

# GENDER DIMENSIONS OF OCEAN RISK AND RESILIENCE IN SIDS AND COASTAL LDCS

REPORT  
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# Key messages

## **Commit to and support the systematic collection of sex-disaggregated socio-economic data throughout small-scale fisheries (SSF) value chains and other ocean economy sectors, particularly in Small Island Developing States (SIDS) and Least Developed Countries (LDCs).**

Women play important roles across fisheries value chains and throughout the tourism sector. Yet, in many locations women remain undervalued and confined to particular roles, despite efforts to mainstream gender across coastal social-ecological systems. To change these patterns, relevant agencies need to collect sex-disaggregated data (e.g., on sector participation, resource use, nutrition, and decision making) and undertake gender analyses, to better understand and overcome gender-based inequalities as well as support coastal and community resilience. Such data are also key to determining if governments and donors are meeting their gender commitments and evaluating progress against targets under Sustainable Development Goal (SDG) 5 (“Gender equality and women’s empowerment”) and gender dimensions of other SDGs.

## **Strengthen women’s agency in the fisheries and tourism sectors for widespread benefits.**

Both fisheries and tourism have been highlighted as pivotal sectors for achieving the SDGs. Targeted activities to support women’s empowerment should include the development of organisational, communication and leadership skills, removing barriers to accessing basic education, credit, loans and insurance and developing financial literacy. Evidence from the tourism sector suggests that when women are empowered, their roles and contributions are better recognised and they benefit from greater economic independence. They also gain an increased sense of confidence, self-respect, social status, and overall well-being, as well as greater representation among community groups and in decision-making. When implementing activities to strengthen or shift social/cultural norms to support women’s empowerment, gender dynamics must be carefully considered to avoid the risk of increasing gender-based violence.

## **Use an intersectional understanding of those who participate in and are dependent on fisheries and tourism to achieve an equitable ocean economy.**

Ensuring that fisheries and other ocean sectors develop in a manner that benefits society broadly

requires consideration of how gender intersects with other dimensions of social identity (e.g., race, ethnicity, and wealth) to determine access to and control over ocean resources. Such an intersectional understanding of the factors shaping individuals’ vulnerabilities, adaptation processes, and outcomes, will help advance strategies to bolster resilience and support ocean-dependent livelihoods.

## **Engage women and men to transform harmful gender norms and advance gender equality.**

Greater awareness of and focus on how power dynamics affect access, rights, and governance are needed to better understand gender-differentiated risks and to support equitable outcomes. Barriers to women’s access to resources and opportunities, economic empowerment, and participation in leadership and decision making often are structural in nature, designed to privilege men. However, norms and expressions of masculinity can also be harmful to men’s well-being. Gender transformative approaches focus on working with men and women – the entire community – to build a shared understanding of restrictive norms and promote locally-led and culturally appropriate shifts in these norms and the relationships between people towards equality and inclusion.

## **Consider cumulative as well as gender-differentiated (and intersectional) effects across shocks and sectors when assessing impacts of large-scale events, such as climate change and a global public health crisis.**

For example, across several SIDS, COVID-19 related declines in visitor arrivals, and losses and damages to fishing gear due to tropical cyclones have dramatically exacerbated hardships faced by women. Women are not inherently more vulnerable to these impacts. However, because of socio-economic structures, power relations, social-cultural norms, and expectations, women enjoy more restricted freedoms and rights than men, and therefore have social, economic and political disadvantages. Response and recovery actions, as well as resilience building initiatives, must consider gender and other identity factors that can lead to differentiated outcomes. Specific efforts are needed to integrate women’s priorities, needs, and interests. These are necessary prerequisites for developing successful, long-term solutions that work for all stakeholders, enabling the



equitable distribution of aid, and supporting food security and sustainable livelihoods in the face of continued anthropogenic crises.

**Bolster institutional strengthening efforts and policy coherence to maximise synergies and avoid unintentional trade offs across sectors.** Seeking and supporting opportunities for synergies and collaboration between national entities assigned to promote gender equality and those responsible for sectors of the ocean economy can maximise efforts to mainstream gender in policies and across initiatives. This will require training and adequate capacity to support the implementation of such mechanisms, as well as budgets and planning processes that are gender responsive.

**Provide clear and tractable objectives in Official Development Assistance (ODA) that support gender equality, and ensure these align with national priorities and support locally-led and determined actions and solutions.** ODA from the Development Assistance Committee (DAC) donors is one of the key sources of financing towards achieving SDG5. However, this financing needs to align with nationally determined priorities. In addition, ODA projects that target gender equality should clearly state how activities are to contribute to advancing gender equality, reducing gender discrimination, or meeting gender-specific needs in practice, and outline outcomes that can be monitored and evaluated. ODA and other financial mechanisms also should create opportunities for locally-led and determined efforts. Currently, most financial flows are channelled through recipient governments and NGOs. Support for and engagement with locally-led civil society organisations focused on gender equality and women empowerment can strengthen local capacity, build trust, and promote social investment and innovation.

**Address gender bias and barriers within institutions that provide development support.**

Donors should demonstrate their commitment to and leadership on gender equality in development and risk resilience projects across the ocean economy by increasing their total and proportional allocations to gender-focused programming. In addition, there is a need to build and strengthen leadership at all levels, from local communities to the international community, including with greater participation by women across (climate) finance mechanism boards.

**Make gender equality explicit in philanthropy and private finance aimed at supporting a sustainable, resilient and just ocean economy.**

An important focus in finance provided to SIDS and coastal LDCs in the context of the ocean economy has been and should remain sustainability. However, it is imperative that funders also emphasize gender equality. While philanthropy is playing an increasing role in support of sustainable development, with a renewed focus on advancing justice and equity, there are currently no standardised means of tracking the proportion of philanthropic aid that supports gender equality. In the private finance sector, the 14 Sustainable Blue Economy Finance Principles have set out standards for mainstreaming sustainability of ocean-based sectors. To support a "Blue Economy" these 14 principles should explicitly state and mandate equity considerations as part of the guiding framework, making specific reference to SDG5, and promote the integration of these requirements by finance institutions more broadly.



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# Definitions



**Resilience** – the capacity of a system to cope, adapt or transform in the face of changing social or environmental conditions <sup>1</sup>.

**Vulnerability** – degree to which a system or its attributes are susceptible to, or able to cope with, adverse effects of one or more stressors. Vulnerability has three dimensions: exposure, sensitivity, and adaptive capacity <sup>2</sup>.

**Adaptive capacity** – the social factors that enable resilience to current, perceived, or expected social-ecological change <sup>3</sup>.

**Agency** – is a key domain of adaptive capacity, and generally refers to the ability of people — individually or collectively — to have free choice in responding to environmental change.

**SDG5** – aims to achieve gender equality and calls for the full participation of women and equal opportunities for leadership. It is one of the 17 Sustainable Development Goals established by the UN in 2015, and is associated with 9 targets and 14 indicators. Its overarching goal is to "Achieve gender equality and empower all women and girls" recognising that "Gender equality is not only a fundamental human right, but a necessary foundation for a peaceful, prosperous and sustainable world. Providing women and girls with equal access to education, health care, decent work, and representation in political and economic decision-making processes will fuel sustainable economies and benefit societies and humanity at large."

