seafood processing plants mainly located in Karachi. ©Muhammad Moazzam



Bangladeshi women engaged in shrimp peeling in Pakistan in extremely unhygienic conditions. ©Muhammad Moazzam



Tuna gillnets are extremely large, and each vessel carries 2.5 to 3.0 tonnes of nylon nets. ©Muhammad Moazzam



Gillnet weaving from nylon twine by women at Gaddani.
©Muhammad Moazzam

Subsurface gillnetting was introduced by the author in his capacity as Technical Director for WWF-Pakistan with the aim of reducing entanglement and the mortality of endangered, threatened, and protected species caused by gillnets that were traditionally placed on the surface of the sea. Subsurface gillnetting also has better catches of tuna species such as yellowfin, longtail, and skipjack, and within a period of about a year, the entire tuna gillnet fleet has shifted to subsurface operations. The introduction of subsurface gillnetting provided an additional and sustainable income source to the net-weaving women of Gaddani. The weaving of stiff net (*paro*) requires more time than other nets made from soft threads but because of the large size of the fleet, weaving of this type of net is providing a regular source of income to the net-weaving women community of Gaddani.

Conclusions

Unlike most Pacific Island countries, there are more restrictions and fewer opportunities for women in Pakistan to engage in fisheries. Women can play an important role in providing supplementary income for fisher households, where poverty can be high. Where opportunities arise, these can quickly be highly exploitative, like the case study of women from Bangladesh. However, there are positive examples of Pakistani women engaging in net weaving from the safety of their own homes. This can be more culturally acceptable given the gender norms and customs that prevent women from working in the fisheries sector in Pakistan. This will enable the increase of women's participation not only in family income generation but also by contributing to the national economies of these countries.

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WWF-Pakistan talked to the women who weave nets in Gaddani and organised regular meetings to raise their awareness of the importance of subsurface gillnet fishing. ©Muhammad Moazzam



Old women engaged in weaving of net in Gaddani.
©Muhammad Moazzam



Shacks that are being used for living and weaving nets in Gaddani.
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Gleaning fisheries in the Asia-Pacific

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Introduction

Gleaning practices, collecting marine organisms from the coastal zone, are critical but poorly understood small-scale fisheries. Gleaning fisheries support food and nutrition security, contribute to coastal livelihoods, and hold important social values (Chapman 1987; Whittingham et al. 2003; Grantham et al. 2020) (Fig. 1). However, they continue to be excluded from economically oriented fisheries assessments (Kleiber et al. 2014). There is an urgent need for a global perspective on the management of gleaning fisheries combined with local assessments and monitoring that integrate fisher's perceptions, views and knowledge (Burgos 2016).

Eight early career-researchers and practitioners from the Asia-Pacific and beyond, gathered at James Cook University, Townsville, Australia, 5–8 June 2023 for a professional development Workshop on Gleaning Fisheries in the Asia-Pacific (Fig. 2). The workshop was designed to provide a space for dialogue, share skills, build connections, develop professionally, and identify key challenges and research priorities about gleaning fisheries in the Asia-Pacific. The workshop included participants from Timor-Leste, Fiji, Solomon Islands, Australia and Colombia.

In this report we summarise broad information about gleaning fisheries in the Asia-Pacific, outline challenges, frameworks and methodologies for studying gleaning fisheries, and highlight priorities for future research. Note that the frameworks and approaches described here reflect the expertise of workshop participants and are not exhaustive.

Gleaning in the Asia-Pacific region

Gleaning is widespread in the Asia-Pacific region, typically occurring in the intertidal zone, including nearshore coral reef flat habitats, mud and sand flats, as well as mangroves. During the workshop we discussed different terms for gleaning. For example, in Fiji, there is no generalised term for gleaning; however, within the Indigenous Fijian culture, the name of the gleaning technique refers to the method and the target resource. We concluded that the term “gleaning fisheries” best covers a range of techniques, but note that what counts as gleaning may differ for different people and disciplines. For instance, from the point of view of some participants, certain gathering practices – such as harvesting crabs in mangrove areas – would not be classified as gleaning.

Gleaning is a seasonal activity and depends on the weather and the moon cycles that drive tidal flows. It can happen in the night-time and daytime. Gleaning fisheries are accessible and low-cost; they occur in a diversity of habitats including rocky reefs, coral reefs, intertidal flats and mangroves, and are often pursued by fisherwomen and children (Harper et al. 2013). Gleaning fisheries use traditional fishing methods to collect a diverse range of small fish, molluscs, shellfish, crustaceans and seaweed. Many small-scale fishers rely on the resources gathered from gleaning for their livelihoods. These resources make an important contribution to local economies through the sale of high-value catches such as octopus (Willer et al. 2023), and shells for ornamental products that contribute to income from tourism (Barclay et al. 2018).

The resources gathered through gleaning also provide key food and nutritional benefits. These benefits include providing a source of protein and essential nutrients and are particularly crucial for mothers and young children, who have higher nutritional requirements and are more vulnerable to nutritional insecurity. Fish and seafood are a rich source of high-quality protein and bioavailable haem iron and, alongside other aquatic foods such as seaweeds,



Figure 1. Technique for harvesting the shell *Codakia tigerina* in Papua New Guinea. (© A. Burgos, J.F. Dejouannet and P. Dillais).

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provide a wide range of micronutrients. In many food-insecure countries, such as Timor-Leste, most households in coastal communities practice gleaning (Tilley et al. 2021). Gleaners bring some catch home after all trips, providing an important source of nutritious foods to household meals and covering seasonal gaps in other foods.

Challenges to sustainable and equitable futures of gleaning fisheries

During the workshop, we identified practical and research challenges for gleaning fisheries. Some challenges identified include lack of information and research, ensuring recognition and sustainable management, resource degradation and habitat destruction, and tensions between local gleaners and gleaners from other villages. First, gleaning practices are often not recognised as a fishery (Tilley et al. 2021). As a result, gleaners have little input into the management of natural resources on which their nutrition security depends, either at community or policy levels. Such marginalisation suggests gender-blindness; gleaning is a women-associated fishery that does not use boats or typical fishing gear. Hence there is a need to better recognise gleaning fisheries in ways that improve the representation of women's fisheries in decision-making, and better account for them in coastal management and development. In part, improving the inclusion of gleaning fisheries in policy and management will require better and more accessible research about their many benefits and baseline data.

Research on gleaning fisheries remains fragmented. Different disciplines approach and categorise gleaning fisheries differently, resulting in siloed research. For instance, we discussed a literature review, which explores how different disciplines characterise gleaning fisheries (O'Leary et al. in prep). The review found that gleaning research describes gleaning practices differently, using multiple terms and phrases. The review highlighted that gleaning fisheries research has distinct temporal and geographic patterns. While still in progress, the preliminary results from a discourse analysis of the literature showed that certain disciplines (e.g., fisheries science and anthropology) categorise gleaning in different ways (e.g., as destructive to the environment or as a cultural practice), and that these differences may hinder cross-disciplinary insights. In addition to disciplinary differences in terminology, the seasonal and temporal dynamics of gleaning fisheries mean they are difficult to collect data on (Grantham et al. 2021). These research challenges hinder the development of a holistic research programme on gleaning fisheries.

Better baseline understanding of gleaning fisheries is critical. Indeed, aquatic foods more broadly have often been excluded in food security discourse and interventions (Thilsted et al. 2016). Despite recent efforts to assess the nutritional contribution of small-scale fisheries (Hicks et al. 2019), the nutrient profile of many gleaned species remains understudied. Participants highlighted that



Figure 2. Participants at the Gleaning Fisheries in the Asia-Pacific Workshop. © Kylie Davis

further research on the contribution of aquatic foods in general, and gleaned species in particular, will enable us to assess the current role of aquatic foods sourced from gleaning among women and children. This data-driven strategy will likewise increase the visibility of women's contribution to household food and nutrition security.

Basic research and baseline data on gleaning fisheries is ever more critical because intertidal habitats – where most gleaning occurs – are highly threatened by climate change. In particular, sea-level rise is projected to threaten intertidal zones globally, including across the Pacific (Cooley et al. 2022). The level of inundation depends on local tidal regimes. Nonetheless, even in places with small tidal ranges, small increases in sea level will result in intertidal habitats becoming subtidal by 2100. In Timor-Leste, high weather vulnerability and rising sea levels associated with climate change pose further challenges to already widespread food insecurity and malnutrition (Bonis-Profumo et al. 2019).

Frameworks and methodological approaches for studying gleaning fisheries

Linking local and scientific knowledge through ethnoecological and inclusive approaches can offer unique opportunities for the long-term assessment, management and sustainability of gleaning fisheries (Burgos et al. 2019). One approach is ethnoecological study and a focus on documenting local Indigenous knowledge. For example, in Fiji gleaning is an important part of subsistence fisheries. With gleaning comes specialised knowledge developed by fishers who carry out gleaning on the intertidal areas and in the mangrove areas. Fishers (fisherwomen and fishermen) who glean, hand collect target resources from the mangrove areas and intertidal flats (Kitolelei and Kitolelei 2023). These gleaning fishers possess detailed local knowledge about tidal changes, moon phases and the seasonality of resources. In Fiji, it is important for people to understand that gleaning makes an important contribution to the fisheries sector. There is a need to recognise and document this traditional ecological knowledge of gleaning to inform sustainable harvest of the intertidal and mangrove resources.

