



Pacific
Community
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Women in Fisheries

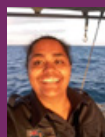
information bulletin

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Looking at the impacts
of COVID-19 on coastal
communities in the Pacific
using a gender and
social inclusion lens

Exploring the importance of
gender equality and social
inclusion in fisheries

Advancing gender
equality in coral reef
social-ecological systems



Inspiring profile:
Jacqueline
Nalomaca-Seru

A novel framework to better
understand gender relations:
based on dried fish
value chains

Assessing mud crab
livelihood projects
in Bua Province, Fiji

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Cover picture
Setaita preparing her fishing line for another day at sea.
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Editor's note

This 35th edition of the Pacific Community's *Women in Fisheries Information Bulletin* has 13 original articles on a diversity of topics. Sarah Harper provides a first look at the Illuminating Hidden Harvests project's findings on gender, while Cristina Ruano-Chamorro summarises a desktop study examining gender transformative approaches used by fisheries and conservation actors who seek to advance gender equality in coral reef-social ecological systems. Carolina Garcia discusses the impacts of COVID-19 on coastal communities in the Pacific using a gender and social inclusion lens. If you missed it, you can also learn about the Community-Based Fisheries Dialogue that was held during the fourth Regional Technical Meeting on Coastal Fisheries and Aquaculture that was held virtually in October 2021.

To help improve gender equity and social inclusion in fisheries and aquaculture, three guides have been developed for managers and practitioners that are worth a read and can be used for training: *Gender equity and social inclusion analysis for coastal fisheries and Practical ways to implementing gender-sensitive research in the Pacific* by the Wildlife Conservation Society and Talanoa Consulting; *Gender equality and social inclusion toolkit* by the Fiji Women's Fund; and *Practical ways to implement gender-sensitive fisheries and aquaculture research in the Pacific* (this edition). Kate Barclay and co-authors share that a *Pacific Handbook for Human Rights, Gender Equity and Social Inclusion in Tuna Industries* funded under the Pacific-European Union Marine Partnership (PEUMP), will be launched later in 2022.

We welcome a number of new lead authors to the bulletin from the Pacific and beyond – Cristina Ruano-Chamorro, Madu Galappaththi, Carolina Garcia, Menka Goundan, Salanieta Kitolelei, Eva Medianti and Saras Sharma.

Sangeeta Mangubhai

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A first look at findings on gender and small-scale fisheries by the Illuminating Hidden Harvests project

Sarah Harper,¹ Danika Kleiber² and Nikita Gopal³

The story of small-scale fisheries cannot be understood without considering gender, and to understand how important these fisheries are to our communities, it is necessary to be able to count how many people contribute to and benefit from them. To do this, we must step back and look at who is working along the entire small-scale fisheries value chain. We must also uncover who is making decisions about small-scale fisheries. The answer to these questions requires data. In gathering data to weave the story of small-scale fisheries, the Illuminating Hidden Harvest project confronts the persistent absence of women in the already meagre data available on small-scale fisheries. Here we provide a first look at the findings that have emerged from this effort, which include new data and insights on gender-differentiated contributions to and benefits from small-scale fisheries.

The Illuminating Hidden Harvest (IHH) study, involving 800 collaborators around the world, is working to tell the story of small-scale fisheries⁴. By examining the economic, environmental, social, nutritional and governance dimensions of small-scale fisheries and their interlinkages, the IHH project aims to contribute to answering the big questions about small-scale fisheries! Gender is central to that story. Specifically, in relation to gender and small-scale fisheries, the IHH project wanted to know:

- What are the gendered labour patterns in pre-harvest, harvest and post-harvest components of small-scale fisheries value chains? What types of labour are counted and what are missing from small-scale fisheries economic analyses? (**economic**)
- What species do women and men harvest, using what gear types, and in which habitats? Which are included, and which are missing from analyses? (**environmental**)
- How does gender intersect with other aspects of identity to determine access to nutrition and livelihood benefits

from small-scale fisheries? What are the current data limitations to understanding access to and benefits from small-scale, fisheries-related nutrition and livelihoods? (**social and nutritional**)

- How is gender addressed in small-scale fisheries governance in terms of representation, distribution of authority and mechanisms of accountability? What are the monitoring gaps to assess gender equity in governance? (**governance**)

To answer these questions, the IHH project brought together a team that included 28 country-specific gender advisors, and another 7 global gender experts that work in gender and small-scale fisheries issues across a range of contexts around the world. We, the three authors of this paper, are two of the global gender experts who co-led the gender theme of the IHH project, and the third is the gender advisor for India.

The IHH project's gender experts and advisors examined various data sources to identify the gender-disaggregated

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⁴ The IHH project, led by the Food and Agriculture Organization of the United Nations, Duke University and WorldFish, aims to generate and disseminate new evidence regarding the importance of small-scale fisheries to informing policy and practice, and will support implementation of the Voluntary Guidelines for Securing Sustainable Small-Scale Fisheries and progress toward the Sustainable Development Goals. Funding for the study is provided by the Norwegian Agency for Development Cooperation, Swedish International Development Cooperation Agency, Oak Foundation and CGIAR Trust Fund.



data that exist. Through this process, we were able to identify gender biases and data gaps, and the barriers to understanding small-scale fisheries. Finally, wherever possible we used multiple knowledge and data sources to validate the estimates that were made using available data and estimation techniques so that we could get closer to a realistic picture of who contributes to and benefits from small-scale fisheries.

Looking specifically at the contributions to small-scale fisheries by women, and the benefits they derive from them, the analysis found that at least **45 million women** participate in small-scale fisheries value chains worldwide, representing 40% of all estimated small-scale fisheries labour. This estimate was based on household-based employment surveys for 78 countries around the world, involving a huge effort to uncover existing data sources. Nevertheless, this estimate likely still overlooks some of the more difficult to account for labour, such as that occurring in the home (e.g. informal processing) and along beaches (e.g. gleaning). The findings from this study also supported the notion that the participation of women in small-scale fisheries is concentrated within **informal and unpaid activities** along small-scale fisheries value chains, and that this, in many cases, limits their social protections and security. Data representing these contributions continue to be systematically excluded from official fisheries data collection and analyses, and thus excluded from fisheries decision-making.

We then examined how women's fishing activities were accounted for. The short answer is: not often. Fishing policy priorities and the data collection to support them tends to elevate boat-based, gear-driven, income-earning, full-time, and finfish fishing. However, women's fishing is often found to be foot-based, low-gear, subsistence, part-time, and invertebrate focused. The differences in fishing by gender reflect cultural and social barriers that often limit women's access to resources and the time needed for boat fishing. Only 30% of the 58 country-case studies included in the

IHH project were able to provide data on fisheries conducted on foot – where women tend to be more concentrated – although 64% of those countries we examined are known to have fisheries that are conducted on foot.

Women, and especially certain groups of women, have less access to, but stand to disproportionately benefit from, access to small-scale fisheries, with broad societal implications for food and nutrition security, and poverty alleviation.

Women's participation in small-scale fisheries decision-making is often limited, both in total numbers (where data are available), and in positions of power. Fisheries organisations that have strong female representation are often focused on the post-harvest sector, where women are most represented.

The full IHH report is due to be released in 2022 and will include strong recommendations on how to move beyond sexist data structures that mischaracterise the contributions to and benefits from small-scale fisheries, especially those that women are involved in, and that reinforce a cycle of gender-blind policies and inequitable outcomes. Overcoming these obstacles and advancing gender equality and the empowerment of women in small-scale fisheries requires actions at all levels – from on-the-ground practitioners to research institutions, as well as those influencing, making and implementing policies.

Further reading

FAO (Food and Agriculture Organization of the United Nations). 2021. Illuminating Hidden Harvests: The contributions of small-scale fisheries to sustainable development. Project website: <https://www.fao.org/voluntary-guidelines-small-scale-fisheries/ihh/en/>

Harper S. and Kleiber D.L. 2019. Illuminating gender dimensions of hidden harvests. SPC Women in Fisheries Bulletin 30:53–55. <https://purl.org/spc/digilib/doc/6bvgz>



Figure 1. Women wait for their turn to collect the fish catch.
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Advancing gender equality in coral reef social-ecological systems

Cristina Ruano-Chamorro,^{1*} Jacqueline Lau,^{1,2} Sarah Lawless,¹ Philippa Cohen,^{1,2}
Karl Deering³ and Cynthia McDougall⁴

Abstract

Gender equity is considered to be a foundation for the resilience and wellbeing of people dependent on coral reef social-ecological systems. Nonetheless, gender inequality persists, and many interventions are still struggling to meet in practice the commitments they make on paper. Gender transformative approaches (GTAs) are considered the frontier of gender research and development because they challenge and shift the invisible social constructs that underpin and perpetuate inequities. A collaboration between the ARC Centre of Excellence for Coral Reef Studies at James Cook University, WorldFish and CARE International sought to determine the extent to which GTAs have been applied alongside of or within the management and conservation of coral reefs.

We commenced with a review of published grey and peer-reviewed literature. We then facilitated inputs from a range of experts to develop a good practice guide and a policy brief to increase and improve the use of GTAs and other gender-sensitive actions in coral reef social-ecological systems. Here, we summarise the key findings of the literature review, the good practice guide, and the policy brief. The intent of our work is to increase awareness of and knowledge about GTAs among funders, researchers, development agencies, and fisheries and conservation stakeholders who seek to advance gender equality in coral reef-social ecological systems.

Introduction

Acting in synergy with a range of anthropogenic drivers, climate change is threatening the sustainability of coral reefs, undermining food systems, decreasing fisheries productivity, and increasing the vulnerability of people who are dependent on reefs for their livelihoods (Hoegh-Guldberg et al. 2019). These social and ecological changes are distributed unequally between different societies, with those contributing less to over-consumption and climate change experiencing many of the costs (Wolff et al. 2015). Within societies, the impacts and costs of climatic and other pressures on natural systems are also gendered, in that different men and different women experience effects to greater or lesser extents (de la Torre-Castro et al. 2017; Lau and Ruano-Chamorro 2021). Gender – which refers to the social meaning and expectations society holds about what it is to be a woman or man – shapes how individuals experience opportunities, challenges and losses in

social-ecological systems. For instance, women tend to have less access to and control over assets and resources to sustain their livelihoods than men (Meinzen-Dick et al. 2011). Women experience greater constraints to their mobility, are responsible for more domestic labor (Boudet et al. 2013), and in some coral reef-dependent contexts, face greater challenges in their capacity to adapt to social-ecological change (e.g. Cohen et al. 2016). Furthermore, the way in which women and men engage with programmes and policies that seek to overcome social-ecological impacts and improve livelihood resilience (i.e. capacity to adapt and recover from shocks and stresses in a way that reduces chronic vulnerability (USAID 2018)) is also influenced by gender norms, relations and beliefs. In certain coral reef contexts, program delivery tends to give men more access to support and information than women (Cohen et al. 2016) and tends to favor men's networks and ways of learning and meeting (Dyer 2018). In addition, in certain coral reef contexts, women tend to have less flexibility to participate in adapted or alternative livelihoods (Cohen et al. 2016; Locke et al. 2017) and face more difficulty participating in decision-making processes (Kleiber et al. 2018; Lawless et al. 2019). Thus, to realise equitable and resilient livelihoods, it is critical that conservation, development or management interventions in coral reef social-ecological systems meaningfully address gender inequality.

Approaches seeking to increase gender equality tend to fall across a spectrum; from interventions that seek to reach participants (i.e. inform them, ensure they attend) to interventions that seek to permanently transform participants' experience of opportunities and agency (Fig. 1). "Reach" approaches tend to focus on ensuring women are included in interventions (e.g. ensuring equal numbers of women and men participating in activities or interventions); and 'benefit' approaches focus on providing individual access to resources and benefits (e.g. increase productivity or income generation). Interventions that only seek to reach or benefit participants tend to focus on visible gender inequalities, or those that sit above the (metaphorical) waterline and target the *symptoms* of gender inequality (Fig. 1). This can lead to some improvements to gender equality, but often these changes may not be sustained once an intervention ends (CGIAR Research Program on Aquatic Agricultural Systems 2012; Kantor et al. 2015). In the worst cases, efforts to ensure equal reach (without addressing the less visible aspects of gender inequality) can even lead to perverse outcomes such as increasing women's workload or reinforcing

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gender stereotypes (e.g. reinforcing that women cook and women ultimately hold responsibility for domestic labour) (Lentisco 2012; Lau et al. 2021b). “Empower” approaches focus on building women’s and men’s ability to make and act on their own decisions, such as the ways in which they earn and use money. However, given that women in some contexts tend to have relatively less say than men, there is also a tendency for empower approaches to focus primarily on women without transforming society’s or men’s views or promoting acceptance of women’s increased agency, power and authority. In the worst instances, this has led to domestic violence against women (Govinda 2012).

At the furthest end of the spectrum are “transform” approaches that seek to challenge underlying gender norms, relations and structures that underpin gender inequalities. Gender-transformative approaches (GTAs) provide a pathway towards realising gender equality. GTAs are considered gender best practices because, unlike other gender equity approaches, they deliberately target underlying and invisible gender inequalities that exist below the metaphorical waterline, such as discriminatory social norms and unequal power relations (Fig. 1). GTAs are holistic strategies that build agency, change relations and transform structures

concurrently to promote gender equality (CARE 2018, 2019a) (Fig. 2). By targeting both the symptoms and root causes (i.e. inequitable structures, gender norms and beliefs, and unequal power relations) of gender inequalities, GTAs can realise more transformative and long-lasting changes toward gender equality. However, there is little evidence of GTAs being applied within or alongside interventions in coral reef social-ecological systems (Lau and Ruano-Chamorro 2021).