**SDG14** – Sustainable Development Goal 14 ("Life Below Water") aims to conserve and sustainably use the oceans, seas and marine resources for sustainable development. It is the fourteenth of the 17 Sustainable Development Goals adopted by the United Nations in 2015 as a universal call to action to end poverty, protect the planet, and ensure that by 2030 all people enjoy peace and prosperity. SDG14 is associated with 10 targets that include reducing marine pollution, protecting and restoring marine ecosystem, reducing ocean acidification, sustainable fishing, conserving coastal and marine areas, ending subsidies contributing to overfishing, increasing the economic benefits from sustainable use of marine resources, increasing scientific knowledge, research and technology for ocean health, supporting small scale fishers, and implementing and enforcing international sea law.

**Sex** – used in reference to a person's reproductive anatomy, genetic differences, and associated secondary sex characteristics, distinguishing individuals as male, female, or intersex.

**Gender (norms)** – socially constructed, culturally variable attributes, roles, activities, behaviours, expectations, and associated opportunities (or lack thereof) ascribed to each sex (and non-binary individuals) and the relations between them. Perceptions of gender are dynamic, often varying across time and space <sup>4</sup>.

**Gender equality** – exists when rights, resources, opportunities, and protections are granted independent of gender <sup>5</sup>, and when interests, needs, and priorities of every individual are acknowledged and taken into consideration regardless of gender. Gender equality is not only a human rights issue; it is also a precondition for, and indicator of, sustainable people-centred development <sup>6</sup>.

**Gender equity** – a process that recognizes the differentiated needs of women and men and treats individuals with fairness accordingly. Gender equity is dependent on the local context and can include equal treatment, but in many instances will include approaches and measures that redress historical, cultural, structural, and other imbalances in the distribution of benefits and responsibilities among people of different genders <sup>4</sup>.

**Gender blind** – approaches that ignore the rights, roles, and responsibilities associated with gender, as well as power dynamics between genders, influencing how individuals experience opportunities and outcomes differently <sup>7</sup>. While often well-intentioned, gender-blind approaches tend to reinforce gender stereotypes and to amplify gender inequalities.

**Gender accommodating** – approaches that recognize gender-based constraints, but work around them to engage women, rather than address underlying structural barriers at the root of gender inequalities <sup>8,9</sup>.

**Gender sensitive** – approaches that demonstrate awareness and recognition of privilege and discrimination around gender – i.e., the impact of policies, projects, and programmes on men and women – and actions undertaken to mitigate the negative consequences thereof. At times used interchangeably with gender responsive.

**Gender responsive** – approaches that demonstrate recognition and understanding of gender norms, roles, and inequalities and supportive of the development and implementation of actions, initiatives, and policies that address gender-differentiated needs, constraints, and opportunities<sup>10,11</sup>. Gender-responsive approaches actively seek to promote gender equality<sup>12</sup>.

**Gender mainstreaming** – “the process of assessing the implications for women and men of any planned action, including legislation, policies or programmes, in all areas and at all levels. It is a strategy for making women’s and men’s concerns and experiences an integral dimension of the design, implementation, monitoring, and evaluation of policies and programmes in all political, economic, and societal spheres, so that women and men benefit equally, and inequality is not perpetuated.”<sup>13</sup>

**Gender transformative** – approaches that include opportunities for women and men to critically reflect on and engage with norms, dynamics, and power relationships that lead to gender inequalities, not work around them, to foster change towards greater equity<sup>8</sup>.

**Empowerment** – a process involving individuals, cultures, societies, and institutions that supports and strengthens an individual’s “sense of self-worth; their right to have and to determine choices; their right to have access to opportunities and resources; their right to have the power to control their own lives [and destiny]; and their ability to influence the direction of social change to create a more just social and economic order.”<sup>14</sup> There are four, interrelated types of empowerment —political, economic, socio-cultural, and physical<sup>15</sup>.

**Intersectionality** – a term coined in 1989 by professor Kimberlé Crenshaw<sup>16</sup> that considers the interconnected and compounding nature of social identities as defined by characteristics such as race, gender, ethnicity, and wealth, and how these influence experiences, discrimination, and (dis)advantages<sup>70</sup>.

**OECD DAC CRS Policy marker 01** – financial allocation that includes gender equality as a significant objective in programmatic delivery (used by the Organisation for Economic Co-operation and Development (OECD) Development Assistance Committee (DAC) Creditor Reporting System (CRS)).

**OECD DAC CRS Policy marker 02** - financial allocation, which at its core (principal objective) aims to advance gender equality.

**Social-ecological systems** – complex adaptive systems, in which human societies are embedded in nature. The social component refers to all human activities, including economy, technology, politics and culture. The ecological component refers to the biosphere, that is, to the part of the planet on which life develops. Both components are interrelated<sup>241</sup>.

# Introduction

The Blue Economy – a term adopted and shaped by Small Island Developing States (SIDS)<sup>17,18</sup> that has found resonance with many states with an interest in the ocean – is defined as a “sustainable development framework for developing countries addressing equity in access to, development of and the sharing of benefits from marine resources; offering scope for re-investment in human development and the alleviation of crippling national debt burdens.”<sup>19</sup> A Blue Economy should therefore support viable economic development in ocean-related sectors such as aquaculture and fisheries, ocean energy, maritime shipping, and coastal tourism, while being environmentally sustainable and with a focus on equity and well-being<sup>20,21</sup>.

Climate change, and other threats such as overfishing, pollution, and land use changes, are driving rapid and accelerating changes to the ocean, jeopardising economies, societies, cultures, and ecosystems<sup>22–24</sup>. Many of these effects are already being felt as ocean temperatures rise, corals bleach, species distributions shift, and extreme weather events increase in frequency and intensity<sup>24</sup>. Other shocks, such as the recent global health crisis, resulting from the rapid spread of COVID-19 worldwide, pose further significant compounding challenges (see also ORRAA report on ocean risks in SIDS and coastal LDCs and ORRAA report on the Blue Acceleration)\*. The devastating consequences of such crises are disproportionately affecting SIDS and (coastal) Least

Developed Countries (LDCs)\*\* – who rely on the ocean for livelihoods, nutrition, and revenue – widening inequalities, and hitting marginalised groups\*\*\* particularly hard<sup>25</sup>.

Current policies and development discourses about the opportunities afforded by a Blue Economy have prioritised ocean-based economic development, side-lining issues of environmental conservation and social equity<sup>21,26,27</sup>. To be successful, it is imperative that Blue Economy projects include and integrate the needs and concerns of local communities in their development and implementation<sup>28,29</sup>. Gender equality is considered both a fundamental right and a key prerequisite to strengthening and building resilience to climate change and other shocks. Women and men play important but often differentiated roles across ocean sectors. Yet women’s roles, contributions, priorities, and interests tend to be overlooked and undervalued across sectors,

**“[H]uman rights are women's rights and women's rights are human rights. ... As long as discrimination and inequities remain so commonplace everywhere in the world, as long as girls and women are valued less, fed less, fed last, overworked, underpaid, not schooled, subjected to violence in and outside their homes—the potential of the human family to create a peaceful, prosperous world will not be realized.”**

– **Hillary Clinton**,  
former United States Secretary of State

as well as in policy and management. Advancing gender equality benefits women and girls through improved welfare and agency. These benefits extend beyond the individual to women’s households and communities, helping countries realise their full development potential, especially within the context of a Blue Economy. As businesswoman and philanthropist Dona Bertarelli recently exclaimed “Economies grow when women prosper”, with McKinsey research showing that advancing gender

\* Tokunaga et al (2021) ORRAA Report. <https://oceanrisk.earth>, Jouffray et al (2021) ORRAA Report. <https://oceanrisk.earth>

\*\* See table in supplementary material at [www.oceanrisk.earth](http://www.oceanrisk.earth).