Participatory research provides another approach for studying the values of gleaning. During the workshop, we learned about photovoice; a participatory approach which allows coastal communities to reflect and share their experiences (Wang 1999). This method has been used in other fields, but very little has been done in the field of fisheries, and none so far on gleaning fisheries. Photovoice requires participants to photograph key aspects of their daily lives through a series of prompts (e.g., how do gleaning fisheries benefit you?). Participants then explain the meaning behind each photograph, and their explanations are qualitatively coded. Gomese et al.'s (2020) work around the values of fisheries in a community in Solomon Islands helped communities to highlight, share and reflect on their fishing activities, benefits, challenges, and the decisions that they engage with. The results showed that both men and women fish close to the shore using mainly hook and line. The benefits are mainly from the income generated

from fishing and the main challenge is from sharks that frequent Fish Aggregating Devices (FADs). Most fishing contributions are for communal purposes. The use of participatory action research such as Photovoice provides an opportunity that can be useful to highlight the hidden values of gleaning which can be used for reflections around these activities in the Pacific.

During the workshop, we also considered the intersection of gender equality and gleaning fisheries and learned about WorldFish's work in Timor-Leste. Although their contributions are often overlooked, women play a key role in the day-to-day monitoring of coastal environments and gleaning dynamics, such as in the design of management strategies and decision- and policy-making processes (Tilley et al. 2021). In Timor-Leste there has been a lot of progress towards gender equality and women's empowerment. For instance, Timor-Leste has the highest rate (38 per cent) of women parliamentarians in the Asia-Pacific region (UNWOMEN 2023). However, women have typically been excluded from input into fisheries policies, and gleaning is unacknowledged.

WorldFish Timor-Leste has been supporting Timorese communities engaged in small-scale fisheries and aquaculture through research, systems development, and policy advocacy since 2010. For example, WorldFish supported the Directorate General of Fisheries, Ministry of Agriculture and Fisheries, to undertake gender-inclusive national consultations to inform the National Fisheries Strategy (Mills 2019). Further, more data on gleaning and women's involvement is necessary as, for example, there is a lack of understanding on how the benefits from this fishery are shared within households. Current research efforts are quantifying and characterising gleaning fisheries, assessing the nutrient composition of gleaned aquatic foods and their contribution to rural livelihoods and diets. WorldFish's work is therefore critical in highlighting gleaning fisheries as a very important sector for nutrition and income earning for women living in coastal areas. An increased focus on gleaning fisheries will enhance the recognition that women are engaged in the fisheries sector and that women's voices are crucial for policy making and management.

Conclusion and reflections

The workshop provided broad and specific insights into gleaning fisheries and connected a diverse group of early career researchers and practitioners at different stages of their careers. Participants reflected on the benefit of sharing knowledge from participants in different places: "For me, this workshop was very useful because I learnt a lot from [participants from] Fiji and the Solomon Islands. You talk about gleaning but have a different experience [to me]" (participant from Timor-Leste). Another participant highlighted that it was "valuable having participants from all different career stages" (participant from Australia).

The workshop highlighted that understanding the value of gleaning fisheries to multiple dimensions of well-being is important for equitable decision-making, gender equality, and food security and nutrition. One participant commented

on the need to maintain the visibility of gleaning fisheries, as part of the legacy of an ancient practice:

“ This workshop motivated me ... you need to do research for the work you are doing, especially in areas that are understudied, and recognise these areas ... it's very important that we continue to keep [gleaning practices] here. They already existed thousands of years ago, but people don't put importance on them or see them in a way that can benefit their communities and the world, and contribute to science” (participant from Timor-Leste).

Placing gleaning fisheries front and centre in discussions about sustainability, well-being, and fisheries and coastal resource management, will be ever more crucial as the Asia-Pacific region grapples with the impacts of climate change and seeks to build resilience. Workshop participants will co-author a perspective piece to highlight the challenges and research needs facing gleaning fisheries in the Asia-Pacific; watch this space.

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Making a case for stopping IUU fishing in Global South countries

“ I am a widow, and I can no longer feed my children and pay their school fees because foreign industrial fishing fleets have taken all our fish. I am now into prostitution and hoping for a better tomorrow.

Fisherwoman from Nigeria

Ayodele Oloko¹, Louise Teh¹, Sarah Harper^{1,2} and Kafayat Fakoya³

Fisheries contribute extensively to the food security, culture, livelihoods, and well-being of hundreds of millions of people in Global South countries (Elegbede et al. 2023; Harper et al. 2023; Oloko et al. 2021). A significant amount of fish from small-scale capture fisheries is harvested and consumed because of their nutritional composition and ease of access for the well-being of coastal communities (Oloko et al. 2022b; Teh and Pauly 2018). Despite these diverse contributions of small-scale fisheries, most small-scale fishing communities encounter international market pressures, fisheries privatisation, and competition from other economic activities in ocean space and for marine resources (Bennett et al. 2021).

The expansion of industrial fisheries has placed many small-scale fishing communities in the Global South at risk of conflict, such as with illegal and foreign fishing vessels and competition from major export-oriented fleets (Okafor-Yarwood et al. 2022). Several climate and human-induced pressures and threats, such as harmful fishing subsidies (Sumaila et al. 2019), extreme temperatures (Lima et al. 2020; Cheung et al. 2019), illegal, unreported and unregulated (IUU) fishing (Song et al. 2020), overcapacity and overfishing (Freduah et al. 2018), and pollution (Freduah et al. 2018), also affect the livelihoods of small-scale fishers in Global South countries. Their vulnerabilities are exacerbated by a lack of livelihood assets, poor livelihood diversification initiatives, and market disruptions with IUU implications

(Bennett et al. 2021). This has resulted in diminishing trends in artisanal fish landings and the impending collapse of pelagic fish stocks known informally as “people’s fish” in Global South countries, particularly Ghana (Lazar et al. 2020). These challenges jeopardise small-scale fisheries sustainability and resilience while also exacerbating the persistent structural, social, economic, and institutional issues that fishing communities encounter, such as poverty and other social-ecological concerns (Song et al. 2020).

Unsustainable and ineffective fishery management amidst a confluence of global concerns has resulted in changes to small-scale fishers’ activities, generating fish supply shortages and disruptions in the fish value chain (Fakoya et al. 2022). There are also complexities within the fisheries value chain due to fish supply limitations, which create conflicts among fisheries operators whose activities are not governed by any set of laws or norms. Fishing activities in Cameroon, for example, are constantly challenged by increasing maritime activities, illicit fishing, and competition for access between local artisanal and large-scale industrial fishing fleets (Nyawung et al. 2023). These difficulties are exacerbated by a lack of strong fisheries governance and management, as well as a scarcity of current fisheries policies to promote and support community engagement (Beseng 2019). These challenges have directly affected the livelihoods of many fishery-dependent communities, resulting in an inability to meet local fish demand (The New Humanitarian 2022). Conflicts between local and foreign fishers have arisen in recent years because of the arrival of foreign industrial fishing fleets from China and elsewhere (Beseng 2019). Foreign fishers compete with local fishers for available fish resources and fishing grounds in Cameroon, and similarly in other Global South countries (Nyawung et al. 2023). This has further resulted in modifications because of poor management, overexploitation of fishing resources, and privatisation of ocean economic livelihood (Song et al. 2018).

These industrial activities displace fishers from areas needed to sustain their livelihoods and endanger the health of the fishing resources; consequently, some fishers are considering leaving the fishery (The New Humanitarian 2022). Scholars have suggested that outstanding institutional fisheries structures and policies enable local stakeholders to collaborate and develop solutions to current difficulties, improve the sustainability of the food system, and manage their fishery (Song et al. 2018). Building adaptive capacity among SSF actors has been proven to improve local responses and resilience to shocks and stressors (Freduah et al. 2018).



Fisherwomen from Mabanda Fishing Community, Cameroon.
@ Richard Nyawung

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The concept has been used in a variety of contexts, including disaster recovery (Liu et al. 2020), climate change (Tanner et al. 2015) and agroforestry (Quandt 2018). Consequently, the institutionalization of good fishing governance systems contributes to community resilience against current environmental stresses and unforeseeable shocks. Policy interventions should focus on enhancing fishers' access to livelihood resources, particularly social capital, as well as building human and institutional capacity, with the goal of sustaining and improving their livelihoods in Global South countries (Oloko et al. 2022a). For example, access to funds through saving and lending institutions should be tailored towards social-ecological sustainability. Policies and institutional frameworks that advocate against unreported, illegal, and unregulated fisheries practices in small-scale fisheries in Global South countries should also be implemented. Given that fisheries governance emphasises the need for solutions that reconcile economic intentions and fish stock conservation to improve sustainability, understanding the resilience of fishers' livelihoods could pave the way to achieving sustainable fisheries management goals in Global South countries.