Coral reef social-ecological systems attract billions of development and conservation investments each year. In line with global policy (e.g. Aichi Biodiversity target 11, and 14.5 of the Sustainable Development Goals), 134 projects invested USD 1.9 billion in the conservation, development and management of coral reef social-ecological and associated systems between 2010 and 2016 (UN Environment et al. 2018). Particularly, interests in financing gender equality in coral reef social-ecological systems are also increasing. Gender equality is a key principle of The Global Fund for Coral Reefs, a United Nations Multi-Partner Trust Fund for Sustainable Development Goal14 (life below water) which was launched in 2020.⁵ The Global Fund for Coral Reefs aims to raise USD 625 million in capital by 2030. The budget allocation

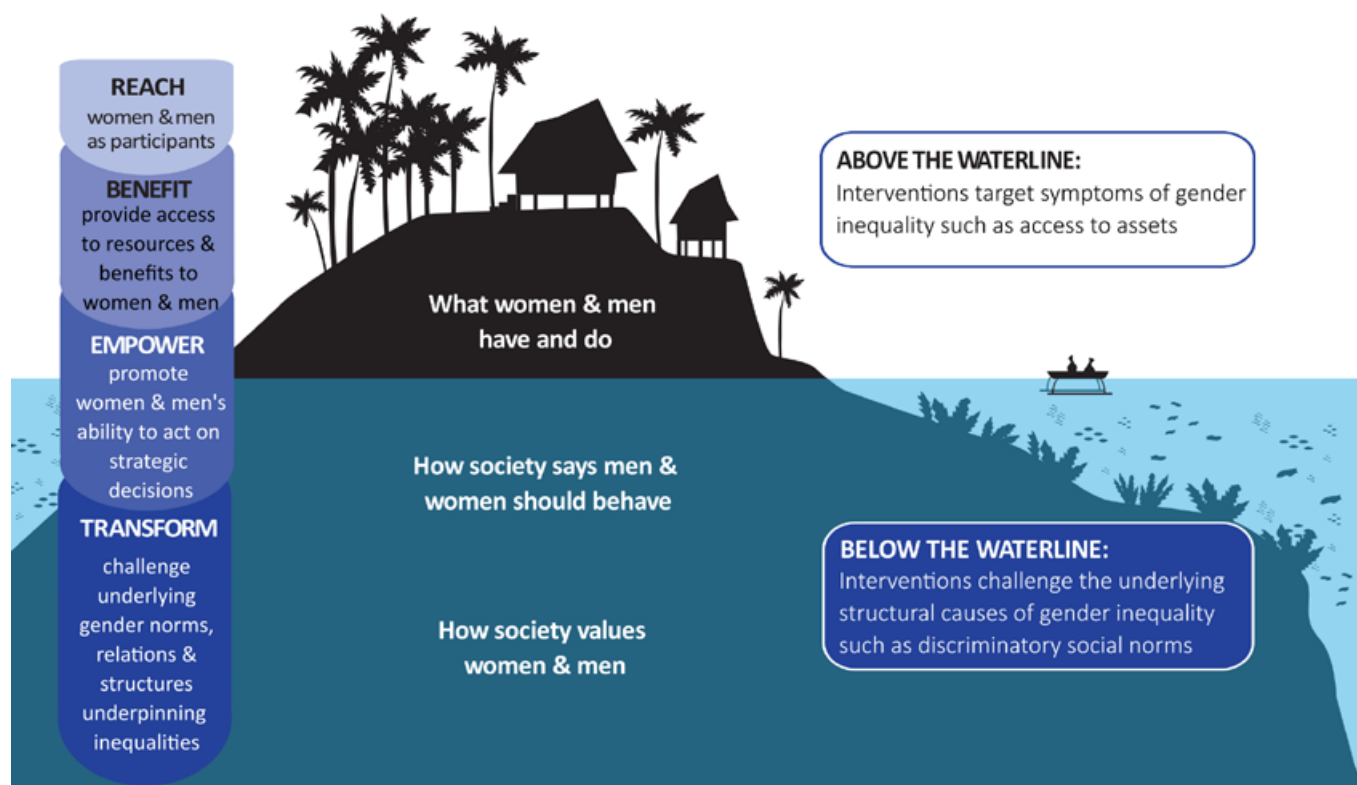


Figure 1. Coral atoll island representing the different ways gender is considered and approached in management, conservation and development interventions. Most interventions engage above the waterline to change what women and men have and do, thus treating only the symptoms of gender inequality. These interventions fall on the “reach”, “benefit” and sometimes “empower” aspects of the spectrum. In contrast, “transform” approaches or GTAs engage with gender specifically below the waterline, ultimately seeking to change social expectations and values around gender. Figure from Lau et al. 2021a.

⁵ See <http://globalfundcoralreefs.org>. 2021

for gender, the gender expertise employed to support this ambition, and the application of gender-sensitive approaches and GTAs is currently in a formative stage.

Advancing gender equality in coral reef social-ecological systems requires addressing three critical gaps. First, more information is needed on the extent to which GTAs (established best practices) are being applied; second, guidance and case studies on what best practices look like in coral reefs is lacking; thirdly, recommendations for policy-makers is absent.

Partnerships are essential to advance gender equality and promote equitable resilient livelihoods in coral reef social-ecological systems. This article describes the outputs from a collaboration between the ARC Centre of Excellence for Coral Reef Studies, WorldFish and CARE International as part of their partnership with the Coral Reef Rescue Initiative (CRRRI) led by the World Wildlife Fund. CRRRI is a global partnership of scientists, non-governmental organisations and influential partners working in collaboration with communities and governments to protect and regenerate coral reefs, food security and livelihoods against climate change.⁶ This collaboration seeks to: 1) provide synthesis and guidance about GTAs in coral reef social-ecological systems;

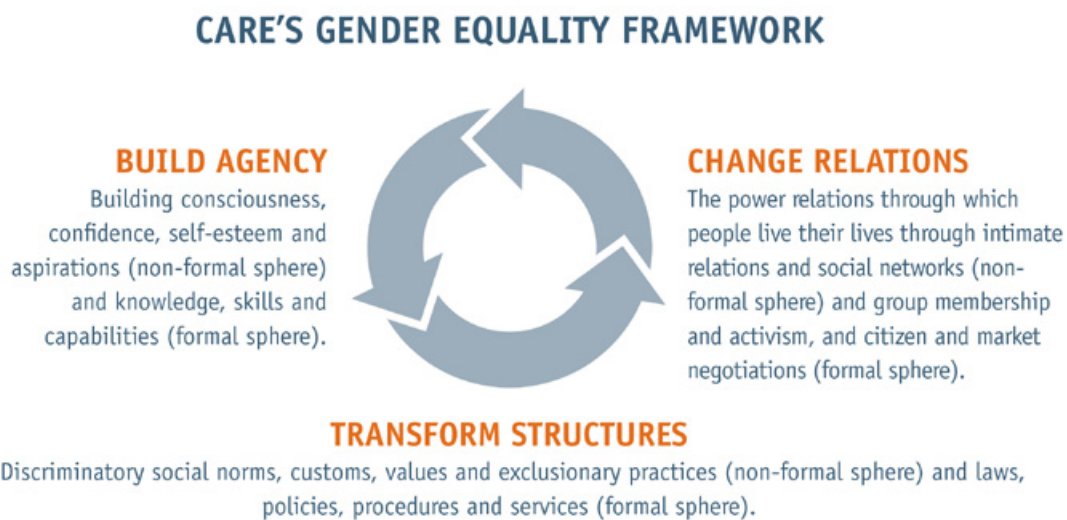


Figure 2. CARE's Gender Equality Framework (CARE 2019a) is transformative because it seeks to move beyond technical and surface-level approaches to gender equality. The framework is being widely used in agricultural livelihood and climate change adaptation programmes. Figure from CARE 2019b.



Figure 3. The four impact pathways through external interventions seek to improve livelihoods opportunities and outcomes for women and men living in coral reef-dependent communities. Regardless of the pathway(s) pursued, GTAs are applicable and relevant within each pathway. Figure from Lau and Ruano-Chamorro 2021.

⁶ See <https://coralreefrescueinitiative.org>

and 2) increase the level of awareness and knowledge among CRRRI partners and the wider development and conservation communities. More broadly, the project aims to contribute to policy, and practice discourse on equitable livelihoods and sustainable natural resource management.

How have GTAs been applied in coral reef social-ecological systems

To assess the extent that GTAs are applied in coral reef social-ecological systems, we conducted a literature review on coral reef interventions in Tanzania, Madagascar, Philippines, Fiji and Solomon Islands (Lau and Ruano-Chamorro 2021). These countries were selected because they are CRRRI focal countries. We assessed peer-reviewed and grey literature, and found four major pathways through which these countries sought to improve outcomes (Fig. 3). We then categorised each of these interventions against CARE's Gender Equality Framework (Fig. 2). Approaches that targeted the three dimensions – building agency, changing relations, transforming structures – were categorised as gender transformative.

We found that two interventions (i.e. the Tanga Coastal Zone Conservation and Development Programme, and Integrated Population and Coastal Resource Management Project,) (Van Inghen et al. 2002; D'Agnes et al. 2005; FAO 2017; Lau and Ruano-Chamorro 2021) did not use the word transformative, but had several elements that can be considered transformative according to the definition of GTA (e.g. promote critical consciousness regarding inequitable gender norms in a way that shifts constraining gender attitudes and challenges unequal household power relations) (see Lau et al. 2021a) (Fig. 2). Most approaches (n = 28) targeted only the symptoms of gender inequalities that exist above the waterline (see Fig. 1).

More specifically, for all five countries, conservation, management, and development approaches pursued strategies that fell across the different categories of the “reach, benefit, empower” spectrum. Examples of reach approaches included promoting women's inclusion in management (e.g. women as fish wardens or quotas for women in fisheries management committees). Examples of benefit approaches included those that sought to improve the material lives of women; for instance, developing alternative livelihood initiatives for women (e.g. seaweed farming, pearl shell farming, handicraft-making, tourism); and providing access to microfinance. Examples of empower approaches included those that sought to build women's capacity through training-of-trainers workshops. In these workshops women were trained to spread key messages about marine resource management, and assist women in meetings. This increased women's confidence to speak up about issues that affect them and their families, and promoted their engagement in fisheries management. In addition, an empower approach aimed to create conditions for equitable participation in implementation and decision-making of a coastal resource management project by providing gender-responsive training to local government and community-based institutions (i.e. to sensitise and educate them about the role of women in

fisheries, and the importance of women's participation in management). While these examples were clear, in many cases, the articulation of the rationale and/or outcomes of these approaches was sometimes lacking and, therefore, difficult to make these assessments.

Consistent with analyses in other coastal contexts, our review found that the use of GTAs in coral reef social-ecological systems was rare, suggesting that there are significant opportunities to increase the quality and prevalence of GTAs in coral reef social-ecological systems.

How to increase the quality and prevalence of GTAs in coral reef social-ecological systems, interventions and programming

Operationalising GTAs in coral reef social-ecological systems will require more conservation, development and management stakeholders to understand and engage with the key underlying principles (Table 1), treating GTAs as an iterative process (Fig. 4) that makes the most of key learning and research opportunities. There is not a rule book for applying GTAs because they need to be adapted to specific contexts, but they are based on a set of principles that we outline in the best practice guide (Table 1). They seek equality for all and do not impose particular visions on how to promote gender equality, but rather facilitate critical awareness and questioning of gender norms and roles. Implementing GTAs is a challenging process that takes time, long-term planning, evaluation and capacity (e.g. facilitation skills and self-critical reflection from staff and partners). GTAs need to be embedded in all levels of project design, and require partnership and buy-in across all levels of an intervention. Ultimately, the willingness to engage in GTAs needs to come from the agents of change themselves, for example communities and families.

Embed GTA principles from the outset

GTAs need to adapt to context; a GTA that has been successful in one situation may fail if replicated in a different context. Implementing GTAs thus requires following a set of principles and good practice steps (Table 1) that provide guidance for the development of gender transformative livelihoods in coral reef social-ecological systems, rather than implementing a blueprint approach.



Table 1. GTA principles of good practices.

Principle	Explanation
1. Understand the context and conduct gender analysis	It is critical to understand how contextual power dynamics and social norms lead to gender inequalities and how these intersect with multiple identities (e.g. age, ethnicity, social status) and inform GTAs.
2. Focus holistically on transforming structural barriers, building agency and changing relations	GTAs aim to promote gender equality by focusing on the three dimensions of CARE's GEF (building agency, changing relationships and transforming structures) (Fig. 2). Deep and enduring change happens when structures are transformed, and "what emerges is fundamentally different from what [it was] before" (Brookfield 2012:131 in Kantor and Apgar 2013).
3. Ensure project activities meet the needs of people of all genders	Pay attention to gender differences regarding needs, risk and inequities (identified in the gender analysis), promote safe and inclusive project access to all participants, and address discrimination.
4. Adopt participatory approaches	In GTAs, communities work shoulder to shoulder with conservation and development organisations and other stakeholders. GTAs ensure meaningful participation of all gender, transparent information sharing, meaningful opportunities to be involved in decision-making, and accessible, safe and reliable response feedback mechanisms.
5. Internalise and practice gender equality principles in facilitating organisations	Facilitating agencies (e.g. NGOs, governments) should take time to self-reflect and embrace GTA principles within their work and organisational culture.
6. Instigate reflective processes	Reflective processes are learning processes that aim to shift mental models, values and beliefs (Cole et al. 2014; Wong et al. 2019), such as those that reproduce gender inequalities. GTAs promote cycles of critical reflection to challenge oppressive norms, behaviours and power dynamics (Kantor et al. 2015; FAO et al. 2020).
7. Engage women, men, and non-binary people across a range of identities	Being a woman or a man – or identifying as non-binary- intersect with other identities (such as age, marital status, ethnicity and class). These different identities shape individual experiences and outcomes, thus engaging the diversity of identities in GTAs is important.
8. Engage stakeholders at multiple scales	Gender inequalities are produced and reinforced at multiple scales (household, communal, institutional and social scales). Thus, GTAs should engage with actors and institutions operating at different scales (Kantor 2013; Cole et al. 2014).
9. Monitor and evaluate throughout	Collect sex and age disaggregated data; consider and adapt to needs, safety and security risks and vulnerabilities issues (e.g. gender-based violence or GBV), measure unintended consequences, and monitor changes in gender roles and relations.

Table from Lau et al. 2021a, and based on CARE 2019c; FAO et al. 2020; McDougall et al. 2020.

The iterative GTA process

In intervention programming, GTAs are iterative processes through which the “doing” provides knowledge that informs learning and better implementation of GTAs over time (Fig. 4).

Begin with social and gender analysis that provide insights on the social, cultural and gender context (e.g. gender norms, power dynamics in the household and value chain). In the case of coral reef social-ecological systems, gender analysis can provide information on specific sectors such as markets, nutrition, access to resources, power in management, and vulnerability and adaptation to climate change. Understanding what the factors are that lead to gender inequalities in coral reef social-ecological systems – and how gender interacts with other social factors such as ethnicity, age, caste and status (i.e. intersectionality) – is critical to informing the design and implementation of GTAs. Gender analysis must be an ongoing process because contextual factors, such as gender norms and power dynamics, can change over time. In addition, social and gender analysis can inform monitoring, evaluation and learning (e.g. monitor shifts in gender norms).

Design interventions that concurrently build agency, change relations and transform structures (Fig. 2). GTAs can be designed and implemented in all four pathways

(Fig. 3) and should be guided by GTA principles (Table 1). GTAs are implemented in combination with development, management or conservation initiatives through gender integrated programming or gender activities targeting agency, relations and structures (Fig. 2). GTAs engage men, women and non-binary people; and foster critical reflection discussions to challenge contextual social and gender norms and power dynamics that influence people's lives. GTAs involve participatory methodologies (e.g. participatory action research), promote gender transformative training and reflection by staff and ensure gender-based violence prevention and response integration. Finally, sharing lessons learned with others, replicating in other communities and creating partnerships at multiple levels to promote innovation and influence policy is also critical.

Monitor, evaluate and learn in order to track progress, evaluate changes in agency, structures and relations (Fig. 2), and assess negative unintended outcomes (e.g. backlash). Monitoring, evaluating and learning can also help to improve the design and implementation of future GTA interventions. Sex and age disaggregated data should be collected, analysed and used to adapt the project to changing people's needs, capacities and vulnerabilities, and ensure access to rights, safety and security (CARE 2019c). Transformative change is difficult to observe and measure, and often occurs over long periods. Therefore, assessing

Social & gender analysis

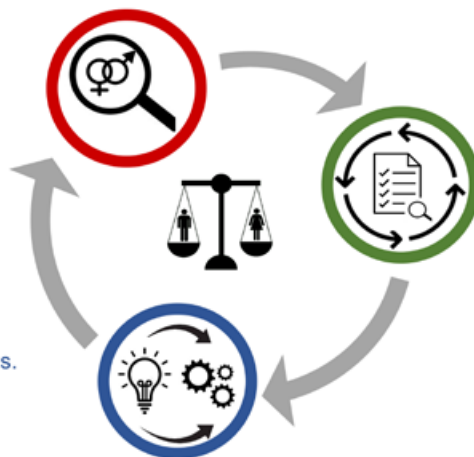
Understand contextual gender barriers (e.g. gender norms) and intersectionality. Gendered analysis in sectors of coral reef social-ecological systems such as markets, nutrition, and climate vulnerability and adaptive capacity.

Learning

Learn from success and failure. Improve and adapt future interventions.

Evaluation & monitoring

Use participatory approaches. Integration of methods for measuring social change, risk, negative change, backlash and sectoral outcomes. Use multidimensional and multiscale context-specific indicators. Personal transformation tracker for staff. Use theories of change.



Design

Build agency, change relations and transform structures, include gender integrated programming and specific gender activities to advance gender equality in agency, relationships and structures.

Implementation

Promote participation in project processes. GBV prevention and response. Engage women, men, and non-binary people across a range of identities (e.g., age, marital status, ethnicity, class). Include reflective processes and dialogues with major sectoral focus for coral reef social-ecological systems (e.g. markets, nutrition, technology adoption). Previous gender transformative reflection by staff.