\*\*\* e.g., women, Indigenous people, racialized groups



equality could add an estimated USD12 trillion to global GDP by 2030<sup>30</sup>. A focus on inclusive and gender-responsive and transformative approaches is central to the 2030 Agenda for Sustainable Development, its 17 Sustainable Development Goals (SDGs) and 169 associated targets. The importance of gender equality and women's empowerment is not only reflected in SDG5; it is specifically amplified within the preamble to the 2030 Agenda: "[The SDGs] seek to realize the human rights of all and to achieve gender equality and the empowerment of all women and girls. They are integrated and indivisible and balance the three dimensions of sustainable development: the economic, social and environmental."<sup>31</sup> Interdisciplinary and integrated responses that seek to strengthen resilience and ensure "no one [is] left behind" in securing a sustainable future will require inclusive approaches that consider diverse knowledge systems, interests, and priorities, especially of those who are marginalized<sup>32</sup>.

Through a synthesis of peer-reviewed and grey literature, and several case studies from SIDS and coastal LDCs, this report aims to:

1. Highlight gender roles in two key sectors of the ocean economy: Small-Scale Fisheries (SSFs) and coastal tourism;
2. Describe gendered dimensions of ocean risks;
3. Summarize efforts across SIDS and coastal LDCs for gender equitable approaches to building resilience to ocean risks; and
4. Highlight the role that finance, specifically Official Development Assistance (ODA) and climate risk insurance, can play in supporting gender responsive (transformative) approaches to resilience to ocean risks.



Women selling fish. Photo: Colette Wabnitz

# Gender and the ocean economy

Women and men make substantial contributions across sectors of the ocean economy. These contributions are shaped by prevailing socio-cultural beliefs around gendered capabilities, social norms, and power relations, which shape the distribution of, access to, and control over resources, assets, information, and social services<sup>33,34</sup>. As a result, women's and men's roles and responsibilities are often characterized by different social, economic, and environmental conditions<sup>35-40</sup>, which result in gender-differentiated challenges and opportunities<sup>41</sup>. In practice, this means that women often, but not always, face substantive challenges engaging in and benefiting from ocean-related sectors. Research in the Solomon Islands, for instance, showed that men tend to own and have access to more productive fishing gears<sup>42</sup>, while findings from Bangladesh highlight that even where women have access to resources, they generally lack decision-making power<sup>43</sup>, a pattern also observed in Fiji<sup>44,45</sup>, and Haiti<sup>46</sup>. However, in some developing regions, women run important fisheries businesses, controlling large sums of money, financing several seafood enterprises, and generating substantial returns for households and communities<sup>47</sup>. In Palau, traditionally a matriarchal society, women held considerable power. They were regarded as food producers and providers, controlled the money, and had the authority to distribute land<sup>48</sup>. To this day, women who are title bearers hold great responsibility, for example in executing cultural rites and electing male traditional leaders. However, matrilineal systems of transferring land rights were eliminated in part because of gender norms imposed by and legal and constitutional mechanisms that came with colonisation<sup>49</sup>. Colonial histories have played a significant role in destabilizing traditional systems of access and governance, with gendered implications. In the Solomon Islands, practices by private companies

from abroad have continued to marginalize women from power by not recognizing land ownership in matrilineal areas and seeking out men to make agreements on use of land<sup>50</sup>.

While increasing attention is being paid to gender in and around the ocean economy and the important ways it intersects with other identities (e.g., class,

race, marital status, age, sexuality, dis/ability, and religion) in shaping privileges, rights and responsibilities<sup>51-53</sup>, research on gender within the ocean economy remains sparse. Current gaps include the limited availability of sex-disaggregated data, understanding concepts of masculinity in the context of ocean sectors, and how different axes of social differentiation interact and intersect with external

drivers such as market access or climate change impacts. Greater awareness of, and focus on, how gendered power dynamics affect access, rights, and governance are needed to better understand the roles of women and men and to develop equitable solutions in the face of rapid change<sup>38</sup>.

Here we focus on the role women play in Small-Scale Fisheries (SSFs) and tourism. They represent two sectors of critical importance to the economies of SIDS and coastal states, and the livelihoods, culture, food security, and nutrition of their people<sup>54-59</sup>. While similarities can be drawn between the gender-related challenges and opportunities in capture fisheries and the aquaculture sector, this report focuses on marine capture fisheries. Given the importance of aquaculture for food and livelihood security, a separate, detailed investigation into the gendered risks of that sector is warranted. The two sectors chosen as the focus of this report –SSF and tourism– feature prominently in plans to strengthen future sustainable and socially inclusive development opportunities, and thus understanding gender (in)equality within these is imperative.

**While most SDGs mention gender explicitly, SDG 14 does not. Fishing and aquaculture are neither gender-blind nor gender-neutral.**

– *Laura Liswood*,  
Secretary-General,  
Council of Women World Leaders

## Role of women in small-scale fisheries

SSFs play a key role in the culture, nutrition, and food security of coastal communities around the world. They include a broad range of activities, from fishing, often using low-technology, low-capital fishing methods, to boat building, fish processing, and marketing<sup>60</sup>. Globally, SSFs contribute 35-50% of all fish catches, 90-95% of which are consumed at the household and community-level in developing countries<sup>61</sup>. With SSFs employing an estimated 90% of individuals in marine fisheries<sup>62</sup>, they have the potential to foster sustainable livelihoods, contribute to poverty alleviation and prevention, reduce malnutrition, and generate income that supports local and national economies.

Common perceptions, influenced by social-cultural norms and practices and often upheld by institutions, whose priorities have centred on the primary production of fish, have shaped our understanding of fisheries as a male domain and 'fisher/fisherman' largely as 'male'<sup>63</sup>. Such a focus has contributed to gender-blindness, or lack of appreciation and recognition for the role of women in the fisheries sector<sup>39</sup>. In Kiribati, for instance, fishing skills are associated with social status and respect among I-Kiribati men, with what is traditionally conceived of as 'fishing' (i.e., targeting finfish or large, valuable marine species), excluding roles primarily dominated by women, such as gleaning (i.e., the shoreline collection of invertebrates and small fish from intertidal or nearshore areas)<sup>64</sup>. Across SIDS and coastal LDCs, women's fisheries activities are largely unpaid, often performed at home, and therefore socially or culturally considered as part of 'housework' in addition to other chores and family caregiving<sup>65</sup>. These conceptions have led to the undervaluing of women's economic and societal contributions in fisheries<sup>66-70</sup> and the underreporting or lack of inclusion of these activities in official data collection<sup>37,39,71,72</sup>.