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Advancing equity in small-scale fisheries management in the Pacific Islands

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Abstract

Promoting equity in small-scale fisheries (SSF) requires appropriate strategies tailored to the local context. However, understanding what is equitable in a particular situation is complex because equity is multidimensional, subjective, and context dependent. Equity concerns can be related to a wide range of issues (e.g. distribution of benefits and costs, decision-making procedures, and recognition of sociocultural diversity) and people use a variety of principles to judge what is equitable, which may be equally valid in a given situation. While multiple efforts are being made to promote equity in the management of SSF in the Pacific Islands region, limited understanding of equity often hinders its promotion in management initiatives. In March 2023, 29 researchers and practitioners working on SSF were invited to a collaborative workshop in Suva to develop a better understanding of how to advance equity in the management of SSF in the Pacific Islands, particularly Fiji. The workshop involved examining the concept of equity, sharing knowledge and learnings, and bringing together the perspectives of diverse key stakeholders in SSF management. This workshop improved understanding of equity among participants and promoted co-production of knowledge around equity in SSF management, including identifying key challenges, opportunities and strategies for advancing equity in SSF management in the Pacific Islands.

Introduction

Small-scale fisheries (SSF) management often leads to inequities in the distribution of management costs (e.g. reduced access to fishing grounds) and benefits (e.g. increased fish catches) and inequities in decision-making processes. For instance, more powerful individuals or groups often have more influence over decisions and are better able to capture more benefits. Ensuring equitable SSF management is important for both ethical and instrumental reasons (Gurney et al. 2021). Promoting equity is key to protecting fundamental socio-economic and political rights that sustain human well-being and dignity. From an instrumental standpoint, equity can lead to positive social and ecological outcomes (Pascual et al. 2014). For instance,

research suggests that when management is equitable, people are more likely to view it as legitimate (Turner et al. 2016) and support it (Diedrich et al. 2017). On the other hand, people are less likely to comply with rules when management is inequitable (Rohe et al. 2018) with negative implications for sustainability.

Given its ethical and instrumental importance, equity is increasingly emphasised in global policies and agreements related to SSF fisheries, including the *Voluntary Guidelines on Securing Small-Scale Fisheries*. Further, equity now features prominently in an array of global environmental agreements that SSF are likely to be influenced by; of particular note is the recently adopted Convention on Biological Diversity's Global Biodiversity Framework, which is unprecedented in its focus on equity in conservation policy implementation (Gurney et al. 2023).

Advancing equity in SSF management requires appropriate strategies tailored to the local context, particularly at the community level. However, eliciting what is equitable in a particular context is complex. Equity is multidimensional, subjective, and context dependent. In other words, people's equity concerns can be related to a wide range of issues associated with three dimensions: (1) *distribution*, which refers to the distribution of benefits and costs from management and conservation; (2) *procedure*, which relates to how decision-making is made and by whom; and (3) *recognition*, which refers to acknowledging and respecting sociocultural diversity, including differing values, identities, cultures, types of knowledge, institutions, power, capacities and rights (Figure 1). In addition, people use a variety of justice⁵ principles to judge what is fair in a specific situation. For example, for the dimension of distribution, key justice principles include equality, need and proportionality (Box 1; Deutsch 1975). Furthermore, what is equity depends on who are the subjects that are being considered when thinking about equity issues (e.g. who is being recognised, who is considered for the distribution, who should have a role in the decision-making process) and what equity is about (e.g. what is being distributed, what is being decided, what is being recognised) (Figure 1).

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⁵ Equity, justice, and fairness are similar concepts that are often used as synonyms (Friedman et al. 2018). However, their definition may change depending on the discipline (Luckasiewicz et al. 2017). Equity generally refers to what is right and fair (<http://www.oed.com>, 2023) and it is commonly used in global policies such as the Convention on Biological Diversity and the Sustainable Development Goals, while fairness is often associated with perceptions of equity that are based on justice principles (e.g. equality) (Friedman et al. 2018; Gurney et al. 2021). Justice principles are considered to be independent of any form of judgement (Gurney et al. 2021).

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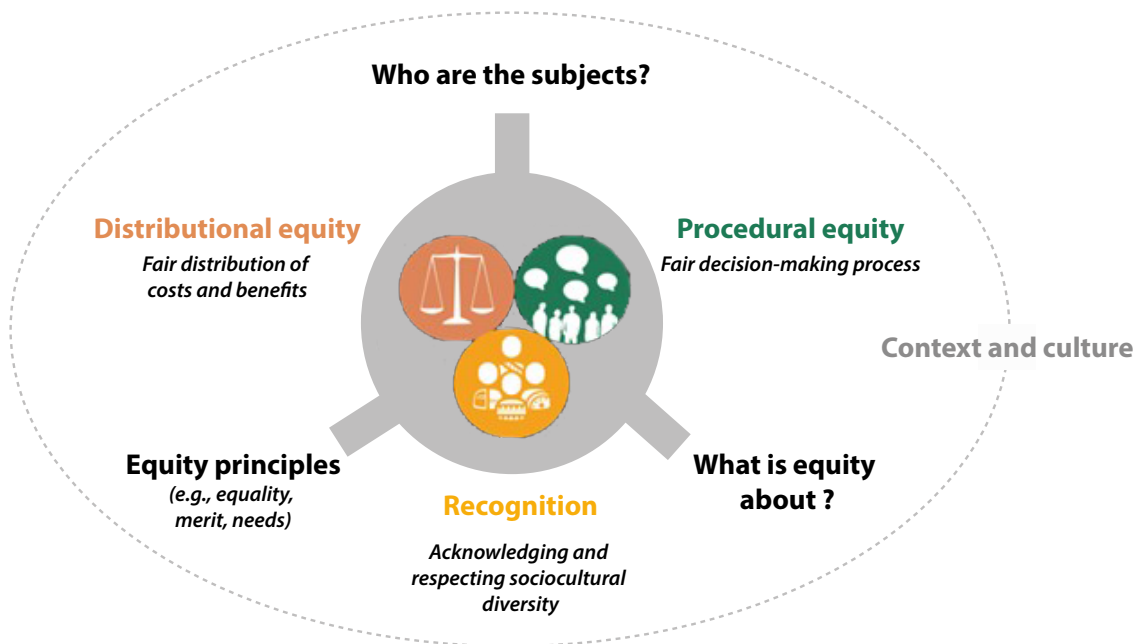


Figure 1. Equity framework based on Schlosberg (2007), McDermott et al. (2013), and Sikor et al. (2014). The procedural equity icon is adapted from “Family” by Joanna Woerner, Integration and Application Network (ian.umces.edu/media-library) used under CC BY-SA 4.0, and the recognition icon is from Ruano-Chamorro et al. 2022.

Multiple efforts are being made to promote equity in the management of SSF in the Pacific Island countries and territories. SSF is an important sector in the Pacific Islands, with critical contributions to multiple dimensions of human well-being, including food security, culture, and livelihoods (Gillet and Tauati 2018). However, SSF in the Pacific Islands face many challenges such as increasing market access, increasing demand for fish, and climate change. Promoting equitable SSF is key to ensuring people’s well-being and nature sustainability. However, understanding of equity is often limited, therefore compromising the ability of stakeholders to promote equity in SSF management (including co-management) in meaningful ways. Improving stakeholders’ understanding of what equity is and how to promote it locally is key to ensuring meaningful mainstreaming of equity in the Pacific Island fisheries.

Workshop

A collaborative one-day workshop on advancing equity in SSF management in the Pacific was co-organised by the Pacific Community, James Cook University and Talanoa Consulting in Suva in March 2023. The workshop hosted 29 participants (excluding the facilitators) representing academia, NGOs, fisheries governing institutions, and development agencies. The purpose of the workshop was to improve the understanding of the concept of equity, provide participants with a catalogue of options on what equity considerations look like, exchange knowledge, share learnings, and bring together the perspectives of diverse stakeholders in SSF management in Pacific Island countries and territories regarding: (1) what constitutes equity across its multiple dimensions; and (2) what are the challenges, opportunities, and strategies to advance equity in SSF management in the region?

Box 1. The story of the flute (Sen 2009)

A flute will be given to one of three children, all of whom claim they should get the flute for different reasons: (1) one child claims the flute because she made it and it is the product of her effort (merit-based principle); (2) the second child claims the flute because he does not have other toys to play with (needs-based principle); and (3) the third child says she should get the flute because she is the only one who knows how to play it (expertise-based principle). In your opinion, who should get the flute? Share the story with others and ask for their opinion. You will likely find out that people tend to not agree on a single principle as to what is the fairest way to distribute the flute. This story shows that people can disagree on what is fair and use different justice principles to judge what is a fair distribution that can be equally valid in a specific situation.