Figure 4. GTA is an iterative process, whereby gender considerations inform and are accounted for during each part of the project cycle. The “doing” provides knowledge that informs learning and further action and reflection (Wong et al. 2019). Figure adapted from Cole 2021.

transformative change may require new ways of monitoring and evaluation (Hillenbrand et al. 2015; Wong et al. 2019; Lau et al. 2021a), and critically thinking about how transformative change is measured, because it can reinforce gender inequalities. Particularly, organisations should promote continuous critical reflection among staff (e.g. on their own positions and practices) and promote a working culture of innovation and learning (Hillenbrand et al. 2015; Wong et al. 2019).

Theories of change can be used to reflect on the assumptions made regarding the intervention and the expected changes and compare them with the changes observed (outcome evidencing) (see Van Eerdewijk and Brouwers 2014). Furthermore, transformative change should be measured as an incremental process and tracked at multiple scales (e.g. household, community, institutions) and dimensions to detect changes in individuals (e.g. income, time, labor), relations (e.g. level of family conflict, social networks) and structures (e.g. social norms, institutions). Both qualitative and quantitative approaches should be used to measure transformative change (e.g. the Project Women's Empowerment in Agricultural Index (Pro-WEAI)), and indicators should be adapted to the context (see Hillenbrand et al. 2015; Barclay et al. 2021 for a complete list of potential indicators). In addition, for MEL processes to be meaningful, relevant and transparent, it should be participatory (e.g. engage stakeholders in data collection, evaluation, interpretation of results). Finally, monitoring and evaluation can provide useful information that should be used to improve and adapt GTA implementation (Fig. 4).

What are the current research and learning opportunities?

The implementation of GTAs in coral reef social-ecological systems is nascent. Therefore, there is a substantial opportunity to trial and evaluate GTAs in these contexts (Lau et al. 2021a). Here, we suggest research and learning opportunities that can help advance GTA application in coral reef social-ecological systems:

- Testing and modifying GTA methods by trialling and implementing GTA principles in your own organisations. *How can we ensure GTAs become mainstream practice within individual organisations?*
- Design and evaluate GTAs at different levels of coral reef governance. *How can GTAs be implemented at multiple scales (e.g. household, community, societal)? How can GTAs be scaled up (i.e. beyond-households, including groups, organisations working on SFF, markets, policy, and legal arenas)?*
- Connect and map GTAs to CARE's Gender Equality Framework (Fig. 2). *What are the key principles to consider when designing GTAs to ensure they work toward building agency, changing relations, and transforming structures? Which practical tools are best suited to facilitating these transformations in coral reef social-ecological systems?*
- Develop an understanding of the values and goals of people in coral reef dependent communities. *How does gender in the context of coral reef social-ecological systems, shape women's and men's gender roles, power, needs, decision-making patterns, access to and control over resources, benefits and impacts from fisheries and conservation, management, and development interventions? What GTA approaches can be designed and implemented to promote gender equity in the specific context you work? How can GTA outcomes be monitored and evaluated in that particular context?*
- Assess the extent GTAs applied in coral reef social-ecological systems can also drive improvements to the health of coral reefs and enhance broader sectoral outcomes. *How can GTAs be integrated across sectors to promote equitable resilience in coral reef social-ecological systems? What are the effects of GTAs on gender equity and social and ecological resilience?*

How can gender-transformative change be supported by the policies, laws, organisational procedures and processes associated with coral reef social-ecological systems?

Gender transformative change towards gender equality in coral reef social-ecological systems requires concerted policy support and investment across a range of scales (Fig. 5). In our policy brief, we provide recommendations for enabling gender transformative change through coral reef-related

policies, laws (i.e. formal global, regional, and national conventions, laws, plans and regulations), and procedures and processes of funders and implementing organisations. We contend that gender inequalities are produced and maintained at multiple scales – from the whole of society, all the way down to individuals within households (Fig. 5). These scales are nested and are influenced by each other. Efforts to enhance equality need to consider how gender inequalities are perpetuated, and can be addressed, at each of these scales.

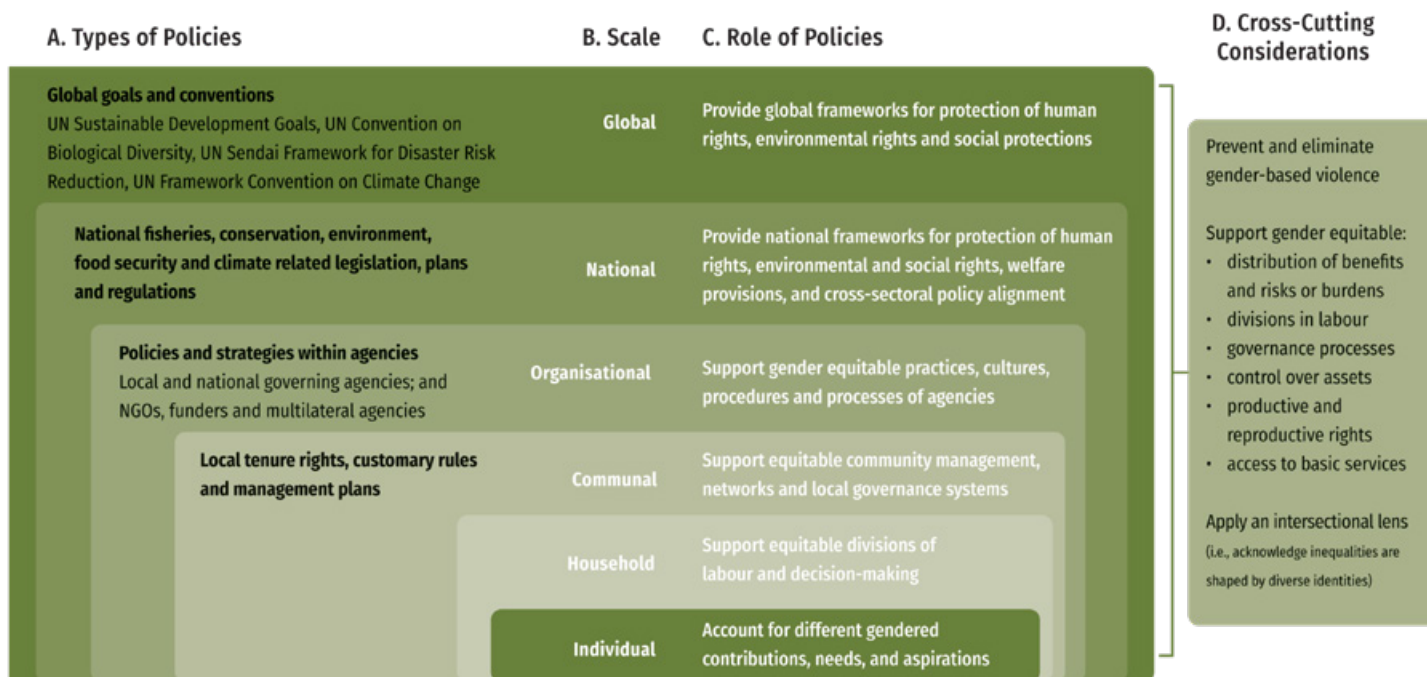


Figure 5. Examples of the a) types of policies, laws, procedures and processes at b) different scales, c) their role in enabling the conditions for gender transformation, and d) cross-cutting considerations across all scales. Figure from Lawless et al. 2021.

Recommendations for enabling gender transformative change through coral reef-related policies, laws, procedures and processes (Lawless et al. 2021).

- Enable the conditions for gender transformative change by identifying and addressing the informal and formal root causes of gender inequality, both above and below the waterline (Fig. 1).
- Seek to prevent and eliminate gender-based violence and support the protection of human and environmental rights at all scales of policy, including through gender equitable distribution of opportunities, benefits and risks; divisions in labour; governance processes; representation of all voices; control over assets; productive and reproductive rights; and access to basic services.
- Connect to existing gender equality laws, regulations or cross-cutting goals in other sectors.
- Consider how policies support gender equality as a goal, in and of itself. When gender equality is framed and pursued as an intrinsic goal, there is a greater likelihood of associated gender commitments and approaches leading toward equitable improvements.
- Ensure that policy-making processes themselves are gender equitable, ensuring that a diversity of voices are represented and that there is a balance top-down commitment to gender equality with a bottom-up inclusion. Inclusive dialogues and citizen-led accountability mechanisms facilitate the inclusion of perspectives of marginalised communities.
- Translate gender equality commitments into action by ensuring adequate funding, resources and timeframes, and connecting civil society groups with gender expertise to strengthen and transfer gender capacity.
- Collect and use gender data and information for decision-making and organisational change, and invest in research and knowledge generation for gender transformative development and conservation practice.
- Assess the extent to which coral reef associated policies are gender transformative by utilising established methodologies and assessment tools.

If gender inequalities below the waterline are not addressed by policy, they risk continuing to produce and reproduce unequal relations, outcomes and policies that aim to overcome gender inequality but may eventually fail (Lawless et al. 2021).

Conclusion

Commitments to gender equality are increasingly prevalent with and within investments and interventions seeking to work with coastal communities, coral reef societies, and island nations. The ongoing challenge remains to match these commitments with quality and integrity of practice that leads to increased wellbeing for women, men and other identities. There is substantial work remaining to meet even the most basic commitments to gender equality (e.g. meeting sex-disaggregated data standards). These efforts and early steps still need to be taken in many contexts. At the same time, it is critical to look at the frontier of gender and development practice and policy. GTAs are key to advancing gender equality and resilient livelihoods in coral reef social-ecological systems. Yet, GTAs are only just beginning to be applied in coral reef systems and thus, the underlying structures that reproduce gender inequalities have frequently remained unaddressed, likely hampering gender equality efforts. Nonetheless, expertise and willingness to promote GTAs in coral reef systems is growing. This collaborative project provided guidance for development and conservation practitioners and recommendations for policy-makers, and can directly make a positive impact through its direct connection to CRRI partners. Ultimately, pursuing GTAs holds great promise for more resilient livelihoods and the wellbeing of coral reef communities.

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Assessing mud crab livelihood projects in Bua Province, Fiji

Ana Ciriya¹, Margaret Fox and Rosi Batibasaga

We evaluated the effectiveness of mud crab projects implemented in two districts in Bua Province, Fiji in 2017. The lessons learned will help other fisheries practitioners interested in implementing projects with this women-dominated fishery.

Background

The term “livelihood” has been defined as “people, their capabilities, and their means of subsistence,” including necessities such as safe drinking water, food and shelter (Mangotra et al. 2019:11). Livelihood projects are often carried out by partner institutions and organisations (e.g. government, non-governmental organisations) to support existing livelihoods in communities in a manner that does not jeopardise future livelihoods (O’Garra 2007). Many partners invest in capacity building to expand and build on existing livelihood knowledge and skills within the unique social and cultural contexts of the geographies they work.

The Wildlife Conservation Society (WCS) had supported several livelihood projects in the Bua Province, including the production and sale of virgin coconut oil, honey and *kuta*² mats (WCS 2019). Since 2016, WCS has focused on the women-dominated mud crab (*Scylla serrata*) fishery in Bua Province, conducting a preliminary assessment of mud crab stocks in the province (Nand and Mangubhai 2016), undertaking a value chain analysis of the fishery (Mangubhai et al. 2017), establishing fisher-led catch per unit effort (CPUE) monitoring (WCS, unpublished data), carrying out mud crab awareness campaigns, introducing mud crab fattening techniques (WCS 2021), and assisting fishers with establishing locally managed mud crab management plans (Giffin et al. 2019).

Mud crab fishing is an important source of income for fisherwomen in Bua Province. Fishers travel to catch crabs on a weekly or monthly basis, or catch them only during certain

lunar phases (seasonal). The mud crabs caught are either eaten, sold or shared within and outside the community. In addition, some fishers travel to Labasa or Savusavu to sell their catch, or sell to middlemen or middle-women and local shops in the neighborhood. The mud crab fishery was affected by category 5 tropical Cyclone Winston in 2016, and an assessment (with individual fishers) found that there had been changes to harvesting patterns, changes in the use of harvested crabs, change in sales, and changes in livelihoods (Thomas et al. 2019).

In March 2019, focal group discussions and individual interviews were done in two communities in Waisa Village in Kubulau District, and Navunievu Village in Bua District, where WCS introduced a mud crab fattening project to help improve catch sales and income for mud crab fishers.

Mud crab post-harvest fattening and handling

The mud crab post-harvest handling training had been conducted as part of the project and was aimed at improving a source of income for mud crab fishers in the communities through the post-harvest fattening of mud crabs in pens before sale. It involved both theory on the life cycle and safe stress-free, post-harvest processes of mud crabs, and fieldwork involving the construction and installation of mud crab fattening pens in the mangrove areas. The pens were all made from locally sourced materials at no financial cost to the fishers. However, over time, fishers shifted from the use of bamboo to wood. Some were frustrated by pens being removed and crabs going missing. Although income was lost, 43.8% of the respondents (mostly from Navunievu Village) felt that they had gained value-adding skills that would prove beneficial in the long run. Only two out of the eight crabs placed in the fattening crabs in Waisa Village survived. Respondents blamed the location of the fattening site being too exposed to sunlight, which was a major contributing factor to the increased mortality of the crabs, and no suitable market, and at the time, there was no existing mud crab management plan in Waisa Village. Regardless of the challenges of these first attempts, fishers were eager to participate as it would contribute to capacity building, sustainable harvesting of mud crabs and an increase in their sources of income. While the training was delivered in two communities, active mud crab fishers from neighboring villages were also invited to attend.

Several issues were identified during the evaluation of the mud crab project in these communities. Issues relating to the project included the location of mud crab fattening cages that led to high mortality and parts of cages missing.

Pen construction in Navunievu Village. ©WCS



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² Mats woven using freshwater reeds grown in wetlands. Women from the two provinces of Macuata and Bua are well-known for this specialty.

Other issues identified

- *Lack of interest and ownership.* Interest in the project waned due to high crab mortality and lack of support and ownership from mud crab fishers. Crab mortality occurred due to the pens being exposed to direct sunlight, and although it was intended to change sites, this was not done because no one led this work. There was also frustration that crabs went missing. As a result, some women gave up, and a number of pens were left idle, unattended and unused.
- *Challenges accessing markets.* Mud crab fishers sometimes had to travel far to access markets in Labasa and Savusavu to sell their catch, and travelling costs were a burden. Fishers also feel that the current selling price to middlemen is low and do not match the time and effort used to catch mud crabs.
- *Exclusion in decision making process.* The majority of decisions made with regards to resource use are made by men, and women and youth continue to feel left out. This is due to the “culture of silence,” in which women rarely speak in village meetings and silently agree to all decisions made by men in society (Vunisea 2008).
- *No management plan.* There is no management plan in Waisa Village to ensure the sustainability of the mud crab fishery. District-level, ecosystem-based management plans are not species-specific to meet the needs of individual fishers and specific fisheries.

Recommendations

Several recommendations were made because of this assessment.

- It is important to continue monitoring the levels of participant engagement from beginning to the end, and how best to structure the roles and responsibilities that come with the project.
- There is a need to support gender equity and social inclusion inclusive decision-making on resource use to ensure all voices are heard, and the collective decision benefits everyone involved. This applies to any decision-making process, whether it pertains to implementing a

livelihood project, or establishing a management plan. The assessment suggests that women and youth are not content with being *passive bystanders* and would welcome opportunities to engage in decision-making that affects their livelihoods.

- It is important to invest in a broad range of training sessions, including financial literacy, simple book-keeping, and refresher programmes on the project itself. One-off training sessions do not have a long-lasting positive impact.
- A project evaluation is valuable to help stakeholders assess what worked, what did not work, and what the teams can improve on (i.e. lessons learned).
- Continuous support is needed from stakeholders to ensure the project's longevity. Longer-term investments are needed to provide support to fishers, particularly to women in rural areas that may not have benefited from training workshops and support.
- For future studies, an initial feasibility study should be carried out before implementing a project, and should consider external factors such as climate change and natural disasters.