Yet women play fundamental roles within SSFs. They represent about 14% of the workforce in the harvest sector<sup>73</sup>, and almost half of the total SSFs workforce, if the post-harvest sector is included<sup>74,75</sup>. Globally, women catch around 2.9 million metric tons of fish a year, worth nearly USD5.6 billion<sup>38</sup>. In many developing countries, women are responsible for up to 90% of fisheries processing and marketing jobs<sup>47</sup>. In Sierra Leone, for instance, estimates suggest that over 85% of fish processors are women<sup>76</sup>. For SIDS in the Pacific region, on average between 19 and 47% of small-scale fishers are women, with higher percentages seen in Melanesia compared to Micronesia and Polynesia<sup>38</sup>. While this translates to significant differences across countries and cultural groups<sup>69</sup>, at the level of the Pacific region, women's catches are estimated to account for 56% of SSFs' landings, when gleaning activities are included<sup>37</sup>.

Women's involvement in SSFs spans the entire value chain<sup>61,64,77-79</sup>. It includes pre-harvest tasks such as mending nets, repairing boats and preparing bait, as well as gleaning for invertebrates in intertidal and nearshore waters, and fishing a wide diversity of fish species both close to shore and offshore using boats, including their own, and using a diversity of gears<sup>41,80-82</sup>. In Mozambique, for instance, women fish for small fish with mosquito nets and are active in the collection of intertidal organisms such as octopus and a variety of molluscs for commercial and subsistence purposes<sup>72,83,84</sup>. Twenty five percent of women in the Bay of Maputo have been reported to possess their own boats<sup>83</sup>. In Nauru, women play an important role in fisheries, with their participation in activities depending on their ethnic background<sup>85</sup>, highlighting the importance of intersectionality - how race, gender, class, ethnicity, ability and other individual characteristics "intersect" with one another and shape systems of power - when seeking to understand roles within fisheries. The three main ethnic groups are Nauruan, I-Kiribati, and Chinese. Nauruan women mainly harvest resources and have less involvement in processing and marketing, while Chinese women are mainly involved in the marketing of resources and I-Kiribati women are involved across all three domains<sup>85</sup>. Across many fisheries and contexts, women are most commonly active in labour intensive post-harvest activities such as cleaning, sorting, and processing (e.g., salting, drying, smoking) of catches<sup>86</sup>, which typically pay less than harvesting activities<sup>47</sup>. They also actively participate in selling and trading of fish at local markets, as street vendors or door-to-door<sup>87</sup>.

Because of their important roles in SSFs, women play an essential role in achieving nutrition and livelihood security. In many parts of the world, marine foods represent a fundamental component of households' diets and they make key contributions to protein and essential micronutrients demand<sup>88-92</sup>. These micronutrient contributions are particularly important for children, pregnant women, and women of childbearing age<sup>93,94</sup>. However, access to nutrient-dense foods such as fish at the household level is not always evenly distributed or based on individual requirements<sup>95</sup>. In the Pacific, fish\* account for between 50-90% of animal protein intake, with subsistence production generating most of that supply in rural areas<sup>96</sup>. In Fiji, the Solomon Islands, and Vanuatu, women account for about 80% of subsistence catches<sup>97</sup>. While women primarily fish at the subsistence level, an increasing proportion of women sell at least some of their catches<sup>53,81,83</sup>. In the Comoros islands, women typically keep half of their catch for household consumption and sell

\* Used here in the broad sense to include fish and invertebrates.



the other half<sup>98</sup>. Thus, through their involvement in fisheries, women make critical contributions to household food and nutrition security as well as income provisioning<sup>34,99–101</sup>.

Recent work in Timor-Leste highlights how the value to women's wellbeing of engaging in fisheries (gleaning) activities extends well beyond material contributions, and how these values differ across individuals and seasons<sup>102</sup>. As gleaning is often undertaken as a group activity, it represents an opportunity for women to socialise, bond, and spend time in nature<sup>101,102</sup> – a critical finding supported by work among women fishers in Palau<sup>103</sup> and Japan<sup>104</sup>. Findings from Timor-Leste also underscored that, factors influencing when gleaning activities were feasible and desirable strongly influenced different communities' participation in such activities<sup>102</sup>. As children often accompany their mothers in gleaning, valuable skills are passed through 'learning by doing' and cultural knowledge is communicated<sup>102,105</sup>. As many indigenous communities have traditionally been oral cultures, time spent together is critical for intergenerational learning and knowledge transfer. These findings highlight the need for assessments of nature's contributions to people's well-being to be socially as well as seasonally disaggregated and to ensure women's needs, values, and interests are also integrated into all scales of decision-making.

A growing number of efforts are underway to promote the collection of sex-disaggregated data, understand how gender norms influence access and control over marine resources, and build capacity and leadership at multiple levels, including government, by engaging with gender-related expectations and dynamics<sup>97</sup>. Such efforts are critical to gaining a comprehensive understanding of patterns in marine resource utilization and to develop and implement effective and equitable ecosystem-based approaches to fisheries management. Development organisations are also increasingly advocating for the involvement and contributions of women to be considered and accounted for throughout the projects they support (e.g., US Agency for International Development, Global Environment Facility, CARE, Green Climate Fund). These initiatives support the implementation of programs that work for women and men, in culturally appropriate ways, to empower women, and mainstream gender throughout policy<sup>106,107</sup>. If such efforts also consider issues of intersectionality<sup>103,108–111</sup> in the planning, implementation, and evaluation of programs, they can help shape livelihoods and governance systems that are equitable and promote gender-integrated and effective resource management<sup>52</sup>.

Gender specific roles within the SSFs sector are undergoing rapid changes due to an increasingly connected and modernized world. Recognizing these

changes and understanding, as well as quantifying women's contributions in fisheries is critical to advancing equitable and sustainable development. Some of these changes can push women out of existing roles and threaten their livelihoods<sup>67,112</sup>, violate their rights, and lead to a rise in violence against women<sup>113</sup>. Despite issues of gender-based violence having been documented in the context of fisheries, they remain poorly considered and addressed<sup>114,115</sup>. Globalisation, however, can also represent opportunities for women to engage outside of their traditional spheres, and increase their access to economic opportunities and employment. In many parts of Asia and Africa, for instance, innovative extension and microcredit programs are increasing women's and their families' financial and nutritional security<sup>116</sup>. In Kiribati, women are strongly represented in clerical and administrative activities, especially within government ministries<sup>117</sup>. These diverse roles may not always lead to women gaining greater decision-making power, women's empowerment, or the breaking down of gender barriers. However, such shifts may act as catalysts to redefine power structures by leveraging opportunities for women's support, democratic representation, and increasing involvement in policymaking<sup>118,119</sup>. Further careful research is needed to understand the implications of such shifting roles on fisheries, gender, and development.

## Role of women in coastal tourism

Tourism is one of the fastest growing economic sectors for many SIDS<sup>120</sup>. In 2019, SIDS welcomed 44 million international visitors with the sector earning USD55 billion in export revenues\*<sup>121</sup>. Prior to the COVID-19 pandemic, tourism represented more than half of total export revenue in 13 out of 38 SIDS, reaching up to 80% in St Lucia, Palau, Bahamas, and the Maldives (World Development Indicators database). On average, the tourism sector accounted for almost 30% of the GDP of SIDS. This share was over 50 % for the Maldives, Seychelles, Saint Kitts and Nevis, and Grenada. It is an industry that provides key job opportunities, with women's participation in the hotel and restaurant sector in the Caribbean ranging between 43% and 63%<sup>122</sup>. In 2018, marine tourism contributed 98% of Aruba's GDP and 99% of total employment, substantially contributing to people's quality of life<sup>123</sup>. Tourism was also key in the recent graduation of Samoa, Cabo Verde, and the Maldives from LDC status.