Understanding the concept of equity

The workshop started by introducing the concepts of equality and equity (Figure 3), and by providing a general framework to guide the identification of equity issues in any context (Figure 1). In addition, we conducted an activity (power walk⁶) to promote a better understanding of what are the social characteristics (e.g. gender, age, disability) that affect vulnerability and resilience. Subsequently, the group was divided into four groups and they were asked to identify the dimensions of equity that were present in a case study in the Solomon Islands adapted from Rohe et al. (2018) (Figure 4). By the end of this activity, participants were able to better understand the concept of equity, including what are the different dimensions of equity and how these are interconnected. For instance, participants agreed that

the lack of involvement of women due to male-dominated decision structures was an issue of procedural inequity and concluded that the three dimensions of equity (distribution, procedure and recognition) were interconnected (e.g. in order to promote procedural and distributional equity, women need to be recognised first).

After this activity, participants were asked to make judgements regarding the fairness of a set of distributional justice principles (Table 1, Figure 4) that could be potentially used to distribute payments for ecosystem services associated with the Vatu-i-Ra Conservation Park within the Nakorotubu District's customary fishing ground in Ra Province (Box 3). This activity was based on the research design of Gurney et al. (2021), and was conducted by some organisers of this workshop.



Figure 3. Equality vs Equity. This figure shows that there are barriers in society that disadvantage certain people over others and that providing an equal amount of resources to all (e.g. boxes) will not be equitable, as it will not lead to equal distribution of management outcomes (e.g. fish). Therefore, in order to obtain equal outcomes in fisheries management, resources must be distributed equitably, which may consist of an unequal distribution of resources among people. ©Sangeeta Mangubhai and Tui Ledua

⁶ In the power walk participants stand in a horizontal straight line and each participant receives a character card (e.g. village chief, male, age 62). The facilitator asks participants whether they agree or disagree with a series of statements (e.g. "My community considers my opinion to be highly important". "During a cyclone, I can make a quick decision to immediately move to a safer area") and participants have to move forward if they agree and not move if they do not agree. At the end of the activity, participants will see that some participants are in the back, others in the middle and some in the front. This activity represents how individual vulnerability and resilience are shaped by social characteristics, such as age, gender, and disability. See Toolkit-web-final.pdf (womensfundfiji.org).



Figure 2. Workshop participants and organisers. ©SPC

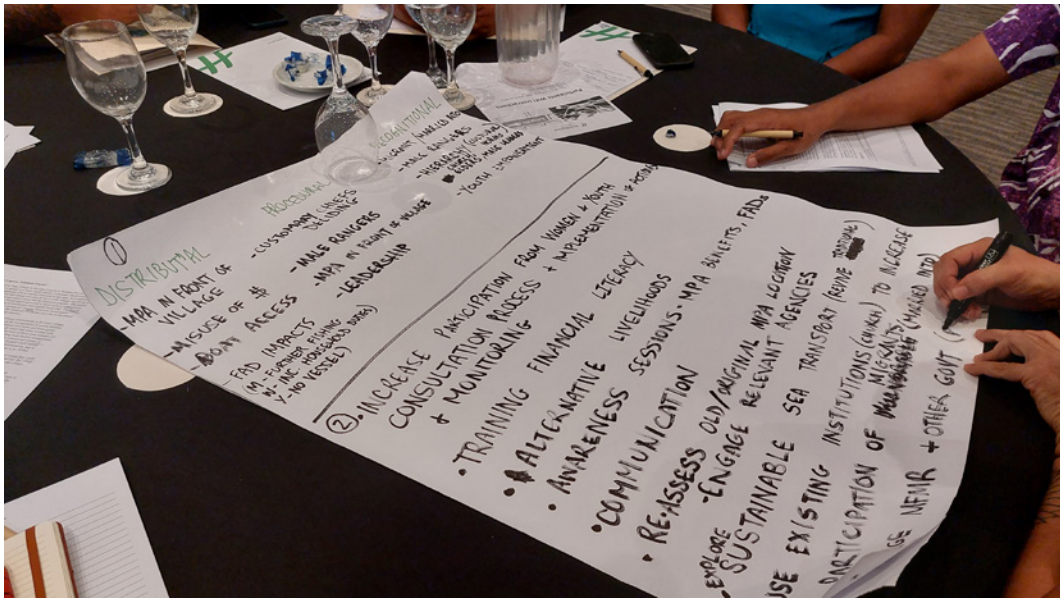


Figure 4. Participants identifying equity issues in the case study in the Solomon Islands based on Rohe et al. (2018). ©Cristina Ruano-Chamorro.

Table 1. Justice principles and definitions used in the activity focused on understanding the plurality of distributional equity (Gurney et al. 2021).

Justice principle	Definition
Equal	'Funds are distributed equally so that everybody living in the District gets the same amount'
Needs	'The poorest people in the District receive more funds'
Rights	'People who have customary rights to the place where the conservation park is, receive more funds'
Merit	'People who participate in management of the conservation park receive more funds'
Opportunity cost	'People who fish most often in the conservation park and have to give up fishing there, receive more funds'

Box 2. Case study: Vatu-i-Ra Conservation Park based on Gurney et al. (2021)

The Vatu-i-Ra Conservation Park is located within the Nakorotubu District's customary fishing ground (qoliqoli Cokovata Nakorotubu) in Ra Province. The Park was established through a *tabu* (i.e. temporary or permanent no-take zone) in 2012, and expanded in 2017 as part of a collaboration between the local tourism operators and the 27 communities that have customary rights to qoliqoli Cokovata Nakorotubu (i.e. qoliqoli owners). The Conservation Park comprises a 110.5 km² protected area and includes a small island. Decisions relating to the fishing ground are made at the *Bose Vanua*.

The Park boasts some of the most spectacular reefs in Fiji, and is popular among divers. All visitors to the Vatu-i-Ra Conservation Park are asked to pay a voluntary fee of FJD 15 (USD 7 approximately) per person by local tourism operators, valid for one calendar year. There is a Management Committee that helps run the Conservation Park, and the funds are managed by a Board of Trustees, registered under Fiji Laws, to ensure transparency and accountability on the use of funds. The fee is voluntary and from time to time, some visitors make donations. Provided the *tabu* is in place and respected, especially by the qoliqoli owners, dive operators continue to collect funds through visitors to the Park.

Exercise: Participants discussed which principles (Table 1) were fairer based on the character they obtained in the power walk.

Subsequently, we provided a series of presentations to further improve the understanding of equity among participants. We presented research that focused on perceptions of equity in local communities in Ra Province Fiji (including Gurney et al. 2021) and Indigenous knowledge. We also provided an overview of equity in international policy (Table 2).

Table 2. Descriptions of presentations provided in the workshop.

Presentation	Description
Advancing equity in small-scale fisheries management in the Pacific	Introduction to the workshop and explaining the difference between equality and equity (Figure 3).
	What is equity? Integrating equity in fisheries management. General introduction to the concept of equity (Figure 1), including the different dimensions of equity, justice principles, what is equity about and who are the subjects of equity.
Equity case study: Ra Province.	Study 1: co-managed marine protected area (MPA) and money. Results from Gurney et al. (2021) focused on assessing the fairness of different justice principles (Table 1) in local communities in Nakorotubu District (Fiji). One of the activities of this workshop was based on this research. After the activity, the results of the research were presented and participants shared their reflections. This activity and the presentation allowed participants to better understand that equity is plural (i.e. there are different justice principles that people can use to judge what is equitable) and context-dependent (i.e. what is considered fair in the communities of the study is different from what practitioners believe is fair).
	Study 2: perceptions of equity in traditional management. Results from a study examining people's perceptions of distributional equity (i.e. fairness in the distribution of positive and negative impacts of management) and procedural equity (i.e. equity in the decision-making process over marine resources) in coastal communities in Ra Province (Fiji), and how these perceptions are related to gender, age, wealth, education, migrant status and marital status, and how the combination of gender and the other characteristics are associated with perceptions of equity (i.e. intersectionality).
Indigenous perceptions of equity in local fishing communities of Fiji	Examples of how the different forms of equity are associated with local Indigenous knowledge in Fiji. Salanieta explained that fairness can be found in traditional practices in Fiji, for example, the 'mana' for sharing and the equal distribution of benefits from turtles in Qoma village.
Understanding how equity is being framed and integrated in international policy	The aims of this presentation were to understand why equity is relevant to global policy and provide an introduction to policies and conventions related to equity, such as the Voluntary Guidelines for Securing Sustainable SSF, the Sustainable Development Goals, and the Convention on Biological Diversity. In addition, this presentation aimed to promote a discussion about the meaning and use of these policies in the Pacific context.

Identifying challenges, strategies, pathways and the role of organisations in advancing gender equity in SSF in the Pacific Islands region

The final activity of the workshop consisted of promoting discussions among participants regarding four key questions using the World Cafe methodology⁷:

1. What are the challenges of promoting equity in SSF management and development?
2. What are the opportunities, strategies and pathways to address equity in SSF management and development?
3. What are the roles of the government in addressing equity in SSF, and can they do more?
4. What are the roles of NGOs or other civil society organisations (CSOs) in addressing equity in SSF, and can they do more?