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Proper method of tying crabs in Navunievu Village. ©WCS



Practical ways to implement gender-sensitive fisheries and aquaculture research in the Pacific

Sangeeta Mangubhai,^{1,2} Caroline Ferguson,³ Chelcia Gomes⁴ and Aliti Vunisea⁵

Want to do gender-sensitive fisheries and aquaculture research but not sure what this means, or where to start? Do you wonder if gender matters for the work you do, and want to explore these ideas? We provide some practical ways to get you started on your journey to implementing gender-sensitive social science research. Although we have developed this tool through a Pacific lens, this easy-to-use, step-by-step guide can be adapted and applied to other regions.

Introduction

In the past, it was assumed that the priorities and perspectives of women and men were similar enough that there was little or no added value in collecting and analysing *sex- or gender-disaggregated data*.⁶ However, studies have shown that women and men use and understand natural resources differently, yielding unique knowledge and perspectives. It can also help to highlight differences in knowledge and the distribution of resources, power and opportunities. Failing to understand these differences can lead to the exclusion of individuals or groups of individuals, particularly those that are marginalised, in some cases worsening existing inequities or creating new inequities. This has been especially well documented for women, particularly in strong patriarchal cultures and societies.

Gender-sensitive research and methodologies recognise that gender is a significant variable or factor in shaping the use, knowledge and management of natural resources. Gender-sensitive research considers gender dimensions at every step and in every component of the research, from the initial idea through to the sharing of findings and recommendations. It also gives *equal value* to women's and men's unique perspectives. Decades of learning in the development sector has shown us that the inclusion of gender considerations in the planning and implementation of socioeconomic research is a critical step to understanding individuals' needs, roles, vulnerabilities, opportunities and contributions to society. It is important to note that *gender norms* and *gender relations* are context-specific and can vary at different governance levels (e.g. national, subnational, community).

The information gathered from gender-sensitive research will help us to better design projects, improve the formation of national policies, and deliver more meaningful, impactful and gender-equitable interventions on the ground. Sex-disaggregated data allow us to better understand, measure and monitor gaps between women and men, and their

Useful definitions

- Sex is the biological characteristics of being male and female (e.g. reproductive organs, chromosomes).
- Gender is a social identity – that of being a man or a woman, boy or girl, or other gender identity. Society associates certain roles, responsibilities, entitlements and behaviours with those identities, and also has expectations for them.
- Gender research involves the collection of sex- or gender-disaggregated data.
- Gender norms are the accepted attributes and characteristics of being a woman or a man, defined at a particular point in time for a specific society.
- Gender relations are the way a society defines the relationship between women and men, including their rights and responsibilities.

similarities and differences in different geographies and social-cultural contexts. It helps ensure that both women and men are included in fisheries and aquaculture projects, or the sectors more broadly; and ensures that the benefits or impacts of development projects are considered.

We provide an easy-to-use checklist that can be used by Pacific Island managers and practitioners who want to design and implement gender-sensitive fisheries and aquaculture research. We recommend going through the checklist in a group setting to get diverse views and perspectives that will help better shape your research.

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⁶ The authors wish to recognise and acknowledge that gender is not binary (meaning women and men), and there is a diversity of gender identities that people self-identify with in the Pacific. However, our target audiences are managers and practitioners who are new to gender-sensitive research, and we have focused on sex-disaggregated data and, therefore, on women and men as the primary units.

Research planning

Before starting, ensure that you have a good understanding of the social, cultural and gender relations in a community, and in existing governance structures. This will help you to better plan your research and prepare researchers. When defining research goals, objectives and scope, consider the following:

- Did both women and men from your research team help define the goals, objectives and scope of the research?
- Do the researchers designing or implementing the research have relevant expertise to understand and integrate local gender dimensions into the study? If not, can a gender expert be engaged to advise or assist you?
- Why are gender differences and inequalities relevant, and how might they impact the design and implementation of your research?
- Are your research questions and hypotheses gender-sensitive?
- Does your research answer questions that are relevant or important for both women and men?
- Will your research help you identify opportunities to address unequal power dynamics between women and men?
- Is there an adequate gender balance within the research team? Consider the fact that women may prefer to be interviewed by women, and men to be interviewed by men. Additionally, some cultures may not allow a woman and a man to be alone together in a private place.
- What gender biases do individual researchers have that might affect the way an interview is conducted or recorded? For example, if a researcher feels strongly that “a woman’s place is in the home”, this bias may affect how the researcher engages in a study of women and men’s roles in livelihoods.
- Have you gotten approval and consent from the community for the research? A consultation visit may be required before you start the research to ensure you have the community’s support and consent.
- What criteria will you use for selecting respondents, and will your criteria create unequal opportunities for women and men to participate in the research? For example, doing a study on fisheries but only selecting fishers and not others who work along the fisheries value chain, where women tend to be more highly represented. Or, only including paid work, thereby excluding unpaid work such as catching bait or repairing nets, which might exclude women.
- Will the methodology you use create unequal opportunities for women and men? For example, if participants have to read text, then those with lower levels of literacy may not be able to participate, which may disproportionately exclude women.
- What other social differences might you want to consider in your study design that intersect with gender to shape how individuals participate in fisheries or aquaculture? For example, do older and younger women use resources differently? Do women and men of different ethnicities participate differently in fisheries or aquaculture?
- Is your survey and sampling strategy designed to take into account social and cultural factors that may introduce gender bias into the data? For example, if you only choose to interview heads of households, this will likely result in only men being interviewed in strongly patriarchal communities.
- Do your questions translate easily into the local language(s)? Using technical words, jargon or acronyms can create barriers. For example, some people may not understand certain terms, and may feel uncomfortable asking for them to be explained.
- Have you been careful to avoid using language that might suggest a bias to one gender (e.g. “fishermen” instead of “fishers”), conform to gender stereotypes in your sampling (e.g. “men do all the fishing”), or assume that the roles of one gender are more important than those of the other (e.g. “fishing is more important than gleaning”)?
- Will your research design create gender-specific risks, and have you designed measures to mitigate against these risks? For example, asking someone questions about their relationship with their intimate partner might be considered taboo.

Research methods

It is important to ensure that gender differences and different gender values are reflected in the conceptual framework and methodology you select, and the people (e.g. key informants, leaders) or groups (e.g. households, committees) you interview. Because not all women or all men are the same, it is important to consider if there are other *social differences* such as age, ethnicity, caste, religion, history (including colonial history) or migrant status that intersect with gender to shape how individuals use natural resources, and whether you want to collect data on these *social identities*. When designing your research methods, consider the following:

- What unit of measurement will you use – individuals, families, households, specific social groups, communities? Collecting data at the individual level yields the greatest insights into questions of equity, but it is resource intensive. If collecting data at a higher level, how will you ensure that you are capturing gender differences?

Collecting data

When collecting data, consider the following:

- To avoid unintentional harm to women, it is important in some cultures to seek the permission of a male member of the household or relative before a woman can talk to outside researchers.
- Have you received free, prior and informed consent? This applies whether you are interviewing people one-on-one, or in a group. In other words, the individual has the right to decide not to participate, without any repercussions.
- Have you clearly explained how you will maintain the privacy, confidentiality and anonymity of those you interview? Consider too, that in some contexts, individuals may prefer not to be anonymous because they are

highly regarded knowledge holders in their communities. Consult with local experts and individual participants – prior to and at the point of data collection – to determine the most appropriate process. Photographs should only be taken with permission, and only if it does not compromise the person participating in the research.

- Have you selected an appropriate location and time for the interview to ensure the privacy and confidentiality of each participant? This may require being flexible about working in female- and male-dominated spaces. Do you need to schedule interviews at different times for women and men when they are not working on aquaculture farms, fishing or tending to household duties?
- In addition to separating women and men for focal group discussions, do you need to also consider different social differences so that people speak more openly? Understanding the governance structure in a community will help place participants into groups.
- Even within male- or female-only groups, are you paying attention to who is speaking and who is not? If need be, change or adapt your facilitation style so that everyone has an opportunity to speak. It may be worth splitting up groups of women and men based on age or another social characteristic. Be aware that in some contexts, less powerful or dissenting voices may simply agree to the opinions of the dominant group, or to the viewpoints of the majority.
- What languages or dialects will you need to use for the surveys? How will you ensure that everyone is translating

the questions in exactly the same way? This may be an important consideration if, for example, a woman or man has married into a community and may prefer to talk in their native tongue, or if younger people speak English or another foreign language.

- Be aware of how cultural norms, your own social identity, as well as your verbal and body language might affect the person you are interviewing and how comfortable they are speaking to you. For example, be sensitive to differences in experiences and opportunities between those living in urban vs rural areas. In some cultures, older women may not like being questioned by a young woman, while in others it might be preferred.
- Will you record the names of people, and if so, how will you maintain confidentiality while conducting the research in the field, or when you are back in your office?

Data analysis, interpretation and use

- How will you conduct and present sex-disaggregated descriptions, statistics, figures, tables and analyses?
- Will the “unit of analysis” adequately capture gender differences? For example, if the analysis only focuses on fishing gear, women who glean with little or no gear may be easily overlooked.
- How will you present the results to show the gender dimensions of the research? For example, will the analysis show women’s and men’s participation and contribution to social and economic aspects of the sector?

Chelcia Gomes from WorldFish facilitating gender-sensitive reporting.
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- Will the data analysis that you select (including the way data are aggregated) ensure there is adequate protection of individual or group identities?
- Because women and men are not all the same, do you need to disaggregate the data by other social categories (e.g. other gender identities, age, ethnicity, caste, religion, history (including colonial history) or migrant status, or by the intersections of gender with these categories?
- Do you need to return to verify the key findings with different groups before completing and publishing the research?
- How will knowledge holders be acknowledged and, where appropriate, credited for their contributions to the research? How will undervalued knowledge holders be elevated?
- What will be the mechanism of sharing the findings of the research with all members of the community, especially those that participated in the study?
- Will gender-specific findings and recommendations be identified?
- Are any of the results too sensitive to publish? How will you present sensitive results to communities? How will you avoid unintended consequences, including harm to certain groups (e.g. women, youth)? For example, questions around trust, gender-based violence or leadership can be sensitive.
- Can the same communication tools and mechanisms be used for women and men, or do they need to be different?
- Will the results be linked to gender-sensitive management or policy decisions?

Conclusion

As you go forward as a researcher, it is important that the recommendations you make, or the solutions you identify from your research, help to address or lessen the impacts of gender inequalities, rather than maintain the status quo or widen inequalities. This is particularly important if there are gender norms that are harmful or continue to marginalise specific groups. Although there may be some that push back or some that might use culture as a reason to not address harmful practices, it is important to understand that no culture is static, and many have and will continue to change over time. In such circumstances, it is important to work in close partnership

with local people and/or experienced local gender groups and organisations. Furthermore, it is worth considering what Delisle et al. (2021) highlight: “Pacific Island cultures value fairness, working together as a community for the collective good, protection of the most vulnerable, helping and serving others, participation, dialogue and consensus building.” Gender-sensitive fisheries and aquaculture research can make an important contribution to a more equitable future for all.

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Looking at the impacts of COVID-19 on coastal communities in the Pacific using a gender and social inclusion lens

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Introduction

The COVID-19 pandemic has had worldwide impacts, from high mortality rates to collapsed healthcare systems to economic disruptions at all levels. The Pacific Islands region is no exception but it has largely escaped (so far) the large number of cases, the collapse of healthcare systems, and – with the exception of Papua New Guinea and Fiji – a higher than usual number of deaths. Some of the impacts have been associated with supply chain disruptions; border closures and an accompanying delay of important industries such as tourism; and internal, mostly preventative, measures to stop the spread of the virus (Davila et al. 2021; Marre and Garcia 2021a; Sherzad 2020; SPC 2021). The Pacific is characterised by large swaths of ocean and scattered islands of diverse sizes. In general, this means that the majority of communities are coastal and depend on coastal and marine resources for food consumption, raw materials and income generation. These communities are usually rural and have limited access to resources and services.

The pandemic has had varying effects on the diverse segments of the population, and existing inequalities have often been exacerbated (Bennett et al. 2020). Several studies have specifically explored the impacts of COVID-19 on these coastal communities in the Pacific (e.g. Ferguson et al. 2022; Marre and Garcia 2021a). A few of them have made a specific effort to understand how the pandemic has both directly or indirectly affected different groups within communities, in particular, men, women, youth, and less often, some marginalised groups, such as disabled people or migrants in coastal communities. In this article we conducted a literature review of studies that have tried to understand how the impacts of COVID-19 have differed across genders and other segments of fishing communities. We analysed the selected documents according to the following predetermined elements: specific impacts on women, men, youth and children, and on marginalised groups. We also looked at the key elements of each of these groups that have increased resilience in the face of crises and that could help optimise recovery and development aid into the future. We included a few documents that were not specific to the region, but were included here because they describe gender-specific impacts of COVID-19 in coastal communities worldwide, or in other regions that we believe may have faced similar impacts (e.g. Africa), although limited comparative research is available. If not stated otherwise, the results refer to the Pacific Islands region. The literature review is by no means comprehensive, but it provides a broader view of the

segregated impacts of COVID-19 in the region. With this view, it is possible to make recommendations to address the issues in an inclusive way, and to provide aid to increase or recover the resilience of coastal communities through future development programmes.

Results

Global impacts of COVID-19 (e.g. disrupted supply chains, economic crises and unemployment), combined with national measures to control the spread of the virus (border closures, lockdowns and curfews), have had a strong negative effect on income levels of coastal communities (Bennett et al. 2020). In the Pacific, several vicious cycles became evident, where reduced income and higher costs of fishing resulted in less commercial fishing and reduced sales in some cases, but most likely increased subsistence and opportunistic fishing (for an example from Tonga that illustrates these feedbacks, see Fig. 1 in Marre and Garcia 2021a). The impacts on seafood stocks in the region are unknown, and the future resilience of fishing communities may have been affected. Some alternative livelihoods were also affected, such as aquaculture (SPC 2021) and tourism (Sherzad 2020). Other livelihoods, however, provided relief in times of hardship, namely agriculture, handicraft-making and new businesses or marketing methods (LMMA Network et al. 2020c; Marre and Garcia 2021a).

Gender issues concerning women

From those documents that did explore the specific issues according to gender and age, some clear impacts were evident throughout the Pacific region. For example, job security tended to be lower for women than for men even before COVID-19, which has made them more vulnerable during the crisis (Bennett et al. 2020; Davila et al. 2021; Eriksson et al. 2020; Mangubhai et al. 2021; Minahal et al. 2020; Naggea et al. 2021; O'Leary 2021; Tuivuna 2020). A large proportion of women work in the informal labour market, in various steps along the fishing sector value chain, although some of them are overlooked. These include pre-harvest activities, fishing, fish processing and direct sales (Barclay et al. 2021). Most countries in the Pacific lack social security beyond formal employment (FAO 2021), so those women, particularly those who are disabled, elderly, single mothers and widows, become especially vulnerable to loss of income under harsh environmental and socioeconomic circumstances.

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During the pandemic, unpaid household chores and care duties increased, particularly for women (Davila et al. 2021; Eriksson et al. 2020; Pacific Women 2021; UN Women 2020a), because household members, including children not attending school, spent more time at home. This was exacerbated by internal migration patterns, where people who were living in more urban areas to work or study, lost their jobs or had to stop their studies, and move back to rural and coastal areas (Marre and Garcia 2021a; Pacific Women 2021). These additional people in the household represented increased work, such as cooking, washing clothes and taking care of children, disabled or elderly. One study, however, highlights that both men and women in Samoa reported being able to share responsibilities with other members of the household, particularly partners (UN Women 2020a). This support from other household members was not explored in other studies but is an important feature of the social fabric that helps households and communities endure through different crises.