Coastal and marine tourism provide direct economic benefits via a range of activities such as cruises, snorkeling and diving, and indirect benefits via 'spin-off' on-land activities such as accommodation,

\* "Tourism is an export sector. It is a source of foreign exchange earnings; it grows a country's national output; it is subject to the rigours of the international marketplace"<sup>317</sup>



transportation, and food establishments<sup>124</sup>. Coastal tourism is associated with different forms to service different market segments, with some more or less accessible to local communities' participation<sup>125,126</sup>. Local people can, for instance, face barriers to enter international or mass tourism (such as all-inclusive resort holidays or cruises) because they have trouble meeting the standards set by hotels and other segments of the value chain<sup>125,127</sup>. Local entrepreneurs often have more opportunities to participate in budget or eco-tourism ventures, because they can capitalize on their local knowledge and expertise, and/or require less capital to establish<sup>124</sup>. Such small-scale enterprises tend to see benefits stay within communities and tend to foster greater visitors' expenditure on locally produced goods. Yet governments have largely focused their efforts on mass or luxury tourism to maximise foreign exchange earnings.

Tourism has provided women with key opportunities and has, relative to other industries, emphasized the advancement of women. The sector has been responsible for providing women with more opportunities for empowerment through better work opportunities for employment, advancement, leadership, and entrepreneurship<sup>128</sup>. Compared to the broader economy, gender gaps in the tourism sector are somewhat smaller. Women earn 15% less than men in equivalent tourism sector jobs (compared to 17% less in the broader economy); 23% of tourism ministers are women (compared to 21% for governments more generally); and women represent 54% of the tourism workforce (compared to 39% in the broader economy)<sup>129</sup> - although employment data related to the sector is lacking across many regions<sup>129,130</sup>. In 21 SIDS, women account for more than 50% of the tourism labour force, representing more than 70% of employees in Haiti and Trinidad and Tobago. In the Solomon Islands women are responsible for 90% of the income generated through tourism<sup>131</sup>. Women are particularly active in the accommodation and food services sector, the core economic activities related to tourism<sup>129</sup>, though other activities such as handicraft making also represent important sources of income for women.

Available evidence from the tourism sector underscores that when women are empowered, positive impacts emerge, including economic

independence; increased self-esteem, self-respect, happiness, and self-confidence; increased social status; and representation among community groups<sup>132</sup>. In addition, greater economic status and entrepreneurship opportunities<sup>129</sup> can be avenues to challenge prevailing gender norms and traditional power relations<sup>130,133,134</sup>. In Uganda, for instance, savings accrued from tourism livelihood opportunities have contributed to women's economic empowerment, allowed them to form networks, to help others, and to have increased levels of confidence, as well as the opportunity to re-negotiate their roles and power<sup>135</sup>. While initially women engaged in tourism activities were shamed by their community, over time, by gradually challenging practices, social norms and expectations shifted as society recognized the impact of women's contributions towards the larger community and economy. These shifts were aided by larger societal changes, including greater opportunities for women and girls to access education and skills training<sup>135</sup>.

Despite such opportunities for empowerment and tangible advances in some locations, inequalities persist. Women continue to hold mostly low-paid jobs, or are part of the informal economy (e.g., wage workers without social protection and street vendors) rather than stepping into more managerial positions, typically held by men, that are more lucrative, with greater job security and greater control over tourism enterprises<sup>136</sup>. This lack of representation is often tied to gender-role stereotyping and cultural, religious, regulatory, or other barriers, resulting in traditional or government rules that prevent women from starting their own businesses or tourism industries from hiring women for senior positions, regardless of their qualifications<sup>137</sup>. Women's promotion to executive positions is also often hampered by what is seen as commitment and demands on their time that are not compatible with the domestic and care responsibilities ascribed to them<sup>138</sup>. Consequently, many of the activities women undertake in the tourism industry can reinforce gender roles and perpetuate existing inequalities<sup>134</sup>. Working with men and women in gender transformative activities can help foster a more equitable division of domestic and care responsibilities, protect and promote the health and well-being of their partners and children, and support women's economic empowerment.

# Gender and ocean risks

**O**cean risks are understood to be experienced across multiple dimensions (see ORRAA report on ocean risks in SIDS and LDCs and ORRAA report on the Blue Acceleration for more in-depth analyses)\*. They include climate change related effects, such as floods, cyclones, and hurricanes, as well as shifts in species distributions and declines in catches<sup>139-145</sup>. They are compounded by stressors including fisheries overexploitation, pollution, dredging, and poor land use, exacerbated by increasingly severe and complex shocks such as COVID19 or the global financial crisis in 2009, and intersect with broader existing social, economic, historic, and political vulnerabilities<sup>146-148</sup>.

Vulnerability to ocean risks is not gender neutral, with women and men experiencing the impacts from ocean risks differently. Men are more likely to be exposed to unsafe fishing conditions and loss of life at sea because of increasing storminess. However, generally, women are disproportionately impacted by disasters. Women are not *inherently* more vulnerable to oceans risks, but because of socio-economic structures, power relations, socio-cultural norms, and expectations, women enjoy more restricted freedoms and rights than men, and are subjected to social, economic, and political disadvantage<sup>149,150</sup>. Indeed, “it is not female gender itself that marks vulnerability but rather gender in a specific situation”<sup>151</sup>. Moreover, because inequalities often restrict women’s involvement and contributions to planning and decision-making, their needs, priorities, and interests are not integrated into adaptive strategies and relief and recovery services (see Box 1 - Cyclone Winston).

Yet it is important to emphasize that variation in vulnerability and the unequal impacts to ocean risks are shaped by local context. Contextual conditions can include social and gender structure, geographic location (including urban vs rural), economic setting, and political environment<sup>152</sup>. Class, wealth, ethnicity, marital status, age, religion, and other features, all contribute to social differences, including among individuals of the same gender. Thus, women will have different levels of power according to these intersecting (and often compounding) social

categorizations, leading in turn to different levels of vulnerability<sup>153</sup>. Understanding these important local nuances – realising they evolve over time – and integrating them into adaptation programming will be critical to the development of effective policy and practice<sup>152</sup>. Regardless of context however, threats to sustainable and equitable development will be greater if climate change and other shocks are substantial.

## Climate change

Climate change can significantly disrupt ocean economy sectors, including fishing and tourism. For SIDS, sea level rise, tropical cyclones, increasing air and sea surface temperatures as well as changing rainfall patterns have been identified as the main climate-related risks<sup>154-156</sup>. In Fiji, for instance, sea level has been increasing by 6 mm annually since 1993, twice the global average<sup>157</sup>. In 2016, the island country was also hit by category 5 tropical cyclone Winston, with winds peaking at over 300 km/hour and 20+ metre high storm surges, which scoured the coastline by several metres and flooded areas up to 200 m inland in the worst hit areas<sup>158</sup>.