Key challenges to promoting equity in SSF management and development

Identified challenges to promoting equity in SSF management in the Pacific were related to three levels of governance: individual, communal and organisational. One of the key challenges at the individual level was to ensure cultural neutrality. For instance, participants mentioned that practitioners have ideas that are influenced by their community and culture that can conflict with ideas from the organisations they represent or from a practitioner's perspective. Challenges at the community level included traditional barriers (e.g. cultural norms discouraged women to speak in meetings) and finding innovative approaches to promote equity without compromising tradition. In addition, language barriers, ensuring that no one is left behind, the lack of equity models to follow or standards to promote equity, disseminating equity information into the community, and the diaspora effect (i.e. more educated members of the community who live in the city often have more influence than other members of the community in decision-making) were also challenges at the community level. Challenges at the organisational

⁷ Participatory tool to exchange ideas and knowledge within a large group of people <https://theworldcafe.com/key-concepts-resources/world-cafe-method/>

level involved the different perceptions of equity and levels of understanding among people, lack of institutional capacity (e.g. lack of general awareness, saturated workload) and lack of political will. Participants highlighted that even though conservation practitioners in Fiji do not widely use the concept of equity, many of the approaches they use contribute to promoting distributional, procedural and recognitional equity (i.e. conservation practitioners did not realise they were contributing to promoting equity due to a lack of understanding of the equity concept). Obstacles related to donors involved lack of funding, dependency on donors to promote equity, and ensuring donor alignment. In addition, challenges were also related to the context. For instance, market availability, location and levels of natural resources can change perceptions of what is fair.

Strategies and pathways to address equity in SSF management and development

Participants suggested several strategies to address equity in SSF management. Most of these strategies could be grouped into four key themes: data, leadership, cultural context and institutionalisation of equity.

- Strategies concerning data encompassed the importance of creating more research opportunities, collecting more evidence and analysing past data with an equity lens to grasp what equity means in the Pacific. Importantly, collecting disaggregated data and using an intersectionality lens was also highlighted.
- Leadership strategies included identifying champions and promoting leadership at multiple scales (e.g. community, regional, national).
- Strategies associated with the cultural context included: (1) integrating Indigenous knowledge with modern knowledge, (2) engaging and valuing local expertise to contextualise equity, and (3) recognising examples of equity that already exist in the culture. Examples of how fairness can be found in Indigenous Fijian (i-Taukei) traditional practices were presented. Some examples are the ‘mana’ for sharing, and sharing practices in the community associated with the green turtle harvest.
- Strategies associated with the institutionalisation of equity included promoting equity within organisations (e.g. fair recruitment practices, ensuring equitable human resources implementation, administration, equitable institutional policies, fair access to training), strengthening institutional capacity (e.g. investing in the budget, equity in planning) to promote equity and reviewing the way organisations do things in terms of equity (e.g. monitoring, evaluation). Integrating equity in a project from the beginning (e.g. making equity a core requirement to be considered, explained and articulated in projects, investing in the design part of the project, including risk assessment so that it helps to understand equity issues around the project) was also considered key. In addition, ensuring equitable processes at the donor’s level (e.g. funding is fairly distributed) and integrating and mainstreaming equity into education systems were considered important strategies.

Participants also mentioned other strategies to promote equity in SSF management and development. Some of these strategies focused on improving equity in practice (e.g. building capacity, improving inclusive management processes and intergenerational equity). Promoting equity and alignments at multiple scales, improving education, investing in social safeguard⁸ processes (e.g. risk assessment, conflict resolution mechanisms), considering equity when creating social safeguards, and creating better policies to address equity issues were also mentioned as important strategies to promote equity.

Roles of government, NGOs and CSOs in addressing equity

Participants mentioned key roles that governments, NGOs and other CSOs should play to promote equity in SSF management. These roles involved creating and strengthening equity policies, improving data management, promoting capacity building, ensuring funding, promoting partnerships between different institutions and organisations, and ensuring institutional equity (i.e. within governments, NGOs and CSOs) (Table 3). Participants also mentioned roles specific to governments, such as promoting equitable welfare systems and aligning with i-Taukei Affairs (i.e. a Ministry focused on the good governance of Indigenous Fijian institutions), and roles specific to NGOs and other CSOs, such as providing mentorship, promoting inclusive approaches, and ensuring proper monitoring and evaluation of projects (Table 3).

90% of respondents gained new knowledge from attending the training, thought that the training challenged them to think critically about equity and believed that they will be able to apply what they learnt to their own work.

“I came with a different perspective about equality and equity. This workshop has broadened my vision.”

“This workshop helps in understanding equity and how to apply it to community and other partners, also how to apply to our own institutions.”

“I hope we have had this [the workshop] sooner. It made me think about why some projects fail, and what could have been done better.”

“The take-home message is to understand how complex this is.”

“It is important to contextualise [equity] policies to make them successful.”

“I learned that in our community we have different people who have different mindsets or perspectives of seeing things and we also have different ways to attack or overcome whatever situation they face in life.”

Conclusion

There are many forms of (in)equity in SSF management in the Pacific Islands. However, a lack of understanding of the

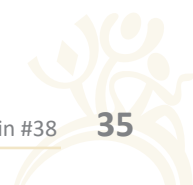
⁸ Processes that aim to respect and protect the rights of people who are impacted by conservation or development initiatives (Wilkie et al. 2022).

Table 3. Roles of governments, NGOs and CSOs in addressing equity.

Roles of institutions in addressing equity	Government	NGOs and CSOs
Create and/or strengthen equity policies	Create and/or strengthen policies to promote equity (e.g. existing fisheries laws and policies need to be streamlined to address equity, learning and research from academia translated into government policies, more routine reviews of laws and policies to be reviewed on equity)	Mobilise communities to strengthen policies
Improve data management	Improve data storage systems	Centralise database
Promote capacity building	Increase capacity building for equity expertise	Provide technical support, creating a platform for cross-learning, best practices, and lessons learned. Increase equitable access to capacity building
Secure funding	Funding and expertise in equity	Act as a conduit for funding
Promote partnerships	Promote stronger partnerships and better coordination between government and civil society	Strengthen partnerships (e.g. bridging gaps between government and private sectors, increase clarity between roles of NGOs and CSOs (e.g. increase communication between the two)
Increase public awareness	Public awareness campaign on equity	
Ensure institutional equity	Promote equity within the government (e.g. gender-balanced workforce)	Ensure NGOs are implementing equity in their own organisations
	Ensure stability in priorities when the government changes	
Promote equitable welfare systems	Promote equitable welfare systems and social protection systems for SSF.	
Align and connect with i-Taukei Affairs	Align and connect with i-Taukei Affairs when working with communities	
Promote inclusive approaches		Promote inclusive approaches (but it will come at a cost)
Provide mentorship		Mentorship to keep the program flowing
Ensure proper monitoring and evaluation		Ensure proper monitoring and evaluation of project plans and ensure that a gender, equality and equity team is part of the monitoring and evaluation
Participate in international reporting mechanisms		Participate in international reporting mechanisms (e.g., Voluntary National Review, Universal Periodic Review)

Participants' evaluation of the workshop

Participants responded to an evaluation survey after the workshop. Overall, results from the survey indicated that more than



concept of equity hinders stakeholders' ability to identify and discuss equity issues in their own context, and thus their ability to promote equity in the management of SSF in the Pacific Islands. This workshop enabled participants to better understand the concept of equity in the Pacific context, including what the different dimensions of equity are and how they are interconnected. In addition, the workshop promoted the co-production of knowledge on the challenges, opportunities and pathways for promoting equity in SSF in the Pacific. Overall, this workshop has generated knowledge that can guide future research and an action plan to advance equity in SSF in the Pacific Islands nations, particularly in Fiji. The design of this equity training could be adapted to other contexts and used by SPC, James Cook University and other organisations to advance equity in other Pacific Island nations and other countries.

Acknowledgements

We thank the participants of the workshop for their willingness to participate and share their knowledge, experiences and ideas. We acknowledge the support of the Pacific Community, the Crawford Fund, James Cook University, Talanoa Consulting and the Pacific European Union Marine Partnership program. This work was supported by a Crawford Fund Award (QLD-1026-2022) and the Discovery Early Career Research Fellowship Grant (DE210101918).

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Women in fisheries profiles

Tikantaeka Tiim Tavita

Chair of the Maurin Nabeina Kamwengaraoi Women's Group

By Taati Eria¹, and Tikantaeka Tiim Tavita²

Nei Tika (right) and Taati at the National Cooperative Day at Bairiki Square.

©Karianako James

“Women in Kiribati are called home caretakers of the family, so they're involved in taking care of the family: cooking, looking after the kids and ensuring daily needs of the family are well attended. A woman also plays a role to earn money to support the family as the men do. Not only the father provides income for the family, but a mother with her creative ideas like making handicrafts, works with her hand in selling local foods at the markets is her specialty. Beside taking care of the family, women are involved a lot in fishing to earn money and support their homes. In my community, since women daily interact with the coastal fisheries; we are also concerned that these resources need to be managed well to sustain our livelihoods for today and for the future” - Tikantaeka Tiim Tavita

Tikantaeka Tiim Tavita prefers to be called Nei Tika for short. She is a middle-aged mother originally from the small islet of Neea in Nabeina, in the rural area of Tarawaieta (North Tarawa) in Kiribati. She is a fisheries entrepreneur with skills in making fisheries-added products for over 10 years. She is a mother of five boys and a grandmother to five grandchildren. Nei Tika is an outspoken lady, with a big sense of humour and a cheerful temper, who enjoys talking to others.