Another reported issue of internal migration was overfishing (Marre and Garcia 2021a). Because the main occupation of incoming people was not necessarily fishing, they most likely lacked access to the necessary resources to fish beyond the nearshore areas (boats, money for fuel, specialised fishing gear). Those coastal areas are more often used by women (Eriksson et al. 2020), and newcomers may have a disproportional effect on fish and invertebrate stocks, which are particularly important for feeding families (Thomas et al. 2021). When schools closed, more children were also targeting these zones (LMMA Network et al. 2020c). It is unknown as to what extent this extra pressure has affected resource stocks, particularly considering that in some places, even regulations were lifted to ease the hardship of rural communities (Solomon Islands Government 2021). The most important concern is if the resilience of those sites has been reduced and the future provision of food and income is compromised. Presumably, this longer-term impact could reduce women fishers' catches and affect their food security as they often come from households that rely on marine resources as a key source of protein. Poverty risks could also be associated with those households that have no alternative ways of securing food.

This topic is related to another concern reported by some women who feel that their ability to provide food to their families has been reduced, either through subsistence fisheries and agriculture, or through the ability to purchase food (Davila et al. 2021; LMMA Network et al. 2020c; Marre and Garcia 2021a). Food security is often a bigger concern for women due to their associated gender role to cater to, feed and nurture families and communities. Women's ability to adjust, adapt and reinvent ways to secure food is often triggered in extreme situations such as natural disasters or a pandemic. Thus, women may take on new or different roles in these situations (e.g. venturing into small businesses or starting small-scale farming initiatives) that allow them to continue to put food on the table. Food security is then a key element, that relates to multiple Sustainable Development

Goals (i.e. poverty, food security, health and wellbeing) and requires a systems approach to address the variety of factors at play, such as an over-dependence on certain food items, and vulnerability to climate disasters and other crises. Limited food security puts at risk the resilience and integrity of rural communities, as people move out of the community to search for new opportunities.

Finally, around the world, several reports indicate a worrying increase in domestic violence associated with COVID-19-related financial and psychological stresses (UN Women 2020a), particularly on women, children and disabled people. The levels of domestic violence in some Pacific Island countries are among the highest in the world (Pacific Women 2021; UN Women 2020b). For example, in Fiji, some news outlets have reported a spike in domestic violence linked to COVID-19 (APR editor 2021; RNZ 2020). Several problems perpetuate this practice, including cultural acceptance of violence and the sensitivity of the issue that makes working directly with families extremely difficult. Interventions are often seen as intrusions into the private lives of affected households. Pacific women fishers and households where women rely strongly on marine resources for food or income are often from rural areas, with no or limited access to support services for gender-based violence survivors. The worries, anxieties and uncertainties associated to this pandemic are worsened by different forms of violence, and represent key barriers for women's successful ability to cope, adapt and build resilience.

A gender lens to explore opportunities – a focus on women

Several of the issues faced by women are not new, but COVID-19 has exacerbated many of them. Opportunities to address some of these issues have become evident due to the pandemic. One important point mentioned in several cases was the importance of close networks such as family, weaving groups and religious groups, among others (LMMA Network et al. 2020c). While some of these networks might have no means to influence structural changes, they provide key support during times of crisis, such as food sharing and psychological wellbeing. Such networks are also essential for increasing the social sustainability of any external intervention.

Another positive point mentioned was the importance to women of sustaining their families through the crisis, by providing food for the family, but also income. A significant number of women were involved in fishing activities and agriculture, which increased the likelihood of the family of having access to nutritious foods, even in the face of market shortages and financial hardship. In addition, several women led new activities that supported their household's income. Some of these new activities included new sales of fishing and agriculture products; innovative marketing strategies such as selling directly to consumers rather than in the market;

establishing new agricultural projects such as growing pandanus, vanilla or kava; and new handicraft-making projects and businesses, such as weaving mats (LMMA Network et al. 2020a; LMMA Network et al. 2020c; Marre and Garcia 2021a).

Finally, a study by UN Women (2020a) showed that in Samoa, more women than men reported receiving support from government and non-governmental organisations. If this is the case in other countries in the region, this can be a catalyst to empower women to support their families and communities through the establishment of new income-generating activities, better management of their natural resources, and pertinent training to target their specific needs.

Issues pertaining to children and youth

Due to the increase in domestic violence reported since the pandemic started, and particularly in the Pacific Islands region where physical punishment is widespread (Suthanthiraraj 2019), several children and youth have been subject to forced labour, and lived in violent environments, particularly in Asia and the Pacific (Bennett et al. 2020). Because schools and otherwise sanctuary zones such as churches were closed for varying periods of time, younger children and adults were unable to escape, even if temporarily, from violent situations. The consequences of being raised in such conditions are long lasting, and include learning and psychological issues, and the perpetuation of violent relationships into the future (Suthanthiraraj 2019). While both boys and girls are subject to violent punishment, Suthanthiraraj (2019) highlighted that girls and young women are more likely to be victims of sexual abuse.

Nutritional issues associated with reduced access to food can also have long lasting consequences on the physical and intellectual development of children (FAO 2021). In the Pacific region, several studies indicate that some women were concerned they would not be able to provide food for their families; for example, 65% of participants reported not having enough food in Papua New Guinea (LMMA Network et al. 2020b); over half of participants identified the availability of fish and seafood as a stress in Tonga (Marre and Garcia 2021b); and one-fifth of Indo-Fijians reported not having enough food (Mangubhai et al. 2021). The compound effects of COVID-19 and other disasters, drastically reduced the ability of communities to provide enough food to children, as illustrated by an example from Mauritius, off the African continent (Naggea et al. 2021).

The disruption of education due to the pandemic has been felt across the world, including the Pacific. Some stories emerged from the documents analysed, where young adults who were planning or were in the process of pursuing higher education, had to abandon their studies and either take low-paid jobs or return home and get involved in agriculture or fishing (Eriksson et al. 2020; Marre and Garcia 2021b). Many children missed school in the Pacific, particularly in places with extended lockdowns. In addition to school closures, many parents could not afford to pay school fees, meals or transport, and opted not to send their kids to

school once they reopened (Gounder and Narayan 2021). In the long term, it is still unknown how the missing months at school, particularly for those without internet, will affect education in the region, and future educational and employment opportunities. For many, this could represent missed opportunities to improve their education and access higher paying jobs (Davila et al. 2021).

Gender issues concerning men

Very few studies touched on specific impacts felt by men, rather than the household or the community. In fact, in studies that looked specifically at impacts on mental health in general, issues were reported more often by men than women (Marre and Garcia 2021b; UN Women 2020a). Some reported being locked in overseas jobs, separated from their families and friends for long periods of time. In the case of seafarers from Kiribati who were stranded in Fiji, they could not go home, and they were not being paid for work either (Wasuka 2021). For those working on offshore fishing vessels, a reduced pool of workers due to travelling restrictions and the effort of some companies to reduce costs, has meant that these workers often have had to cover multiple shifts, with no proper rest or psychological support from families in between trips. This in turn reduced safety at sea (FAO 2021). While it was not explicitly mentioned in the analysed documents, there are certain subgroups of men that are likely to face more hardship than traditional heads of households, who have a supporting family. These include, for example, single fathers, widowers, men who lost their jobs and members of marginalised groups, such as the poorest members of a community (Marre and Garcia 2021b).

A gender lens to explore opportunities – a focus on men

A few opportunities emerged from the documents, including the key role that men played in new livelihood ventures, particularly regarding new fishing methods (Marre and Garcia 2021a). Several women in Samoa reported that their partners and other male household members helped them with household chores, and this was likely the case in other places in the Pacific, even if the question was not asked in other studies (UN Women 2020a).

Recommendations

Considering the differentiated impacts that COVID-19 has had across different gender groups, age ranges and possibly other subgroups within communities, it becomes important to develop assessments, monitoring programmes and interventions to specifically address the segregated impacts, but also to design more efficient support systems that make the most of the opportunities that each segment of a community can offer for the benefit of the household or the community. This is relevant not only to support the recovery from the COVID-19 pandemic in particular, but also to understand the level of resilience in the face of a diversity of future potential crises (e.g. climate change

risks, natural disasters, economic and political disturbances) and increase such resilience into the future. Some specific recommendations that emerge from this review are provided below.

- A biophysical assessment of the natural resources on which rural communities usually depend might be necessary to evaluate whether specific regulations or recovery programmes are needed to recuperate or improve productivity, particularly in cases in which it was affected by the overflow of people towards coastal communities. In doing so, the roles of women and men and their different use of coastal spaces, targeting different species and relying differently on marine resources for food or income or cultural or medicinal reasons need to be factored in so that human impacts and social dimensions of stock pressure can be understood and addressed.
- Monitoring programmes can help determine the long-term impact of the COVID-19 pandemic on different variables, particularly when it occurred in combination with other disasters (Mangubhai et al. 2021; Naggea et al. 2021). Such programmes should cover the main areas of wellbeing (e.g. livelihoods, food security, physical and psychological health, development of children) and sustainability (e.g. natural productivity, ecosystem vulnerability and resilience, ecosystem services). Such monitoring programmes can also evaluate the benefits of preventative programmes when compared to recovery programmes, and can inform how best to address future crises by preparing communities to cope with them.
- Assessments and studies should not neglect positive aspects and existing opportunities, even when focusing on crisis situations. These positive aspects are often the key to optimising development programmes. From the references in this literature review, such opportunities include robust social networks, resourcefulness and innovative thinking, the importance of training and other upskilling options, and the differentiated roles played by men and women in establishing coping mechanisms. It is also important to take into account the existing strengths that communities in the Pacific have, regardless of gender or age. For example, food sharing was an important feature that in some places was affected by food shortages, social distancing measures and fear of the virus, but that in general provided support not only to relatives, but to vulnerable people in the community such as widows (LMMA Network et al. 2020c; Marre and Garcia 2021a).
- The issue of domestic violence, however, remains an ongoing concern, as it is culturally accepted in some countries in the region (e.g. Suthanthiraj 2019; UNDP 2019), and it has crosscutting impacts on individuals and communities. Addressing this problem requires more than specific, short-term projects. A combined effort of government agencies, non-governmental organisations, local leaders, private sectors, and international agencies is needed to develop a long-term effort to change attitudes and behaviours across generations. The Pacific islands region has invested in many ways to combat domestic violence, especially in prevention (Young 2021). While some Pacific Island countries have also adopted specific

legal frameworks to address domestic violence and close legal gaps, it is still quite relevant to acknowledge the slow uptake of implementation measures and the persisting practices of acceptance and forgiveness. From a coastal fisheries point of view, domestic and gender violence needs to be understood as a cancerous matter that restricts both women's and men's full potential to function and contribute in any role they may play in the context of small-scale fisheries. Gender-based violence has often been referred to as "everybody's business" (Fiji Women's Crisis Centre 2013), and in that sense, a coastal community's ability to cope, to adapt and to reinvent itself in order to be resilient with outside stressors also depends on a safe and healthy environment that upholds respect, equality and dignity of individuals as they form the Pacific's communal safety net in the end.

- In more general terms, development programmes should evaluate ways of increasing the resilience of communities and the ecosystems on which they depend. Several studies indicate that a synergy of factors can contribute to such resilience, including, but not limited to: diversity of livelihood options for both income generation and for securing sufficient nutritious food and other basic necessities; innovative and diverse financial mechanisms, including traditional and informal sources, to support the development of alternative livelihoods; increased access to formal education, but also informal capacity-building programmes that take into the accounts the wants and needs of different sectors of each community (men, women, youth, marginalised groups); and bonding, bridging and linking social networks, including existing traditional practices that help communities endure crises. A long-term, collaborative approach that understands the whole food system and integrates different sectors and the different members of a community, can contribute to increase resilience and sustainability of coastal communities in the region.

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Adding value to small-scale fisheries businesses in Southeast Sulawesi Province, Indonesia

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The buying and trading of fish in small-scale fisheries communities are commonly practiced as family businesses across Indonesia. While these businesses may be small, their combined impact on fisheries and local economies is significant. Operating largely in the informal economy, many of these businesses have few opportunities for development or improvement, or capacity to access diverse markets, available finance or adopt sustainable business practices. Here we document the process and outcomes of a mentoring and training programme for village-based fishery businesses that aims to improve fisheries business capacities, operations and economic resilience through adoption of ecosystem-based adaptation strategies and principles for the promotion sustainable small-scale fisheries throughout coastal villages of Indonesia.

Introduction

In Southeast Sulawesi Province, more than 40,000 small-scale fishers and fish workers reside in 947 coastal fishing villages. Households practice fishing and buy and trade in live, fresh and processed fish (Campbell et al. 2021). Few opportunities are available for women and men fishers and fish traders (Fig. 1) – at either the individual or organisational level – with the tools to manage their household finances, business incomes or operations (Lawless et al. 2019; Rahim et al. 2018). Such tools and capacities can help promote economic resilience of fishing households, thereby empowering local women and men to take an interest in the local governance of marine natural resources, and lead to positive socioeconomic outcomes (de la Torre-Castro et al. 2019).

Previously, we reported on a financial literacy programme (Campbell et al. 2021), where village communities received ongoing assistance, mentoring and training delivered in three modules of financial literacy from April 2020 to December 2020: 1) concepts of financial literacy; 2) calculations of various household revenue streams; and 3) household finances, savings and loans, and village savings and loan associations. This programme had reached 151 people (76 women, 75 men) from 86 households in 7 villages of Southeast Sulawesi Province in Indonesia. By December 2021, 880 people (451 women, 429 men) from 518 households in 31 villages had received basic financial literacy training. In this article, we describe and detail the processes and outcomes of operationalising the fourth financial literacy module, which took place from December 2020 to November 2021,

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Figure 1. A woman fish buyer in Southeast Sulawesi Province. © George Stoyle



Figure 2. Local women using financial diaries to record their household and business expenses. © Udin

with a focus on fisheries business development, capacities, operations and economic resilience through adoption of ecosystem-based adaptation (EbA) strategies and principles.

Selection of participants and initiation of business mentoring and training programme

From the 151 individuals who received financial literacy training up to December 2020, a selection process identified the individual business owners who were willing to participate in the financial business development programme throughout 2021. Those selected were active users of the OurFish² application used to record their fishery transactions (buying and selling fish) and cash flows. All of the business owners selected did not have a formal business identity as described under Indonesian law (Azza et al. 2019) and, therefore, all of them operated within the informal economy. Each business buys fish and conducts transactions regularly with 30 to 50 fishers.

In December 2020 an initial workshop was held where 34 selected participants learned about basic business financing, including financial goal setting; methodologies for calculating income, expenses, profits and losses; and budget planning to achieve financial goals. Data available on their phones through OurFish was used in a range of exercises to calculate individual revenues, expenses and profits. Some participants did not realise that these data were available

for their use. During the training sessions, the importance of financial behaviours that are beneficial for participants and their families was emphasised. These behaviours include catch data recording, recording of income and expenses, savings approaches, application and management of loans and investment strategies (Fig. 2). To build knowledge about financial institutions, their services and business formalisation processes, we invited resource persons from the Healthcare and Social Security government agency (BJPS), the BRI Bank, and the Provincial Office of Cooperative and Small and Medium Enterprises, to conduct training on various issues concerning the benefits of informal and formal financing.

From January 2021 to August 2021, ongoing mentoring and assistance occurred with participants to help them make informed and effective decisions regarding their businesses. This included ongoing assistance with using the OurFish app as a financial planning and monitoring tool, and additional information and training in digital money transfers, digital supply and sale platforms, benefits and barriers of formalisation for businesses, financial identity and legal processes and capital needs. In total, 20 businesses continued with this process and were assisted during the mentoring programme to generate their financial records using “cashbooks” and the OurFish app. In August 2021, we held a financial statement competition among the 20 businesses to evaluate their business capacities and whether

² OurFish is an Android app that consolidates fish transactions at the local buyers’ point. The app is designed to capture several important pieces of information, such as the person fishing, the fish species caught, the fish’s origin, and the fish’s volume and value. <https://portal.rare.org/en/program-resources/ourfish/> <https://portal.rare.org/en/tools-and-data/fisheries-data/>

each business was able to participate in a co-learning workshop planned for November 2021. The objective of this workshop was to provide information and capacities on business strategies and processes that could enable integration of their businesses into the formal economy.