Gender roles and relations shape how women and men are impacted by climate change. In societies where patriarchal structures are in place – i.e., that uphold men’s power over women and unequal power dynamics among men and among women – they play a role in women’s vulnerability during and in their ability to recover from natural disaster and climate change events<sup>159,160</sup>. Across several Caribbean islands, impacts from tropical storm Erika, Hurricane Maria, and cyclone Winston, were found to put a disproportionate burden on women<sup>159,161</sup>. In Bangladesh, women have been found to face higher rates of morbidity, because they were less likely to know how to swim, delayed or avoided evacuating as it violates prevalent socio-religious norms about women going out in public spaces, and for fear of facing serious abuse at cyclone shelters<sup>162-164</sup>. Across several islands in the Pacific and Caribbean, studies have also found that women are more likely to face gender-based violence in the aftermath of a disaster than men<sup>165-168</sup>. Ideas about masculinities can also be detrimental to men’s well-being. In some parts

\* Tokunaga et al (2021) ORRAA Report. <https://oceanrisk.earth>, Jouffray et al (2021) ORRAA Report. <https://oceanrisk.earth>

of Latin America, for instance, prevailing socio-cultural norms expect men to assume dominance and take more risks in dangerous situations<sup>169</sup>. It can also lead to situations where their emotional needs are not met and they turn to negative coping behaviours<sup>163</sup>. Studies have also shown that in cases where economic and domestic burdens increase after a disaster, families are more likely to take girls out of school, while if labour needs increase—for example, in agriculture—boys are more likely to be taken out of school<sup>170</sup>. In trying to understand and mitigate gender differentiated impacts of ocean risks, it is important to recognize the complex interplay of gender with other axes of social differentiation and how this can act to undermine power for certain groups of people, increasing their vulnerability to climate stress<sup>153,171</sup>.

From a fisheries perspective, natural disasters not only increase the risk of gear and fisheries-related infrastructure losses, they also differentially affect activities throughout the supply chain. Incidence of strong winds and wave surges reduce the number of days boat-based fishers (mostly men in many contexts) can go out fishing. This in turn impacts the quantity of fish available to processors and traders (mostly women in many contexts), and the income that can be derived from these catches. As many women target organisms such as crabs, cockles, urchins, or fin fish in shallow coastal or intertidal habitats (e.g., mangroves, seagrass beds) they are vulnerable to the damage from extreme weather events as well as sea level rise and coastal erosion<sup>172</sup>. Women also may simply not be able to access nearshore fishing grounds. Non-climate drivers such as pollution, coastal development, and eutrophication exacerbate the vulnerability of coastal biodiversity to climate change, in turn increasing the vulnerability of those particularly dependent on their services<sup>154,155</sup>.

Declines in fisheries production because of climate change (and other compounding stressors) can lead to the outmigration of fishers and fish-workers in search of better livelihood opportunities elsewhere. In many cases, prevailing cultural norms mean that men are more likely to use migration as an adaptation strategy, often taking fatal risks. Outmigration can provide the means to earn foreign currency of which a large proportion can be sent home. It can also expose migrant workers to dangerous journeys at sea<sup>173</sup>, a life of forced or bonded labour, or work in unsafe conditions<sup>174</sup>. Outmigration can also increase the vulnerability of the women who stay behind to poverty, exploitation, abuse, and other forms of human rights violations<sup>47,175,176</sup>. However, it can also create opportunities for women to take on different responsibilities and to transform household power dynamics, with positive implications for women's voice and agency<sup>177</sup>.

Severe weather events profoundly affect visitor arrivals and the provision of tourism products and services, especially in SIDS<sup>178</sup>. SIDS are not only more vulnerable to inundation and extreme events due to their geography and topography; they also often exhibit other key vulnerabilities such as less developed infrastructure and limited economic resources (see ORRAA report on ocean risks in SIDS and LDCs)<sup>179,180</sup>. Specific examples of the impact of climate change on the tourism sector in SIDS include declines in visitor arrivals following coral bleaching events<sup>181,182</sup>, after a hurricane strike<sup>183</sup>, or because of declines in beach quality due to significant coastal erosion<sup>120,184</sup>. On the island of Dominica, women in the indigenous Kalinago community are the primary makers of crafts predominantly sold to tourists. With hurricane Maria having destroyed approximately 40% of Dominica's hotel rooms and many of the most popular sites, visitor arrivals dropped by 88% in the first half of the following year<sup>185</sup>. Economic damages were estimated to be equivalent to up to 200% of the country's GDP after the 2017 hurricane season<sup>186</sup>. The disaster resulted in short- and medium-term losses of livelihoods, which were especially devastating for many female-headed households<sup>187</sup>.

As many fish processors, vendors of fish, or makers of crafts tend to operate outside of the formal economy, they are less likely to be eligible to receive government support following extreme weather events, including economic compensation for their losses, unemployment benefits, and replacement gear. This in turn leaves them more vulnerable to economic hardship, exacerbating existing (including gender) inequalities. A smaller income base due to declines in production or fishing opportunities may cause a decrease in consumption or depletion of savings, affecting the well-being of household members, but with gendered nuances. Women and children may suffer more food insecurity than men, and children may drop out of school when school fees can no longer be afforded<sup>188</sup>. The impacts of climate change extend beyond the ocean for coastal communities, resulting for instance in household activities typically undertaken by women taking more time and effort.

Access to information and technologies are increasingly important for individuals to manage climate related risks. Men and women from rural communities are likely to face similar challenges when it comes to inadequate technological infrastructure, including network connectivity. Yet women's access to these tools is further constrained by social and cultural bias, women's lower education levels, and women's lack of control over income to purchase such services<sup>189</sup>.

\* Tokunaga et al (2021) ORRAA Report. <https://oceanrisk.earth>

## Box 1 Impact of Cyclone Winston through a gender lens

By Sangeeta Mangubhai

Natural disasters can have devastating impacts, resulting in death and injury, as well as causing damage to or loss of coastal resource and infrastructure, including those related to fisheries such as landing sites, boats and gear. Cyclones in the Pacific bring high rainfall that can lead to severe floods, land erosion, and high sediment loads in local rivers and coastal waters, and an increase in outbreaks of waterborne bacterial disease<sup>193</sup>. In 2016, Category 5 Tropical Cyclone Winston, the strongest ever recorded in the southern hemisphere, caused losses and damages across all sectors including USD959 million in damage and losses to Fiji's productive, social and infrastructure sectors<sup>158</sup>.

Disasters are gendered events, meaning women and men experience their impacts differently and have differentiated capacities to respond. A multi-partner study led by the Wildlife Conservation Society (WCS) looked at the impact of Cyclone Winston on fisheries-dependent communities through a gender lens to help guide relief and recovery efforts<sup>194</sup>. Results from this work highlight that women were actively engaged in fisheries, and were similarly impacted by losses and damages to fishing gear to men – even if some gear types differed between genders. Unfortunately, aid and assistance provided in the aftermath of Winston to replace fishing gear was not accompanied by a clear system to ensure women had equal access to gear as men (pers. obs.). In many instances the replacement gear from the government was given to a male leader on the assumption that he would distribute it fairly between different fishers. By contrast, gender differentiated patterns of fishing may have increased the ability of women to respond following Cyclone Winston. Women fishers in Fiji engage in a wider diversity of fisheries – such as gleaning or harvesting invertebrates and algal resources – across a wider diversity of habitats than men<sup>81</sup>. Women are therefore able to shift between fisheries, including in the aftermath of

disasters, to maintain the food security of their families<sup>194</sup>. In the case of women fishers from Bua Province, they were able to capitalize on increases in prices for mud crabs, and sold these along the roadside to bring in much needed income to support their families<sup>195</sup>.