She is also active in her community, currently serving as the chair of Maurin Nabeina Kamwengaraoi Women's Group, which was established with the purpose of raising the profile of the community well-being of the Nabeina Community. The Maurin Nabeina Kamwengaraoi Women's group aims to promote and uplift community well-being through community clean-up campaigns and engagement of women to support the Nabeina village community. She is a regular participant at the yearly Ministry of Commerce local products showcase and the Fisheries Week campaign programme.

How long have you been involved in your business?

I started my business of selling fisheries value-added products like tuna jerky back in 2009. This is a major income source for my family and it has provided me with earnings to support the school fees for my boys and other expenses for my family. Now my three boys are grown up, I remain involved in this business to support my two younger boys, one attending senior high school and my youngest son still in junior secondary school. It is quite a challenge for me, being a busy mum at home, but what pushes me to continue this business is to find means to support my husband to earn income for my family.

In the early days when I started my business, I had to work to prepare around 100 packets of dried tuna at a price of AUD 1.50 for a packet and dropped [them] at the different kava bars, night clubs like seamen's bars, and the lagoon club on South Tarawa every Friday on the paydays. The following week I had to collect around more than AUD 100 per bar where I placed my products. In a month, I can collect nearly a thousand dollars by only spending a few dollars for buying fish and ingredients.

I was also fortunate to be a member of the local produce team, where I used to be invited to national displays organised by the Ministry of Commerce and during the Fisheries week where I can sell my products to the public. Today I was part of the Trade show programme, and was at the Quality Day programme this year at the Bairiki Square where I got the opportunity with other National Cooperatives members to showcase my products, and I have earned around AUD 1,000 during these two-day show-case programmes.

What inspired you to become involved in such a business? Do you receive any form of assistance or support from the Ministry's Fisheries Division for your business?

Honestly speaking, a taste of spicy sweet and sour fish is one of my delicacies and a favourite while returning from a night out for a few drinks when I was in my mid-thirties. Returning home, I prepared a raw fish dish and added a bit of soy sauce, sweet chilli sauce and spicy chilli to add to the taste. Sometimes I had left-over raw fish from the night before, so I left it to marinate and the next day I had to dry them under the sun. Then I had an idea: why not pack it in small plastic ice blocks and sell it at the kava bars? For my first trial, I made

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² Nabeina Village, North Tarawa.

a few packs and it was encouraging to see that it was profitable.

I have continued to engage in this business and have attended training programmes offered through the Coastal Fisheries Division under the Ministry of Fisheries and Marine Resources through the FAO Fish FAD funded by the Japanese Government. The training covered topics on fish processing and value adding techniques which have exposed me to learning the importance of hygiene standards and guidelines to ensure my products are safe. [As]part of the training, [we also] learned how to make tuna products besides tuna jerky, like tuna sausage, tuna samosa and smoked tuna.

Making the jerky and adding the ingredients is always a secret and you learn to adapt over the years. Before, I only made teriyaki from the common flavour of soy sauce and vinegar, but now I add a bit of chilli to add to the taste. I was receiving orders from customers and there's a high demand for the product.

Do you think this business provides a greater return to the women and a wider community?

From experience, for sure, this business brings a greater benefit and returns when you talk about the cost

and the benefits, and it could be a source of income opportunity. It is feasible to do for one individual and can be explored as a pilot project for a community group. In preparing the product, I had to look for raw materials from the local fish market. Buying a small yellowfin tuna that costs you around AUD 10.00 can have a 200 per cent return when you add value to the product by marinating it and drying it. For the flavours, I can make teriyaki tuna jerky and chilli tuna jerky, but there's always a demand for the chilli tuna jerky.

Learning from the trainings offered by the Fisheries Division, I learnt how to make other products like smoked tuna, dried minced tuna and tuna sausage, but for me I do prefer making tuna jerky since it's simple to make. I do receive also direct orders from those planning to send dried fish to their families outside Kiribati like Fiji, New Zealand and Australia.

The involvement in a small-scale processing of tuna value-added products is simple, not that complicated to operate as a home-based operation. For me, it only needs processing tools like knives, cutting boards, drying sets and the secret recipe of ingredients applied to the product. Producing tuna jerky is simple, you only need to learn how to make the product and you can do it at home.

Tika selling beef jerky at the National Cooperative Day at Bairiki Square. ©Karianako James





Packets of tuna jerky made by Tika ©Karianako James

As the chair for Maurin Nabeina Kamwengaraoi, do you see yourself contributing to supporting fisheries management in your community? What are your initiatives that could support this important role as the chair for this women's group?

I joined the Maurin Nabeina Kamwengaraoi Group at the beginning of this year as the chair, involving community clean-up programmes and other village functions and organisations. The group forms part of the helping hand of the village when it comes to beautification of households and the wider village level organisations. It is also involved in areas of social well-being and how individual households know the important role of contributing to the village governance structure. I do have plans to promote my involvement in the value-adding process to share my knowledge with my fellow women in my community. Being involved in this business contributes a lot to my family's sources of income and for sure it can be promoted to women for those interested to venture into this initiative.

I do understand also that managing our resources contributes to the sustainable supply of the resources to support our livelihood. In our community group, we are involved in supporting the North Tarawa community-based fisheries management project through observing fisheries regulations that are in place at the moment and we encourage the women to respect those measures. However, we continue to see several illegal fishing activities around our area. As a woman, I do also play a part to support the fisheries enforcement programme from Nabeina community, through lodging complaints by calling the Fisheries office about illegal fishing activities around the area.

I do hope that the Fisheries Department see the role of women in fisheries management by continuing engagement of my community in training programmes if possible. I understand that we communities have a role in managing the resource and we are looking forward to supporting and providing any assistance that may be required.

What do you want to see in the future on showcasing women's involvement in small-scale processing businesses, especially at the community level?

I want to see more women participating in small-scale businesses to support their families. Women should not depend on men to provide living expenses for the family; they themselves also can make contributions. With my new role as chair to the Maurin Nabeina Kamwengaraoi, I also want to help members of my community to engage in these types of processing businesses. With the skills I have, I could share to the ladies of Nabeina. Who knows? In the future we could secure a small processing plant and make Nabeina community a tuna jerky supplier to the main markets in Tarawa and beyond.

I do have greater hopes, that my dream to support the women can happen one day. If support and assistance can be available through grants and projects, I will give my support to this project 100 per cent. There's a saying ... if there's a will you can do it.

Women in fisheries profiles

Sheryne Rosalia Kanawale¹

Lecturer, Nautical Science Department and Maritime Law and Policy Advisor, PNG Maritime College

My name is Sheryne Rosalia Kanawale and I was born and raised in Levuka on the island of Ovalau in Fiji, and I am currently based in Madang, Papua New Guinea (PNG). My love of the ocean started from a very young age as I was always fascinated and surrounded by the sea. Growing up on the island where my home overlooks the Lomaiviti group and the entire Levuka Harbour prompted me to challenge myself to become a seafarer like my maternal grandfather and uncle who were both ship masters. However, I did not want to stop at that but to venture further up the ladder to get more qualifications.

I have a Master of Science in Maritime Affairs specialising in Maritime Law and Policy from the World Maritime University and a Bachelor of Applied Science (Nautical Science), from the Australian Maritime College under the University of Tasmania. I am currently a lecturer for the Nautical Science Department and Maritime Law and Policy Advisor for the PNG Maritime College. My teaching responsibilities are focused on Bachelor's, Trade Diploma and Certificate of Competency, and specialised Marine Industry short courses conducted by the College. I oversee the design and development of the overall curricula, and develop and deliver a range of programmes of study (sometimes for entirely new courses) at various levels. My responsibilities also extend to training other Nautical lecturers that come under my expertise. I not only develop for Nautical Studies but also for the fisheries sector, in particular, maritime law where fisheries are concerned.

My passion for the fisheries industry lies in the area of policies and the need for all our Pacific islands to adopt the conventions concerned to safeguard our fishers, especially women, and to ensure these are implemented nationally. These conventions ensure that our fishers are well protected and receive the minimum certification and training before undergoing one of the five most dangerous jobs in the world. Many of my students are working towards getting qualifications in the fisheries sector and I never fail to promote the importance of having laws and regulations in place to protect them while out at sea.

What have been some of the greatest highlights of your career so far?

Some of the greatest highlights of my career so far include sailing on foreign ships and working with different nationalities in the many countries I could only dream of as a child. Attending some of the prestigious maritime universities in the World. And making a difference in the lives of seafarers in curriculum development and policy making.

What are some of the barriers for women who want to work on fishing vessels?