Fisheries Microenterprise Development Co-learning Workshop

All 20 businesses were invited to attend the “Fisheries Microenterprise Development Co-learning Workshop”. The workshop’s primary objective was to improve fisheries business capacities, operations and economic resilience through the adoption of EbA strategies in small-scale fisheries microenterprise strategies and principles in order to promote sustainable small-scale fisheries practices. The co-learning workshop was conducted in Kendari in Southeast Sulawesi province from 2 to 4 November 2021. In total, 34 participants attended (47% women), which included 28 first-level husband and wife fish buyers³ (50% women) and 6 of their business partners (33% women).

Over the three days of the workshop, participants were actively included in a range of practical activities and presentations from local banks, the Provincial Marine and Fisheries office, the Financial Services Authority of Southeast Sulawesi, and ukmindonesia.id-the Institute for Economic and Social Research-Faculty of Economics and Business at the University of Indonesia. Key elements of the workshop covered environmental and business process improvement strategies such as: 1) environmentally responsible fish supply, including waste reduction efforts, product diversification options, promotion of logistic management systems, and business processes that improve the fish quality hygiene, quality control and efficiency; 2) development of business plans and strategies in accessing new markets by leveraging the Business Model Canvas⁴ and WhatsApp Business app; 3) promoting professionalism via business formalisation as a means to access broader market, financial products and services such as loans and financing facilities; and 4) available options to access finance and financial services including from local banks, cooperatives, village-owned enterprises and market diversification through available e-platforms. The workshop emphasised and identified gender equality issues across all

³ A first-level fish buyer is a trader within the village who buys fish directly from fishers and sells them to the next level of trader (in the city). These traders are usually family members, and all family members are actively involved in the business.

⁴ Invented by Alex Osterwalder in 2005, the Business Model Canvas is a strategic management template that helps businesses to describe, design and analyse their business models. It is presented in a form of a visual chart with various elements that describe the rationale of how an organisation creates, delivers and captures value.



Figure 3. Jumriati, a fish buyer from Moramo Bay, contributing her ideas to improve fishery businesses while also fostering marine conservation. © Tarlan Subarno



Figure 4. Twenty fisheries enterprises obtained Business Identification Certificates (Nomor Induk Berusaha). © Tarlan Subarno

of the fishery businesses and value chains, and emphasised that improving one's business does not mean expanding purchases or volumes of fish through unsustainable practices.

Jumriati, one of the women fish buyers (see Fig. 3) in her village, and who is an influencer, shared her thoughts regarding this:

.....
We live in a community that is heavily dependent on the sea, we get our food and our business from the sea. If we pollute the water and bomb our reef to catch fish, this means we won't have anything left in the sea. If the fish are depleted, the whole fishery business is threatened, so all of us must protect the sea.

Women and men fish buyers have learned the strategies, information and approaches that were introduced within a year-long business mentoring and training programme, then developed creative ways to advance business and gain more profits while also protecting ocean resources.

All businesses developed a financial plan to support their business plans, including the use of OurFish as the tool to monitor and evaluate their finances. Participants paired with their business partners to develop their strategy using the Business Model Canvas, learned how to use the Whatsapp Business app, and made their financial plans, both on paper and using the OurFish app. Finally, 20 fisheries microenterprises formally registered their business through the issuance of Business Identification Certificates (*Nomor Induk Berusaha*, NIB) as the pre-requisite documents to obtaining processing eligibility business management practices and hygiene standards (Fig. 4). The microenterprise support team from the Ministry of Marine Affairs and Fisheries (MMAF) provided valuable information, knowledge and pathways to access new financial services offered by various providers. These service providers included banks, cooperatives, pawnshops, and the MMAF business capital management institution (Lembaga Pengelola Modal Usaha Kelautan Perikanan and PT Permodalan Nasional Madani). The banks offered subsidised loans for working capital and investment for general microenterprises, while MMAF business capital management specifically targeted the fisheries sector by providing government revolving funds for the marine and fishery sector. In addition, the non-state financial services, such as PT Permodalan Nasional Madani provides financing to formalised businesses.

Business assessment

All 20 businesses that were formalised have adopted an assessment tool to evaluate the extent to which they integrate the learned EbA principles into their business and financial systems. The indicators and metrics were identified based on existing sustainability principles and frameworks for blue economy finance and biodiversity-friendly enterprises, and

include: 1) they reflect EbA principles, 2) they are achievable within a 12-month timeframe, and 3) are measurable and verifiable. We will assist each business to adopt this as a management tool and include it in their respective plans and operations over time. The tool was administered at the end of the co-learning training workshop and will be applied every 12 months to help businesses assess their progress (Table 1).

Table 1. Indicators used to assess whether businesses incorporate EbA approaches into their financial systems and operations.

Indicators	New performance metrics	Means of verification
1: Fish bought/sold are caught in ways that do not harm the environment or other wildlife	<p>Registered member of Fishery Management Body (FMB) <i>Refers to the enterprise's practice of sustainable sourcing through its membership in the FMB</i></p> <p>Improved knowledge on EbA principles and measures and ways of integrating these in the operations of a microenterprise <i>Refers to the enterprise's knowledge of sustainable fishing practices, including catching, buying or selling of fish that are mature or of optimum size, and proper water and waste management practices, among other EbA measures</i></p>	<ul style="list-style-type: none"> FMB membership record and/or membership card Participants training registration document or training certificate Pre-and post-test
2: Fair, safe working conditions for the people who produce and sell fish	<p>Buys from registered and/or licensed fishers <i>Refers to an enterprise's practice of sourcing its fish from registered and/or licensed fishers in support of government's efforts to regulate fishing activities</i></p> <p>Trained on fair and safe working conditions <i>Refers to the enterprise's participation in trainings on supporting well-managed and slavery-free supply chain</i></p>	<ul style="list-style-type: none"> OurFish Participants training registration document or training certificate Pre- and post-test
3: Fish sold are safe to eat and of high quality	<p>Trained on hygienic practices and production <i>Refers to the enterprise's participation in trainings on good hygienic practices in the production of fishery products</i></p>	<ul style="list-style-type: none"> Participants training registration document or training certificate Pre- and post-test
4: Complies with local and national laws	<p>Registered business <i>Refers to the enterprise's compliance to local and national laws particularly on the need to be a legally registered business</i></p>	<ul style="list-style-type: none"> Izin Pangan Industri Rumah Tangga, Sertifikasi Kelayakan Pengolahan, Surat Izin Usaha Perikanan, Nomor Induk Berusaha
5: Practices sound business management systems	<p>Trained on basic financial literacy and business management <i>Refers to the enterprise's participation in trainings on sound financial and business management practices</i></p> <p>With basic transaction account with a financial institution that provides useful and affordable financial products and services <i>Refers to the enterprise's access to and use of the basic products and services of financing institutions</i></p> <p>With basic recording system for financial transactions <i>Refers to an enterprise's practice of proper and consistent recording of its financial transactions</i></p>	<ul style="list-style-type: none"> Participants training registration document or training certificate Pre- and post-test Account ownership Proof of transactions with banks, financial technology, savings and loan association, credit unions, and other reliable financial institution Financial transactions recorded on OurFish Bookkeeping or financial transaction records (i.e. ledger or columnar notebooks)

The type of permit to be issued will depend on the nature and requirements of the enterprise:

Surat Izin Usaha Perikanan: fishery business license

Nomor Induk Berusaha: business identification number

Sertifikasi Kelayakan Pengolahan: This certificate is issued by MMAF to businesses that have implemented Good Manufacturing Practices and Sanitation Standard Operating Procedures

Izin Pangan Industri Rumah Tangga: This certification is a written guarantee by the head of the district or mayor through the health office to home industries whose food products complied with certain requirements and safety standards on production and distribution.

Conclusion

With the purpose of empowering coastal communities in Southeast Sulawesi Province to manage their fisheries sustainably, we have described a unique process whereby village-based fisheries enterprises are able to build upon the tenets of basic financial literacy approaches. Key outcomes included fisher households having a better understanding of their revenue streams, finances and savings, and being able to become formally registered businesses so that they can secure improved access to external financial services and markets for their products. We will continue to assist these businesses in order to take advantage of these skills and formalisation status. In addition, we will work with these and other businesses to identify ways to apply this approach for the benefit of hundreds of enterprises managed by women and men in coastal villages throughout Indonesia.

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Salanieta Bukarau-Kitolelei. © J. Kitolelei

Looking through the gender lens to document the “endangered” indigenous fishing knowledge and skills of fishers in Fiji

Salanieta Kitolelei¹

My thesis research at the University of the South Pacific

Indigenous fishing knowledge (IFK) of Fijian fishers is becoming “endangered”, which has sparked a call at the beginning of 21st century to document the knowledge before it is completely lost or forgotten (Kitolelei et al. 2021). This knowledge developed over millennia through fishers’ daily contact with the fishing environment, and is combined with knowledge passed on to fishers by their elders (Kitolelei et al. 2021; Veitayaki 2002). This knowledge is an important component of subsistence fisheries, and an intimate understanding of the fishing environment and resources is required. IFK is adaptable in that it adjusts to changing circumstances faced by the community due to fishing pressure, increased population, resource exploitation, climate change and developmental changes, all of which affect the *iqoligoli* (fishing grounds) of a community. IFK is dynamic and undergoes temporal changes as fishers and outsiders who are married into the community share their local knowledge with the community and add to the community’s knowledge base (Kitolelei 2021). Like all knowledge systems, IFK is gender based and this is an important consideration for an outsider who is conducting research or activities in a local community. In Fiji, women who fish or glean contribute to the subsistence diet of their families and, in some instances contribute to their family’s income either directly by selling their own catch, or indirectly by selling their husband’s catch or converting the catch into food packs and selling them.

Men and women both play important roles in fishing although the actual documentation of fishing activities in the past was biased and fishing was considered men’s domain (Rohe et al. 2018). A surge in the reporting of women’s fishing activities has highlighted the importance of women’s input to small-scale fisheries and the substantial contribution of women to the economy, which is often invisible, unrecognised and ignored (Thomas et al. 2021). Work towards correcting gender biases that exist in the documentation of fishing activities, fishing contribution and knowledge is being done by researchers in Fiji and the wider Pacific. While women’s contributions are invisible on paper and in community decision-making discussions, women are very much acknowledged as expert fishers in their own right by their communities, and are sometimes the most sought-after fishers when it comes to sharing fishing responsibilities in the community.

As a researcher in the field of indigenous knowledge, particularly in fishing, accompanying fishers into their fishing grounds provides an insight into a fisher’s intimate understanding of the fishing areas and resources. My PhD dissertation, entitled “Re-establishing the ‘real’ imaginary baseline – using traditional knowledge as a basis for recovering keystone species”, uses a gender lens to document the indigenous fishing knowledge of fishers in Fiji. Looking through the gender lens when documenting IFK allows my research to collect information on both gender and age (male and female, elders and youth). The challenge I face in my research is the timeframe and fragmentation of the islands; therefore, documenting the traditional knowledge of fishers across Fiji in a short timeframe is impossible. Instead of covering the entire country, my research focuses on three communities per division (Central, Western, Northern and Eastern), which will give a snapshot of the kind of information researchers are able to learn by listening to fishers as they share their knowledge. Communities chosen for this research include coastal communities and those that have access to freshwater resources so that IFK of both marine and freshwater habitats and resources are documented. Moreover, working with IFK is sensitive, particularly when dealing with secret fishing skills or knowledge that only certain individuals are privy to. In such cases, elders and younger people should be encouraged to share or document their own knowledge before it is forgotten or lost. All of the information gathered during my research, particularly information relating to species, will be linked to their scientific names, which can be used to correct some previously incorrectly documented local names in publications and research conducted by non-native speakers.

Fishers in Fiji identify many species as being important and this research will break down the “importance” of resources into three categories: economic, cultural and ecological. This information will then be used to identify keystone species for each community. Keystone species included in the research will include both ecological and cultural species. Ecological keystone species are those whose contribution to the environment is disproportionately larger than their population (Paine 1969), such as sea cucumbers. Cultural keystone species are those that hold special significance to a culture or people (Garibaldi and Turner 2004) such as sea turtles. The information collated in this research can be used as baseline information for some community rapid environmental assessments, and can be used to inform place-based resource management in communities throughout

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Setaita preparing her fishing line for another day at sea.
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Fiji. Due to the sensitivity of the information, I will obtain prior approval of the knowledge-owners for all of the data that I collect, analyse and publish as part of my research. Any information that communities wish to hold for themselves, or information that can lead to the exploitation of resources from outside fishers, will be returned to the communities for safekeeping and reference for future generations of fishers. As part of the research, four chapters will need to be published in order to fulfill the University of the South Pacific's criteria for graduation. The first chapter is a literature review, which was recently published in the journal *Frontiers in Marine Science* and titled "*Na vuku makawa ni qoli – indigenous fishing knowledge of Fiji and the Pacific*".

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Women and children cleaning fish on the shore in Qoma, Fiji. © S. Kitolelei

Progressing social equity for coastal fisheries communities through dialogue

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On October 2021, the Pacific Community (SPC) through its Fisheries Aquaculture and Marine Ecosystem (FAME) Division organised its fourth Regional Technical Meeting on Coastal Fisheries and Aquaculture (RTMCFA4), which included the first session on Community-Based Fisheries Dialogue (CBFD). The CBFD was led by and focused on civil society organisations (CSOs) and other non-state actors (NSAs) that are actively engaged in fisheries management in Pacific Island countries and territories (PICTs). While the RTMCFA4 included staff of national fisheries agencies to discuss key technical issues affecting coastal fisheries and aquaculture and identifying strategies to strengthen livelihood opportunities for sustainable fisheries development in the region, the CBFD session centred on deliberating and agreeing on mechanisms that will enhance the processes and engagement of CSOs and other NSAs in future CBFDs. It is envisioned that the CBFD will provide a platform for meaningful participation and help amplify the voices of communities engaged in fisheries management, including women and marginalised groups, in important fisheries discussions, with CSOs and NSAs representing their interests. The outcomes of the CBFD will be shared with fisheries leaders in the region at Heads of Fisheries (HoF) meetings and at the Regional Fisheries Ministers Meeting (RFMM).

Background

SPC was requested by the Special Regional Fisheries Ministers Meeting in 2019 to commission a review of the Coastal Fisheries Working Group (CFWG), and to identify opportunities and provide recommendations on ways to improve the engagement of CSOs and NSAs in regional fisheries deliberations. The CFWG was established by SPC following the Forum Leaders Dialogue in 2016, in a bid to strengthen collaboration between communities, and national and regional agencies and institutions (MRAG Asia Pacific 2020). Another function of the CFWG is to identify coastal fisheries initiatives and ensure that adequate levels of support, resources and services are available to assist national fisheries agencies and local communities to implement management of their coastal fisheries resources (MRAG Asia Pacific 2020).

Following an independent review of the CFWG, including its function and effectiveness, a mechanism referred to as the Community-Based Fisheries session was proposed, and subsequently reviewed, approved and endorsed by fisheries leaders at the Twelfth Heads of Fisheries (HoF) in May 2020 and at the First Regional Fisheries Ministers Meeting in August 2020 (Pacific Community 2021).

This endorsed Community-Based Fisheries session resulted in the first CBFD, which was held virtually on 13 October 2021 at the RTMCFA4, and facilitated by SPC's FAME Division. While RTMCFA4 was a way for national fisheries agencies to discuss key technical issues affecting coastal fisheries and aquaculture, and identify strategies to strengthen livelihood opportunities for sustainable fisheries development in the region, the CBFD was largely independent. This first session was convened and focused on CSO and NSA participation, with at least 38 representatives in attendance and facilitated by an independent convener. The CBFD focused on discussing

and agreeing on a terms of reference (TOR) for governing future CBFDs, with government representatives and other observers joining in to witness the process.