In the Pacific region, cyclone intensity and associated levels of rainfall have been projected to rise under climate change<sup>196</sup>. The multi-partner effort, led by WCS, highlights the importance of ensuring gender dimensions of fisheries are considered in understanding the impacts of natural disasters and responding to these in a way that women's needs and priorities are heard. Doing so will support an appropriately nuanced understanding of the range of impacts, and provision of equitable aid distribution mechanisms post-disaster as well as long-term food security and sustainable livelihoods<sup>194</sup>.



Mud crab fisher woman from Bua Province in Fiji. Photo: VCreative

Gender equality is one of the key guiding elements of the United Nations Framework Convention on Climate Change<sup>190,191</sup>. Yet fisheries climate change policies and adaptation plans rarely include an explicit focus on gender<sup>192</sup>. Available policies generally lack clear strategies and concrete actions on how to empower women and reduce underlying

inequalities, and how to ensure the needs and priorities of both men and women are considered in response plans to ocean risks as well as sustainable development planning. Critically, it is important that local women's voices shape adaptation planning, so that their values, knowledge, and interests are integrated and reflected in policies<sup>167</sup>.



## Market access and trade

Exposure to external markets, through trade, can make positive contributions to the food and livelihood security options of women and girls, yet it can also undermine their well-being. Growth can put pressure on natural and economic resources, with development and poor regulation, for instance, resulting in environmental impacts that disproportionately affect women's livelihoods, their well-being, and that of their communities<sup>103,197,198</sup>. External markets can lead to standardization and optimization, often resulting in a shift away from SSFs towards bulk purchasing and wholesale trade of fish, and more consolidated processing, often to the detriment of traditional traders and buyers, who are typically women<sup>41,199</sup>. Such shifts can be associated with less availability of fish for local consumption, and changes in prices, which may limit vulnerable communities' ability to purchase or barter fish<sup>200,201</sup>. It can also reduce the availability of lower value fish species, which are often imported while high value species are being exported. Small pelagic species off the coast of Senegal, Mauritania and the Gambia, for example, have increasingly been targeted for fish meal and fish oil production for export<sup>202</sup>. The target species are considered overexploited, which poses a "serious threat to food security in the subregion"<sup>203</sup>. Large scale processing of small pelagic fish is diverting fish away from small-scale fishermen and predominantly women processors, threatening families' and communities' livelihoods, as well as their food and nutrition security<sup>204</sup>.

In some instances, lucrative openings generated through trade, or regulations to manage trade, have also displaced women from their fishing grounds and the supply chain to the benefit of men<sup>198</sup>. In coastal East Africa, for instance, several generations of women have traditionally fished octopus in intertidal areas with catches providing an important source of household nutrition and income<sup>205</sup>. Over the past decade, market demand for octopus for export and as food for tourists has increased<sup>206-208</sup>. With a rise in the resource's profitability, men have increasingly been targeting octopus to increase their income. With access to boats and equipment, and given their ability to free dive, men can target larger octopus offshore, selling their catches in the cities, at restaurants, and resorts catering to tourists. Women tend to be more restricted in their fishing activities due to prevalent socio-cultural norms, religious practices, and traditional values. These norms not only limit women's ability to access fishing sites, but they also restrict their transport options during the harvesting process and to points of sale<sup>209</sup>. Lack of financial capital and low levels of literacy further constrain women's ability to trade octopus<sup>210</sup>. Consequently, the increase in demand has largely benefited men<sup>199,210</sup>. In Palau, a similar story has

unfolded around sea cucumbers. Collection of reef invertebrates at low tide is central to many women's lives, providing households with an important source of food, nutrition, and income as well as an opportunity to connect with other women and maintain social networks<sup>48</sup>. Sea cucumbers are one of the foods traditionally sourced by women from nearshore areas<sup>211</sup>. Palau and other Pacific Island nations have also been producing *bêche-de-mer* for export for over a century; however concerns over the social-ecological implications of the fishery led to harvest for export being banned in 1994. Strong demand from Asia associated with high prices<sup>212</sup> led to the re-opening of fisheries to export from Palau for a single six-months window. This led to a harvest rush, with 1.1 million kilograms of sea cucumbers worth USD1.3 million being exported from Palau<sup>213</sup> and to men displacing women in the sea cucumber fishery as they pivoted from targeting fish to targeting valuable sea cucumbers<sup>103</sup>. It also led to a collapse in nearshore sea cucumber populations<sup>214</sup>, resulting in a loss of culturally important livelihoods for women gleaners.

## COVID-19

The COVID-19 pandemic has substantially disrupted fisheries supply chains and devastated much of the tourism industry<sup>215-218</sup>. SIDS and coastal LDCs have been differentially impacted by the pandemic, and while SIDS have in many cases succeeded in containing the health emergency, both nation groups are faced with severe economic impacts for many years to come. Tourism-dependent SIDS are expected to see their GDP shrink by 16% or more, making the current crisis the worst in recorded history<sup>218,219</sup>. Between April and June 2020, Fiji officially earned FJD4.2 million (1 USD ~ 2 FJD (2021)) from tourism, FJD524.6 million less than the previous year<sup>220</sup>. As tourism is also one of the key sectors of the economy of most coastal LDCs, impacts are likely to be comparable. Estimates suggest that SIDS' economies will need approximately USD5.5 billion to mitigate the effects of the pandemic<sup>221</sup>. Studies also show that it may take SIDS and coastal LDCs such as Angola, Liberia, Sierra Leone, and Somalia, four or more years to be able to return to the projected path prior to the crisis<sup>222</sup>, highlighting the risk of widening global inequalities in the wake of the pandemic<sup>221</sup>. Across SIDS and LDCs, surveys suggest that millions of people have been and continue to be pushed into extreme poverty and chronic hunger because of falling income levels, declines in remittances, widespread job losses, and widening fiscal deficits<sup>223</sup>. LDCs are expected to register their worst economic performance in 30 years, leading to an increase of 3 percentage points – from 32 to 35% – in their average poverty headcount ratio according to the USD1.90 per day poverty line<sup>224</sup>.

## Box 2 ABALOBI – COVID as an opportunity to strengthen real transformation in small-scale fisheries

By Serge Raemaekers

ABALOBI\* (meaning “someone who fishes” in the isiXhosa language) is a non-profit social enterprise with a mobile and cloud-based platform that is co-designed with small-scale women and men fishers to capture data about their work via a mobile app. In doing so, the company is committed to promote sustainable and equitable small-scale fisheries through the development of socially just and gender-inclusive technologies that not only recognise and valorise women’s work in the sector, but also emphasise indigenous heritage and local ecological knowledge. Created and initially implemented in South Africa, the company’s approach, philosophy, and associated app are gaining growing interest from fishing communities across the globe – from Chile and Italy to Palau and Mauritius.