There are many barriers women still face, unfortunately. It is a fact that over the years women have ventured off and sailed on fishing vessels but have moved on to other work due to the many barriers that continue to exist on fishing vessels. Many fishing vessels are not built for human occupancy as it has very small accommodation areas and some do not even have a proper lavatory so you can imagine women being exposed to these conditions. Female fishers face a lack of basic accommodation and lavatory facilities onboard fishing vessels. The lack of awareness of how the fishing vessels operate, including their design, is also a barrier for female fishers. Most are hit with the reality of the situation upon signing on and are finally exposed to the harsh environment and this is where they lose motivation and some even self-esteem, which then contributes to poor work performance and finally leads to not wanting to go back on fishing vessels at all. Acceptance onboard is difficult, as fishing vessels are still considered by many as only a place for men, and women on fishing vessels must try much harder in regard to work to gain some form of acceptance from the male crew. Many male fishers still consider women to be the weaker sex and believe that it is only a world for men. The fact that female fishers can multitask is a huge threat to male fishers. In Fiji there are no conventions or regulations that are implemented to protect our fishers as a whole, from training to fishing vessel design and labour laws. This greatly affects female fishers and it should be the focus of those concerned to have these changes in place in the not-so-distant future.

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Why are you passionate about women in the maritime sector?

I am most passionate about women in the maritime sector, in particular female seafarers, as I believe they have the ability to make a difference in all sectors of maritime life. Women can multitask and work diligently to meet their goals. Women, I believe, will make a sustainable maritime industry.

What message do you have for inspiring young women early in their career?

Life at sea is not an easy road. Before taking up this career you must really think about the realities of this job. You will miss birthdays, weddings, funerals and many more occasions while at sea – are you really ready to work long hours in mostly harsh weather and the hectic life onboard? You must have the passion and discipline to venture out of your comfort zone and always be ready to learn new things. And don't ever stop learning. Keep climbing up the ladder and venture into the vast range of jobs that the maritime field has to offer.



Sheryne Rosalia Kanawale. ©Oluafemi Kumuyi

SPC publishes a new handbook to integrate human rights, gender equity and social inclusion in tuna industries

Kate M. Barclay¹, Aliti Vunisea, Megan Streeter, Senoveva Mauli

The Pacific Community has recently published the *Pacific Handbook for Human Rights, Gender Equity and Social Inclusion in Tuna Industries* (Barclay et al. 2023) (Figure 1), building on the success of the earlier *Pacific Handbook for Gender Equity and Social Inclusion in Coastal Fisheries and Aquaculture* (Barclay et al 2021.). The *Tuna Handbook* is an illustratively tailored guide designed to assist fisheries practitioners in national agencies, the private sector, training institutions and civil society organisations to better understand and apply the lenses of human rights (HR) and gender equity and social inclusion (GESI) in their work. Better attention to the human dimensions of tuna industries means we can realise the prosperous vision of an inclusive, equitable and socio-economically thriving Pacific tuna industry.

The handbook consists of nine stand-alone modules. The first two modules cover basic concepts – introducing HR and GESI in the tuna sector and canvassing how to do monitoring and evaluation and social analysis for HR/GESI in tuna industries (Figures 2, 3). Next are three modules following the industrial sector from the sea to the shore; with a module on HR/GESI at sea (Figure 4), a module on ports areas (Figure 5), and a module on processing plants (Figure 6).

Following that is a module on HR/GESI in small-scale and informal tuna fishing and marketing businesses (Figure 7), then modules on HR/GESI in fisheries management and science (Figure 8), and stakeholder engagement (Figure 9). The final module is a country case study from Fiji which investigates the whole range of HR/GESI issues at the national scale (Figure 10).

The *Tuna Handbook* refers to and explores the application of international and regional HR/GESI commitments and guidelines that can be used to reinforce governments' duties and responsibilities, but also why and how private sector players can and must act and contribute to ensure a safe environment where Pacific Island women and men can find decent employment. Working conditions at sea or in processing plants, for example, are examined from a HR/GESI dimension whilst also presenting ideas for solutions that are practical and innovative to demonstrate how social principles can be applied. Pacific examples, visuals, individual stories, lessons learnt, good practices and hands-on tools such as checklists, action points, recommendations and tips have been used for all modules to enable easy understanding and further facilitate HR/GESI application.

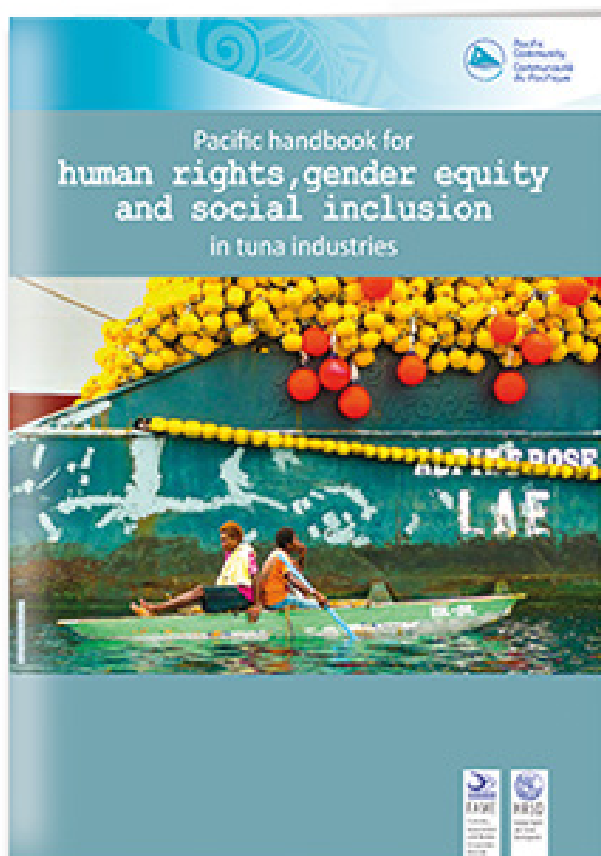


Fig. 1

¹ Professor Kate Barclay, Director of the Climate, Society and Environment Research Centre (C-SERC), Faculty of Arts and Social Sciences, University of Technology Sydney (UTS), PO Box 123 Broadway, NSW 2007, Australia. kate.barclay@uts.edu.au



Fig. 2

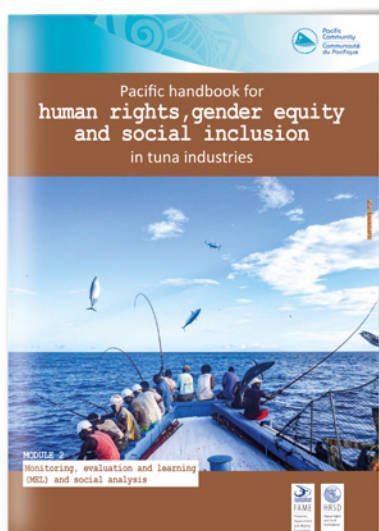


Fig. 3



Fig. 4



Fig. 5



Fig. 6



Fig. 7



Fig. 8



Fig. 9

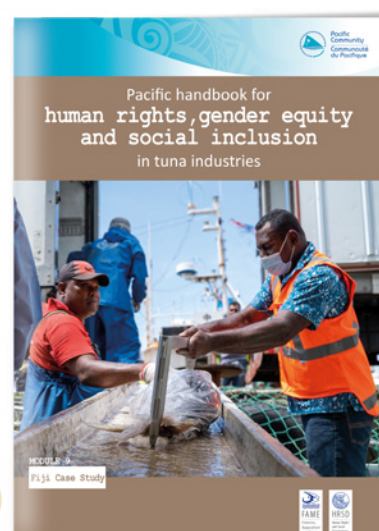


Fig. 10

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Gender-based violence: Relevance for fisheries practitioners

Sangeeta Mangubhai¹, Kate M. Barclay², Sarah Lawless³ and Natalie Makhoul⁴

A new study published in Fish and Fisheries argues that gender-based violence cannot be separated from other actions taken to achieve equitable social outcomes through fisheries management.

Background

UN Women defines gender-based violence as any act of violence against a person or group of individuals based on their gender, and includes physical, sexual, emotional, verbal and psychological threats, harassment, coercion or any other deprivations of liberty. Globally, there has been increased attention on understanding and integrating gender dimensions in fisheries. However, the intersection between fisheries and gender-based violence has received much less attention.

The term ‘gender-based’ is used when violence is shaped by gender roles and expectations, power, and status in society. To better understand the issue, four gender and fisheries experts conducted a global review of capture fisheries and identified five types of gender-based violence—these were physical, sexual, psychological, economic and cultural violence (Fig. 1).