In essence, the intention of the CBFD is to offer an opportunity for CSOs and NSAs to provide information, advice and identify key needs, through the RTMCFA, to fisheries leaders during meetings of HoF on priority issues regarding the sustainable use of coastal fisheries resources. This dialogue provided CSOs and NSAs a platform to share experiences and lessons from community-based initiatives, and reinforced efforts towards maintaining productive and healthy ecosystems and their associated fisheries resources, which are vital to the wellbeing and functioning of coastal communities. The deliberations within this dialogue focused on issues of common regional significance in the context of community-driven coastal fisheries (Pacific Community 2021).

Community-based fisheries and the roles of CSOs and other NSAs

The Pacific Islands region has used traditional marine management systems centuries before the West did (Johannes 2002) mainly to preserve marine resources for an intended purpose, and as sacred sites of cultural significance (Veitayaki 1997). In current times, Pacific societies have adapted these traditional practices in managing their coastal fisheries resources to improve food security and economic livelihood, revive cultural or traditional practices, assert control over and access to traditional fishing areas, or for some other presumed benefits (Govan et al. 2009; Johannes 2002). Furthermore, collaboration between local communities and external stakeholders, including government and non-governmental organisations has increased the numbers of community-based fisheries management initiatives across the Pacific region (Govan et al. 2009).

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The sustainable management of coastal fisheries resources, and the importance of engaging local communities in this process, has been given formal recognition through key documents including: *A New Song for Coastal Fisheries – Pathways to Change: The Noumea Strategy* and the *Melanesian Spear Head Group Roadmap for Inshore Fisheries Management and Sustainable Development 2015–2024* (Karcher et al. 2020), and further enhanced by the recently endorsed *Pacific Framework for Action on Scaling up CBFM: 2021–2025* in August 2021. However, most national fisheries agencies in PICTs are usually focused on fisheries economic development as opposed to sustainable fisheries management, with the poorly managed sea cucumber fishery serving as a testament to this (Gillett 2014). Furthermore, low priority is given by most national fisheries agencies to effectively monitoring coastal fisheries activities and resources, including collecting adequate data (Gillett 2014), which is further compounded by limited institutional resources and capacity to provide consistent on-the-ground engagement in CBFM. This is an opportunity for CSOs and NSAs, which include environmental non-governmental organisations, to play a crucial role in this area.

The engagement of CSOs and NSAs in the region has changed the focus from fisheries development to fisheries management through improved community participation in fisheries management processes (Gillett 2014). This has resulted in a significant number of coastal communities receiving assistance from CSOs and NSAs, including co-management arrangements, thereby improving their interactions with their fisheries resources (Gillett 2014; Karcher et al. 2020). This positive impact has also extended to national fisheries agencies, which have been being directly or indirectly changed for the better through their acquaintance with the work of CSOs and NSAs (Gillett 2014).

Enhancing social equity of coastal fisheries dependent communities

Community involvement and fisheries rights are interrelated topics, with community-based management opportunities being usually confined to coastal fisheries with local recognised rights to access, use and control over these resources (Govan et al. 2009; Karcher et al. 2020). However, not all members of communities implementing CBFM or other fisheries development initiatives will have equal rights over these fisheries resources given the varying social and power structures that exist within each community, including traditional governance, cultural roles, gender, age, ethnicity and wealth, to name a few. Given these considerations, not everyone within a community is equally involved in decision-making processes nor may they equitably benefit from community-based fisheries initiatives, with some of these initiatives further disadvantaging those with little or no decision-making powers.

Observations from some PICTs have shown that women and marginalised groups can be excluded from important coastal fisheries discussions despite the very outcomes of these deliberations having a direct effect on their food security and livelihoods. For example, in a study by Rohe et al. (2018)

in Roviana Lagoon, Solomon Islands, it was observed that women had little influence on local decision-making and had no representation within the council of elders, the customary institution that had the final say on many decisions regarding village life, as well as marine resource use and management. Therefore, some women were inclined towards breaking local marine management rules because they were dissatisfied with how management was conducted and had also partially lost trust in male leadership (Rohe et al. 2018). In Fiji, the placement of marine protected areas (MPAs) or no-take areas close to shore in certain communities have displaced women who traditionally fished in these nearshore zones and now must travel farther to fish or glean, with most women expressing that they were not consulted prior to the establishment of these fishing restrictions (M. Fox, pers. obs.). Given these caveats, local governance institutions, CSOs and NSAs can play an important role in fisheries management by brokering negotiations between different local stakeholders (Sulu et al. 2015).

Additionally, CSOs and NSAs have been crucial to CBFM by advocating for and engaging in fisheries co-management, with some extending their scope of work to progress social equity by raising awareness and advocating for social justice and human rights within the communities and countries they work with. For instance, the Pacific People Advancing Change (PPAC) programme, administered under SPC's Human Rights and Social Development Division, supports local CSOs and NSAs to advance human rights advocacy through the provision of grants. In some cases, this has resulted in collaborations among CSOs and NSAs to advocate for human rights advancement while also supporting environmental management (including fisheries). For example, two PPAC grantees in the Marshall Islands, Jo Jikum and the Marshall Islands Conservation Society, have teamed up to advocate against single-use plastics and to promote reusable bags, with this initiative supporting the right to a clean and healthy environment (Child and Kalsuak 2020) and environmental stewardship.

Community-based fisheries and the need for dialogue

The local on-the-ground presence of most CSOs and NSAs, and their experience in working with local communities, provides them with a unique perspective on how these communities function socially and economically, understanding of the issues that they face, and being aware of their aspirations and expectations. These considerations are vital given that to have effective fisheries governance and management, stakeholders must also take into account existing livelihood strategies if they are to succeed (Sulu et al. 2015). Therefore, providing a mechanism where community voices are heard, and have their perspectives and concerns considered, and appropriate actions taken, can help advance equitable benefits for fisheries-dependent communities.

Dialogues should not only be confined at the community level but also occur at the national and regional levels where experiences are shared, and cross-learning occurs; to collectively identify sustainable, practical and equitable

approaches to support coastal fisheries communities. The CBFD is a step towards formalising these important fisheries discussions at the regional level by facilitating the direct and meaningful participation of CSOs and NSAs engaged in the fisheries sector, including CBFM, and who have a reputation of representing members of the population who often lack access to formal decision-making structures.

Furthermore, having the CBFD convened at the RTMCFA sends a message that these deliberations by CSOs and NSAs are accorded recognition by the RTMCFA, including regional and national fisheries agencies in attendance, with the outcomes from the dialogue being shared with fisheries leaders at HoF, through the RTMCFA, and subsequently to the RFMM (Pacific Community 2021).

Next steps and closing remarks

The Outcomes Report from this first dialogue session, which is focused on the TOR governing future CBFDs, is currently in the finalisation process. Key items in the draft Outcomes Report on the TOR include the following:

- 1 the RTMCFA should include members of CSOs and NSAs that are actively engaged in CBFM in PICTs, with consideration given to regional or international organisations that are working on CBFM within countries or territories, not just national groups;
- 2 the purpose of the CBFD should be expanded beyond CBFM to include ecosystem-based fisheries management;
- 3 the establishment of a Technical Advisory Group to work with FAME, the convenor and vice-convenor on the agenda, report, and other topics should be considered;
- 4 consideration should be given to the option of rotating the role of convenor and vice-convenor between the three subregions of Micronesia, Melanesia and Polynesia, and that within each region, alphabetical rotation be encouraged;
- 5 the national selection process (of representatives) would be led by CSOs and NSAs, being sensitive to domestic considerations such as geography and other factors;
- 6 effective community representation is needed through representatives who are engaged in community-based fisheries and can speak confidently on behalf of their constituents;
- 7 CBFD outcomes should be reported back, in simple language, to CSOs, NSAs and community groups between the RTMCFA, HoF and RFMM;
- 8 the convenor and vice-convenor will accompany the chair of the RTMCFA to report to HoF and will be present at the time the HoF outcomes document to the RFMM is adopted by HoF.

It is envisioned that the CBFD will provide a platform for meaningful participation and amplify the voices of coastal fisheries communities through their representatives from CSOs and NSAs. This dialogue will also help recognise and support sustainable, practical and equitable coastal fisheries initiatives for PICT communities at the local, national and regional levels. For Pacific communities, sustainable fisheries management goes beyond protecting biodiversity, it needs to be people-centred first by ensuring that local stakeholders comprising community leaders and members – including men, women and the marginalised – are considered in decision-making processes in order to garner their support and buy-in. The pivotal role that communities play in coastal fisheries management in the region cannot be overstated, and as aptly mentioned in *The Noumea Strategy*, “coastal fisheries management is not only about managing fish; it is about supporting people at the community level”.

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Sea patrols at the Serua Shark Reserve in Fiji. © Jacqueline Nalomaca-Seru

Women in fisheries profiles

Jacqueline Nalomaca-Seru

By Saras Sharma and Jacqueline Nalomaca-Seru

Ever since I was young, I have always had a love for the sea. I think it's because I was near it or in it most of the time.

Jacqueline Nalomaca-Seru is from the coastal village of Tawake in Cakaudrove Province with maternal links to Tailevu Province in Fiji. Her mother's family owned a farm that was bordered by the ocean, and this meant holidays and weekends were spent either swimming, hunting for crabs or fishing. Both Jacqueline's grandfathers were very experienced fishermen and their love for the ocean rubbed off on her and kindled her love, interest and determination to protect and conserve the ocean and its resources in whatever little way possible.

.....
What do you currently do at the Ministry of Fisheries?

.....
Currently, I am a Compliance Officer with the Fiji Ministry of Fisheries, Inshore Fisheries Management Division

(IFMD). This role has given me the opportunity to educate and advocate for the protection and conservation of our ocean and its resources through the use of the Fisheries Act and related legislations. Once this was a male-dominated field but now more women are interested in pursuing this career and are able to work alongside a wide range of enforcement agencies to reinforce the message. I enjoy the opportunity to meet a diverse groups of people who share different views and perceptions and have a chance to share knowledge and experiences. Explaining to communities and seeing changes in behaviour over time has been rewarding.

As a female Compliance Officer, it is never easy to confiscate prohibited and undersized fish from vendors from the various communities around Fiji who are trying to put food on their tables. However, it is work that must be done to ensure that we continue to have these very resources available to us now. If I don't do my part now to ensure the sustainable use and management of fisheries resources, then there might not be any fish left to feed and support current generations, let alone the ones to come in the future.

.....
What are some of your key achievements?

.....
I always knew that I wanted to work in an ocean-related field so I studied Marine Studies at the University of the South Pacific, so that I could achieve my main goal of doing my part to conserve the ocean that I love. After graduation, I was given the opportunity to be part of the research team with the Fiji Ministry of Fisheries serving as a project officer for the Biodiversity Enrichment Project. This role was very exciting and memorable as I was given the opportunity to visit many villages, schools and events that allowed me to advocate for the protection and conservation of the ocean and its resources. As part of the project, I was also able to be part of giant clam reseedling, and coral and mangrove planting initiatives. Later I was given the chance to be part of the Ridge to Reef Project funded by the Global Environment Facility and the United Nations Development Programme, in partnership with the Ministry of Environment. This project gave me the opportunity to advocate for the need to sustainably use our land and its resources because they greatly impact what goes on in the ocean and what happens to the resources.



Measuring mud crab sizes in the Suva markets. ©Fiji Ministry of Fisheries

.....
What are some of your key challenges?
.....

There is a mindset that the sea is an endless source of marine life. Getting people to accept the need to protect and sustain our marine resources, especially those that we depend greatly on for food. Moreover, getting us to understand the need for fisheries legislation to ensure that we are able to sustainably use our marine resources. A challenge has been the different mixed messages shared on the ground with communities, which has led to them not being properly informed of the current acts and legislations in place. The increasing number of confiscations of illegal resources coming to light is both sad and painful as they represent wasted resources, and short-term thinking on the part of resources owners.

.....
Who are some of your role models?
.....

I have a few role models that have nurtured my love for the ocean and its resources and inspired me to become a more vocal advocate for the sustainable management and protection of the ocean and its resources. My grandfathers have played a huge role in nurturing my love for the ocean. During holidays and trips to the village or farm I would spend a lot of time by the ocean. I grew fascinated with all the wonderfully weird creatures I would happen upon during those trips.

From my work, my role models include Mr Aisake Batibasaga (previous Director for Fisheries), Mrs Margaret Vakalalabure (previous Senior Fisheries Officer for the Ministry of Fisheries Research Division), Mrs Sharma Gounder (new head of the IFMD) and Mr Richard Veeran (previous head of IFMD). These people have imparted to me a great wealth of knowledge on the ocean in their own respective fields, and this has enabled me to be a more confident advocate for the sustainable management and protection of the ocean and its resources.

.....
My advice to the world
.....

Our ocean provides us with numerous resources that ensure our survival as a people and a nation. Therefore, we must take our role as its guardians very seriously to ensure the ocean and its resources are sustainably used, managed and protected so that we can continue to benefit from them and enjoy all that we are enjoying today. It is not only about saving the resources for future generations, but also about protecting and sustainably using it for the current generation. If we don't look after it well, we will all experience their loss.



A novel framework to better understand gender relations using dried fish value chains

Madu Galappaththi,^{1,*} Andrea M. Collins,¹ Derek Armitage¹
and Prateep Kumar Nayak²

This paper highlights key ideas and concepts that can be linked to developing a novel framework to broaden the study of gender within the dried fish value chain. It is a synthesis of a lengthier publication that was recently published in the journal *Maritime Studies* (Galappaththi et al. 2021).

Women comprise a significant portion of the workforce in the dried fish value chain, which is a hidden subsector that is predominantly within small-scale fisheries in Asia and Africa. Through their employment in value chains, women generate significant and diverse benefits, including income, employment, food, kinship ties and cultural connections. Despite the benefits, women also face constraints that severely restrict their ability to fully participate in and benefit from value chain activities compared to men (e.g. lack of access to good quality fish, gendered norms of access to markets). Moreover, women who belong to marginalised groups such as lower castes, widows and refugees bear the brunt of these inequities. In other words, women and men are positioned differently within the value chain in relation to the benefits they can generate within a given context.

Existing frameworks to examine gender perspectives within value chains, however, pay little attention to the diverse benefits supported by the value chains or the context-specific factors that shape such benefits. To address this gap, we developed a novel framework to help us systematically unravel the complexity of gender relations within dried fish value chains (Fig. 1). The application of the new framework can create a “thick description” of gender relations – a deeper analysis that brings special attention to contextual details and social meanings that individuals ascribe to their own experiences (Geertz 1973). In doing so, we link the concepts of value chains, relationality, social wellbeing and intersectionality.

Value chains: overlapping nodes and the notion of “value”

A value chain refers to the series of nodes or activities that enable the procurement of inputs, transformation into outputs, and distribution to consumers (Porter 1985). Key value chain nodes pertaining to dried fish include fish harvesting, drying and/or processing, trading and distribution. Women and men are both employed across these nodes. Women may work in small groups to dry fish (drying node) and to sell in nearby markets (trading node). In doing so, they not only earn an income but also socialise and

maintain social connections and a sense of belongingness. These diverse benefits often extend beyond mere economic or monetary terms. In fact, the term “value” opens up an opportunity to rethink the complexity of value creation by focusing on the range of values supported by the value chains.

Relationality as the point of departure

In developing a novel framework, our point of departure from the existing literature is the notion of relationality. Relationality refers to the creation of experiences in relation to one another within a given context. Attention to relationality not only reveals the socially and culturally distinct ways people benefit from value chain participation, but also illuminates how such benefits are shaped by the social structures operating within value chains (e.g. gender, caste, ethnicity).

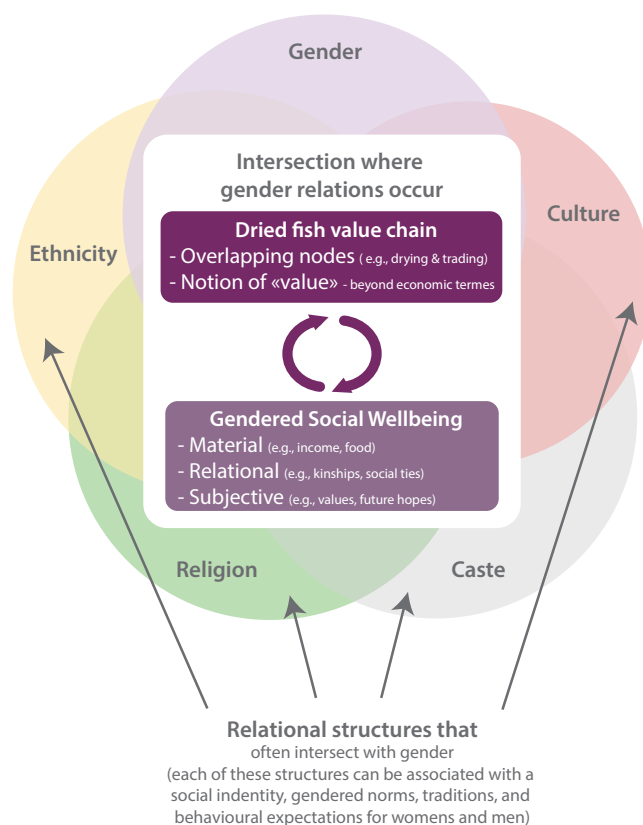


Figure 1. An integrated framework to study gender relations in dried fish value chains. Source: Galappaththi et al. 2021

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Social wellbeing: Meanings and social connections that matter

The social wellbeing concept emphasises multiple ways that people perceive and pursue wellbeing (McGregor 2008). The three-dimensions of social wellbeing include: material wellbeing (e.g. income, employment), relational wellbeing (e.g. kinship ties, sense of belongingness), and subjective wellbeing (e.g. values, future hopes, mutual trust). Using a social wellbeing lens and its three dimensions can help examine the range of benefits generated through dried fish value chains.

Intersectionality: Intersecting structures of oppression

Intersectionality highlights how systems of power and oppression – such as sexism, racism and classism – intersect and shape people's lived experiences within a given context (Crenshaw 1991). By definition, intersectional analysis brings attention to marginalised and disadvantaged groups (e.g. women, ethnic minorities, indigenous peoples). Within dried fish value chains, intersectionality helps examine the relational structures (e.g. caste, ethnicity) that intersect with gender to uniquely position women and men within the value chain.

The novel framework and its applications

When the concepts highlighted above are woven together, the resulting framework helps broaden the conceptual and analytical focus of existing approaches to analyse gender in value chains. A two-way linkage exists between the value chain and social wellbeing because improved wellbeing leads to better value chain outcomes. Since the unique array of structures operating within a given value chain is shaped by the context it is embedded in, the framework can be modified to include any additional structures (e.g. marital status, age, sexuality).

The application of this new framework can result in a thick description of gender relations, including rich insights into women's and men's differential positions, wellbeing outcomes, underlying forms of discrimination, and the root causes of inequities operating in value chains. Such nuanced and applied insights may inform policy frameworks, practice interventions and programme development towards achieving equitable outcomes for everyone participating in value chains.



Family-based fish drying operation in western Sri Lanka. © C. Hiroshini Wedige

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Women working in a Nazirartek fish drying yard in Bangladesh. © Derek Johnson/DriedFishMatters.org



Gender equity and social inclusion analysis for coastal fisheries

Sangeeta Mangubhai¹ and Anna Cowley

Background

Communities are not homogenous and include people from different backgrounds. The issues that individuals face and their access to and use of services and opportunities vary based on their gender, age, ethnicity, economic background, social standing, education, (dis)ability, sexual orientation, history (including migrant status, colonial history), and any combination of these factors. In other words, people's identities and experiences affect their *power* and *privilege*, and the *disadvantage* and *discrimination* they may face in their lifetime. The issues people face also vary from one community to another, depending on how their community is organised, the governance systems that control access to natural resources, local tenure arrangements, levels of education and wealth, and cultural traditions and practices.

Fisheries management systems cannot be fair, just and sustainable if they do not have gender equity and social inclusion (GESI) at their heart. For example, implementation

of fisheries management plans requires the support of the entire community but these plans will be ineffective if community members are not consulted and *meaningfully engaged* in developing the plans. A GESI analysis enables a better understanding of the needs of community members, including those who often miss out, for more effective targeting of interventions to ensure fairer outcomes for individuals and the communities of which they are a part of. If equity and inclusion in fisheries are addressed, then management systems are more likely to be effective and fisheries will remain productive and healthy for the people who are dependent on them for food, livelihoods and cultural practices.

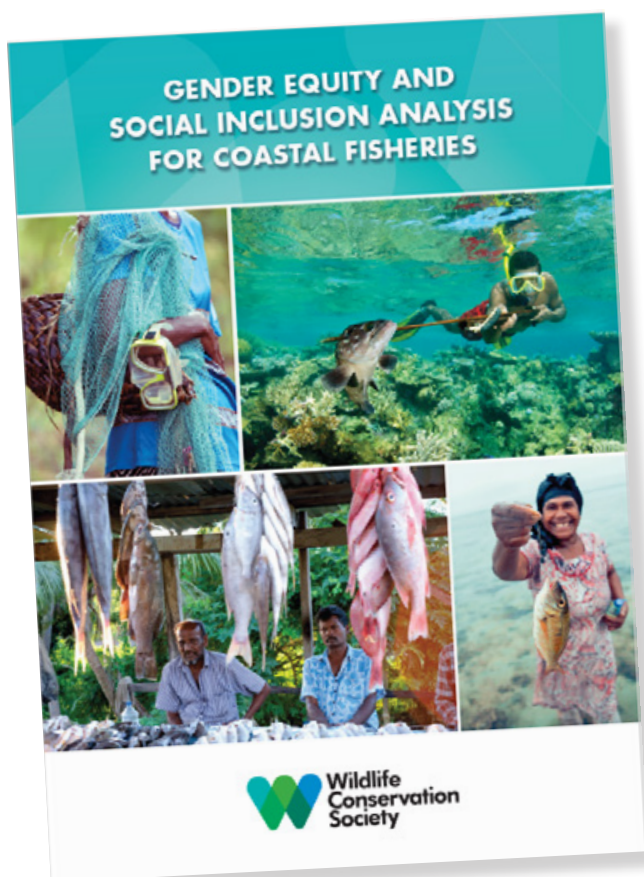
Guide to GESI analysis

The Wildlife Conservation Society designed an analysis guide designed for government institutions and other organisations engaging in community coastal fisheries who wish to apply a GESI lens to their work, as an important step to improving GESI best practice.

The guide answers why GESI is relevant to fisheries, and when to conduct a GESI analysis. Examples of GESI considerations are provided for different types of fisheries analyses such as fisheries needs assessments, fisheries stock assessments, market surveys and value chain analyses. Rather than developing a new framework, the guide advocates for the adaptation and adoption of the CARE International framework, which is increasingly being used by development agencies. The GESI framework conceptualises change at three levels: 1) building the individual capacity of people of all gender identities, life stages and (dis)abilities; 2) the changing relations between the people involved in the work and the key people around them (e.g. family members, community members); and 3) transforming structures so the people involved in the work can realise their full potential in their public and private lives, and can contribute equally to, and benefit equally from, social, political and economic development. A checklist of example questions that can be used in GESI analyses organised under the three pillars of the GESI framework is included for practitioners. Lastly, the guide provides suggestions on how to strengthen GESI integration into individual organisations' work.

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Mangubhai S. and Cowley A. 2021. Gender equity and social inclusion analysis for coastal fisheries. Suva, Fiji : Wildlife Conservation Society. 11 p. or <https://fiji.wcs.org/Resources/Management-Tools-and-Guides.aspx>



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Exploring the importance of gender equality and social inclusion in fisheries

Menka Goundan¹

In most Pacific Islands cultures, women and girls are resource gatherers, and active participants of fisheries and aquaculture, yet their contributions are often only seen in a post-harvest context when they take their catch to sell in the markets. At the Women's Fund Fiji (the Fund) – through our experience with grantee partners such as the Women in Fisheries Network, Kioa Women's Group and Udu Point Women's Initiative – we know that women play a significant role in both harvesting and post-harvesting processes.

The Fund supports its grantee partners in strengthening their capacity to promote and achieve gender-transformative change. The Fund's capacity building strategy is complemented by a gender equality and social inclusion (GESI) strategy that ensures that gender equality and the empowerment of women is integrated into every aspect of its work to support grantee partners to reduce inequalities and exclusion.

There are 14 activities that can be used by managers and practitioners in a diversity of sectors, including fisheries and agriculture, and include the following.

Activity 1: Exploring our own expertise about gender and diversity

This activity helps begin the process of community building and starting a dialogue on diversity, and sets the tone that we are all teachers and learners together and all have experience.

Activity 2: Social and personal identity wheel

This activity encourages participants to deeply reflect and consider their identities, and how we express our identities differently, depending on the social context. It also explains how privilege operates to normalise some identities over others, and sensitises participants to their shared identities with others as well as the diversity of identities in the home, work, community, and encourages empathy.

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Activity 3: Exploring our diversity

The aim here is to open the conversation on diversity, acknowledging that everyone has experience and expertise on the subject, and acknowledge multiple and intersecting aspects of our identities.

Activity 4: The Story of Joana and Jona

This activity examines the roles of women and men in a comparative way.

Activity 5: Choosing the sex of your child

The aim here is to bring out participants' assumptions about female and male children, and examine how true and deep-rooted these assumptions are.

Activity 6: Ideal man, ideal woman

Here, participants learn the difference between sex and gender, and explore ideas of socially defined gender roles and stereotypes.

Activity 7: Pressures and privileges of being a man/woman

This activity explores the consequences and harms of gender stereotypes, and helps participants understand the pressures and privileges of ideals of masculinity and femininity.

Activity 8: Definitions

Here, participants understand important gender terminology such as gender, sex, gender equality, gender equity, women's empowerment, transformative approach, and social inclusion.

Activity 9: The new planet

This activity aims to create an immediate experience of power up.

Activity 10: Group activity

Participants are encouraged to share an event or time in their life when they were in a power up position, and when they were in a power down situation. After sharing, participants are asked to tell their story to the larger group.

Activity 11: Power walk

Participants share their learning up to this point about GESI and/or their own lives to understand power and privilege.

Activity 12: Power role play (if enough time)

Continuing on from Activity 11, this activity deepens participants' understanding of power and privilege.

Activity 13: The gender equality framework

Participants learn about the gender equality framework in order to build agency, change relations and transform structures.

Activity 14: Community - Solution tree

This activity helps participants to identify the gender equality and inclusion changes they want to see, and explore the impacts of each of these changes.

To ensure that GESI is integrated into all aspects of programming, the Fund delivers training on GESI for its partners. Based on the practical learnings, challenges, approaches and opportunities to adapt the theoretical material to practical examples through our information-rich grantee partners, the Fund has developed a localised GESI toolkit, which is available and can be used by practitioners in all areas of development, including fisheries in the Pacific.

We encourage fisheries practitioners and managers to integrate GESI into their work and not treat the challenges and opportunities faced by women fishers as isolated cases. It is important to analyse and understand gendered forms of equality or inequality and social inclusion or exclusion within the Pacific Islands region, which is often deep-rooted in our cultures.



The GESI toolkit can be accessed and used with relevant acknowledgements through:
<https://womensfundfiji.org/wp-content/uploads/2021/11/Toolkit-web-final.pdf>

Managing people, not fish, in tuna industries

Kate Barclay, Megan Streeter, Natalie Makhoul,¹ Aliti Vunisea and Senoveva Mauli

Should fisheries managers know about human rights, gender equity and social inclusion, and are these relevant to their work? The *Pacific Handbook for Human Rights, Gender Equity and Social Inclusion in Tuna Industries* suggests that these factors, which are about the *humans* involved in fishing and processing, rather than *fish stocks*, is very much a responsibility for fisheries managers.

During 2021, a group of researchers and consultants worked on a *Pacific Handbook for Human Rights, Gender Equity and Social Inclusion in Tuna Industries*. This project started as a module in the 2021 version of the *Pacific Handbook for Gender Equity and Social Inclusion in Coastal Fisheries and Aquaculture*.² Tuna industries, however, are very different from coastal fisheries, and because there are many other issues to consider, it was decided to produce a separate handbook specifically for tuna. The *Tuna Handbook* also builds on a report by World Wide Fund for Nature *Mainstreaming in Fiji Offshore Tuna Industry*.³

Sometimes, it is hard to see what fisheries managers can do about human rights and gender equity and social inclusion issues, especially since, arguably, the responsibility usually falls within the mandate of other arms of government (e.g. justice, labour, social welfare, women's affairs). However, as

government officials, fisheries managers are “duty bearers” who are legally obliged to protect and enforce human rights within their field of work. Moreover, other government agencies do not have the resources to learn about the specifics of tuna industries to be able to handle all of this work without the help of fisheries managers. Practically speaking, fisheries managers must collaborate with other government and non-governmental organisations to promote human rights, gender equity and social inclusion, to ensure that Pacific Islanders get the best possible development outcomes from their tuna resources.

The *Tuna Handbook* project is funded by the Pacific-European Union Marine Partnership, involving collaboration between the Pacific Community and the Pacific Islands Forum Fisheries Agency. Researchers and consultants working on the *Tuna Handbook* include Kate Barclay, Aliti Vunisea, Megan Streeter and Senoveva Mauli. In addition, the Pacific Community has contracted fishing crew and human rights and civil society activists Patricia Kailola, Savenaca Kadavi, Luse Madigibuli and Taniela Ranadali to provide expert input into drafting the *Tuna Handbook*.

The *Tuna Handbook* will consist of nine modules, including an introduction and a section on social analysis, monitoring

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² <https://coastfish.spc.int/en/component/content/article/494-gender-equity-and-social-inclusion-handbook>

³ https://wwfasia.awsassets.panda.org/downloads/gender_mainstreaming_in_fiji_s_offshore_tuna_industry_report_1.pdf



and evaluation, followed by modules on human rights and gender equity and social inclusion at sea, within port areas, in processing plants, in small scale informal tuna fishing and marketing, in fisheries management and science, and in community engagement. The final module explores all of these issues in a case study in Fiji. In order to communicate these complex topics clearly, the *Tuna Handbook* will use plain English language, plenty of graphics, and examples from across the Pacific. It is inspired by and builds on the existing SPC *Pacific Handbook for Gender Equity and Social Inclusion in Coastal Fisheries and Aquaculture*.

The *Tuna Handbook* explores human rights and gender equity and social inclusion as commitments, duties and responsibilities from a government angle, but also why and how private sector players can and must act to combat human rights abuses and to further enhance a safe environment where Pacific Island women and men can find decent employment opportunities.

Progress made towards the *Tuna Handbook* in 2021 included a round of inception meetings with staff from the Pacific Community, Pacific Islands Forum Fisheries Agency and World Wide Fund Fiji, to see what should be included, and a list of stakeholders compiled to contact for their input. Then we talked with more than 50 people from different stakeholder groups, to listen to their perspectives on human rights and gender equity and social inclusion in tuna industries. A first draft of the *Tuna Handbook* was circulated among the author group, leading to a second draft completed at the end of 2021.



Moving fish bins around, Noro, Solomon Islands © Francisco Blaha

Continuing the efforts of engaging with the future audience from public and private sector actors, a socialisation workshop is planned for early 2022, and following input and comments from a wide range of stakeholders, the *Tuna Handbook* is likely to be finalised towards the third quarter of 2022.



Control operations, Noro, Solomon Islands © Francisco Blaha