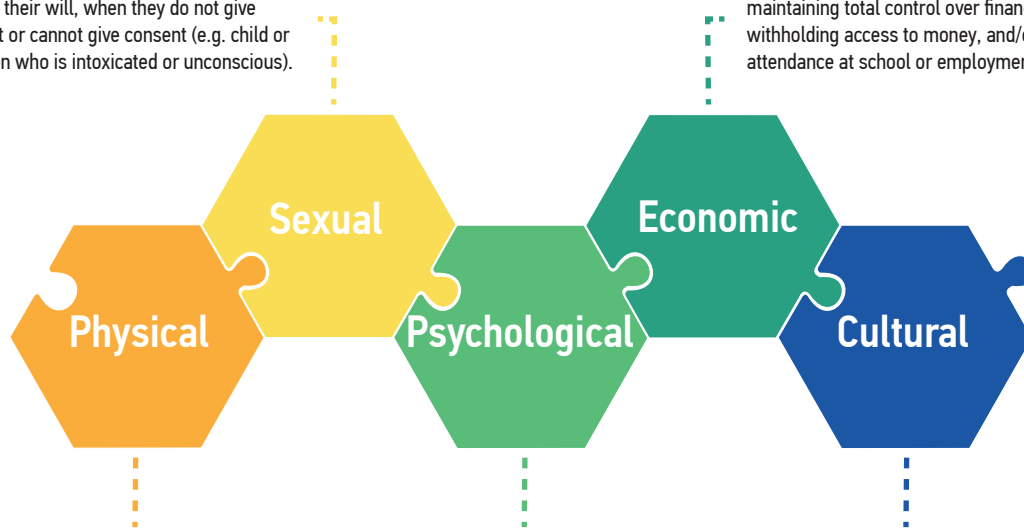
“There is a general misconception that gender-based violence is not relevant to fisheries or is a topic that practitioners have a responsibility to address. Our paper shows there are a variety of activities associated with these forms of violence in the fisheries sector, such as labour and human rights abuses, unsafe working and living conditions for children, women and men, and the cultural acceptance of various forms of discrimination.”
– Dr Sangeeta Mangubhai

The authors argue that gender-based violence cannot be separated from other actions taken to achieve equitable social outcomes through fisheries management, and therefore it is incumbent on fisheries practitioners and policy makers to address this in their sector.

“If those working in fisheries are not aware of how gender-based violence can occur in their sector, they can unintentionally reinforce or perpetuate different forms of violence through policies and practices.” – Prof. Kate Barclay

Sexual violence is the forcing of a person or group of people to take part in any sexual act against their will, when they do not give consent or cannot give consent (e.g. child or a person who is intoxicated or unconscious).

Economic violence is making or attempting to make a person financially dependent by maintaining total control over financial resources, withholding access to money, and/or forbidding attendance at school or employment.



Physical violence is the physical hurting of another individual or groups of individuals. It includes denying medical care or forcing drug use or the drinking of alcohol, and intentional physical damage to a person's property.

Psychological violence is the causing of fear through intimidation, threatening physical harm, forcing isolation from family or friends, and can include the destruction of property. This includes coercive control where a person is made to feel scared and isolated through manipulation and intimidation.

Cultural violence is any aspect of culture (exemplified by religion and ideology, language and art) that justifies or legitimises violence.

Figure 1. Definitions of the five types of gender-based violence relevant to capture fisheries—physical, sexual, psychological, economic (UN Women, 2020) and cultural (Galtung, 1990).

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Key recommendations from study

Rather than just focus on the problem and leave fisheries practitioners and policy makers overwhelmed or unclear on what to do about it, the authors provide seven recommendations to help work towards addressing gender-based violence in capture fisheries.

These recommendations are:

- Remove gender blindness and bias by investing in gender-sensitisation of the sector;
- Form strategic partnerships with organisations with expertise in gender-based violence;
- Improve policy and coordination between regulatory bodies especially in the areas of prevention and protection;
- Increase investments in labour rights and laws to protect those working in capture fisheries throughout the value chains;
- Use gender integrative programme design and implementation;
- Invest in specific programmes for the empowerment of women; and
- Invest in specific programmes for men seeking healthy models of masculinity.

The study finds that gender-based violence is not a stand-alone topic and should be dealt with in conjunction with other pressing issues such as resource depletion, climate change, poverty and unemployment. Holistic and interconnected fisheries interventions and management are critical to socially equitable, sustainable fisheries and are an opportunity for the sector to contribute to the sustainable development goals.

How was the study conducted?

The research was conducted through a collaboration with the UTS Climate, Society and Environment Research Centre (C-SERC). C-SERC researchers investigate the social, political, and economic aspects of challenges facing the natural world that are transforming the way we live. In starting a conversation among practitioners and researchers about gender-based violence in fisheries, this paper aligns with C-SERC and UTS' agenda of pursuing social justice in research.

The research is supported by the Pacific Community (SPC) through the Pacific-European Union Marine Partnership (PEUMP) programme. Investigating nuanced forms of gender-based violence in fisheries to better understand linkages to the sector at small and large scale, including informal and formal contexts, PEUMP is committed to shed light on this blurred and often ignored issue with future research investment planned on GBV in fisheries in selected countries in the Pacific region.

The Pew Charitable Trusts provided funding to Dr Sangeeta Mangubhai as part of her Pew marine fellowship.

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Illuminating gender in small-scale fisheries contributions to sustainable development

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Just over a decade ago the World Bank and collaborators published the Hidden Harvest report (World Bank 2012) that brought attention to many previously overlooked and undervalued aspects of fisheries, including estimates of women in the sector. This was the first attempt at quantifying the contributions by women to fisheries employment globally and brought attention to their importance in the sector – estimating that women represent one out of every two people employed in fisheries. This estimate was one of the most cited statistics from the Hidden Harvest report and brought much needed visibility to this marginalised group within an already marginalised sector – small-scale fisheries. However, despite bringing increased recognition to the important contributions by women in fisheries (and especially in small-scale fisheries, that are chronically underreported), a decade later, gender-inclusive and representative data remain elusive in many contexts, and policies and programmes to support fisheries and fishers remain gender blind. This impairs our ability to make advances towards gender equality and the empowerment of women in fisheries, and support sustainable fisheries and communities.

In March 2023, a follow-up report, the Illuminating Hidden Harvests (IHH) study was published (<https://www.fao.org/documents/card/en/c/cc4576en>). This multidisciplinary initiative led by the Food and Agriculture Organization of the United Nations (FAO), Duke University and WorldFish, involved over 800 collaborators from around the world, including a team of over 28 gender advisors who informed this work. One of the goals of the gender dimension of the IHH study was to identify pathways through which gender considerations support the contributions of small-scale fisheries to sustainable development.

Sarah and Danika were the initial leads on the gender dimension of this project, but we quickly realised that our expertise alone would not constitute a robust synthesis of insights on gender in small-scale fisheries. The Gender in Aquaculture and Fisheries Section (GAFS) of the Asian



Fisheries Society was instrumental in our next step of leveraging our networks to bring together a team of gender advisors from around the world to share deep knowledge and rich insights from their work in supporting and advancing gender equity and equality in small-scale fisheries. Through a collaborative process, this large team of gender experts brought forward new insights on gender dimensions of small-scale fisheries while also identifying what continues to be hidden. This involved the sourcing and synthesis of existing data sources through country case studies and from labour force surveys, household income and expenditure surveys and country census data – the results of which are presented in this stand-alone chapter of the IHH report.

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Among the insights brought forward in this chapter is the persistent phenomenon of *sexist data*, whereby the vast majority of information gathered by fisheries management and related agencies and institutions refers only to men or activities done by men. This persists in part because of the focus on production/harvesting, excluding the full picture of actors and activities along value chain segments, subsistence fishing and processing, and all relevant inputs. Additionally, the focus on boat-based, gear-driven, income-earning, full-time fishing activities elevated in data collection and policy overlooks the contributions of women and other marginalised groups. The resulting data gap is further exacerbated by a lack of institutional capacity, low funding, no gender training for staff, and not enough women researchers. Ultimately, women, despite greater attention, are still not considered key players in fisheries and hence the collection, analysis and sharing of gender-inclusive and disaggregated data are not prioritised, including data on participating in fisheries governance institutions, despite commitments to gender inclusive participation and representation in small-scale fisheries. This phenomenon is highlighted by the IHH gender advisor for Uganda: “Women’s work is often excluded from fisheries data collected by the Department of Fisheries. This is particularly the case for processing, but also the other kinds of ‘shadow work’ that sustain fishermen” (J. L. Johnson, Gender Advisor, 2020). “Additionally, social and cultural norms can suppress women’s voices and hinder their active participation (A. Choudhury, 2019, Gender Advisor, Bangladesh), making it more difficult for them to have an influence on patriarchal systems” (S. Mangubhai, 2019, Gender Advisor, Fiji).

This absence of women in the data is, among other things, part of a self-reinforcing cycle of entrenched gender blindness that despite more widespread recognition of the importance of women in small-scale fisheries, hinders efforts to realise the sustainable development goals, especially SDG 5 (Gender equality) and SDG 14 (Healthy oceans). And thus, one of the key outputs of this chapter was not just coming up with new numbers but in reflecting on the process of doing so, and in trying to understand how we move from entrenched gender blindness to gender equity and inclusivity. We end the chapter by offering some key considerations for policy-makers, practitioners, academics and all those involved in small-scale fisheries as we navigate towards a more gender equitable future. We also identify in the chapter areas of further research, for example, a deeper exploration of what the challenges and opportunities are for closing the gender data gap in small-scale fisheries.

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