Originally developed to connect fisher groups directly to restaurants, the company responded to restaurant closures because of the COVID-19 pandemic with creativity and adaptability. Following government lockdown restrictions in South Africa, ABALOBI was able to quickly pivot and develop a community-supported fishery that enables the public to purchase traceable and local fish via its mobile platform. This shift, with benefits that will extend beyond the pandemic, has protected fisheries actors’ livelihoods, and raised awareness about the important role played by small-scale fisheries and local markets.

By capturing their profile and associated trade information regardless of position within the supply chain, the app helps fishers build a financial identity, and provide proof of income. This system has played an important role in supporting and empowering women as the platform recognizes their work throughout the supply chain by enabling them to track their work and expenses, the value-added products they develop, and by connecting them to customers. The system can also be used by small-scale actors – including women – to access financial services and provide relevant documentation to access government support (including COVID-related).

ABALOBI has recently struck a partnership with Future of Fish\*\* – an international non-profit that “that supports small-scale fisheries and communities impacted by overfishing by



ABALOBI strives to ensure Information and communications technology solutions are accessible to women in fisheries and adequately recognise and document their work. Photo: [www.abalobi.org](http://www.abalobi.org).

build[ing] collaborations of stakeholders to co-design and implement scalable solutions and resources appropriate for both grassroots and broader systemic impact”. This collaboration presents an opportunity to combine strengths across supply chain technology and innovation, creative financing, systems design, fisheries science, and community engagement to support fishers to achieve social, environmental, and economic sustainability. The organizations’ complementary approaches are currently being applied to a project in Chile, where fishers can sell their fully traceable products directly to consumers through an online marketplace. The project was initially set up as a constructive reactionary measure to COVID, where the online platform would provide a safe, reliable, and fair mechanism for sales. However, this fisher-driven, equitable, transparent, and traceable market system is promising as a longer-term approach to bolstering resilience of supply chains and local communities, while also contributing to gender equality.

Sources: ABALOBI<sup>235</sup> and Future of Fish<sup>236</sup>

\* <http://www.abalobi.org/>

\*\* <https://www.futureoffish.org/>

This is likely to further widen gender gaps and inequalities, including in education <sup>223</sup>, as the gender dimension intersects with other axes of structural marginalization.

Early in 2020, SSFs' catch volumes and value declined significantly as a result of government restrictions, seafood market closures, decreases in seafood trade, and price drops (see Box 2 - ABALOB). These declines resulted in considerable losses for small scale fishers, processors, and associated communities <sup>217,225,226</sup>. While the crisis highlighted the important role women play in economic and food security through the processing and trade of fish (salted and/or dried), these income-generating opportunities were severely affected by restrictions on mobility <sup>227</sup>.

Early assessments of the pandemic have found that while men seem to be more susceptible to the virus, women have borne the brunt of the pandemic's socio-economic impact <sup>228</sup>. Across fisheries and tourism industries, women tend to hold low-skilled, casual, seasonal, and informal jobs and are typically the first to be laid off. In Fiji, more than half of informal jobs lost due to the decline in tourism were women working in the service industry <sup>220</sup>. In the Solomon Islands, women are responsible for upwards of 90% of the USD10-16 million marketing activity from the main open-air market in the capital, as both bulk buyers and retailers <sup>229</sup>, with many stalls, including those where handicrafts are sold, partially or fully catering to tourists. For approximately 80% of market vendors it represents their only source of income <sup>229</sup>. While most countries introduced some forms of fiscal stimulus packages, welfare provision, and social cash transfers in response to the pandemic, absence of formal documentation makes it difficult for informal workers to prove income loss, limiting their eligibility for social protection and economic benefits <sup>217,220,230</sup>.

The COVID-19 crisis also has increased women's burden of unpaid care and household work and has seen women face increased risks of violence, exploitation, abuse, or harassment. Many women have seen their families increasingly reliant on them as caregivers because of school closures, intensified care needs of elderly and ill family members, and overwhelmed health services <sup>231</sup>. In addition to increased workloads, these responsibilities may also prevent women from collecting food for their families or earning income <sup>232</sup>. Given the few assets and lack of financial security of fisher households, this may further limit their capacity to deal with the challenges of the crisis. Increasing insecurity, confinement measures and family strains during the pandemic have also led to a significant rise in all forms of violence, particularly domestic violence, against women and girls <sup>233</sup>, a pattern consistent with that observed after other shocks <sup>234</sup>. In Fiji, the Ministry of Women recorded a tenfold increase in cases of assault against women between March and April 2020 <sup>220</sup>. Significant increases in rates of gender-based violence were also reported in Madagascar <sup>166</sup>.

While the pandemic and responses to it have exposed and exacerbated vulnerabilities, it has also showcased coastal communities' resilience. In several instances networks were mobilized to share information, monitor impacts, create local market opportunities, and promote the revival of community values such as mutuality and reciprocity through local food sharing <sup>215,217,237</sup>. Communities in Fiji, Samoa, the Solomon Islands, and Palau saw a revitalisation of traditional exchange relationships and a revival of bartering. The Facebook page Barter for Better Fiji set up by Marlene Dutta in response to the crisis in April 2020 has amassed over 190,000 members – or 20% of the country's population <sup>238</sup>. These provide examples of how communities are self-organizing to respond to the pandemic and point to ways that resilience can be enhanced and supported to better respond to a wide range of shocks.

# Gender equality and building resilience to ocean risks

**R**esilience is the capacity to anticipate, absorb, cope with, and adjust to changing social or environmental conditions while retaining desired structures and functioning of systems to persist<sup>1,239</sup>. It also includes the ability to adapt and transform in the face of crises, creating space for innovation and take advantage of new opportunities<sup>239–241</sup>. The social factors that enable resilience to current, perceived, or expected socio-ecological change<sup>3</sup> are frequently referred to as adaptive capacity. Just as risks associated with ocean and environmental change can be deeply differentiated across society, so can adaptive capacity.

Approaches taken to strengthen resilience to ocean risks need to consciously address social inequalities. Failure to be inclusive can exacerbate inequalities, while also constraining our perception of change and limiting adaptive options and behaviour. Women hold valuable traditional knowledge that is often complementary to men's experiences in adapting to environmental change. In Kosrae and Chuuk (Federated States of Micronesia), for instance, during droughts, women rely on drying and fermenting breadfruit to support food security, while in Pohnpei women's knowledge of where traditional wells were located enabled them to find potable water<sup>167</sup>. Integrating their input and enhancing their participation in decision making supports more robust and equitable programs and policies for building community resilience<sup>167</sup>. Women must be recognized as key stakeholders, not (only) as beneficiaries; be actively engaged in decision-making and governance arrangements (being mindful not to add to already overburdened responsibilities); and promoted as leaders. Acknowledging the role women play in disaster preparedness, response, and recovery efforts, the government of Vietnam has issued a decree that gives the Women's Union

an official space in disaster-related decision-making bodies<sup>242</sup>. In Bangladesh, Ikeda<sup>243</sup> shows that women's involvement in community-based disaster risk management is yielding transformative change and leading to wider support among both men and women for addressing women's concerns in disaster risk management. If effective adaptation is to be achieved, strategies must integrate women's

knowledge, skills, and values, as well as respond to their needs and satisfy their strategic interests. Empowering women is critical to resilience building of families, communities, and nations in response to ocean risks<sup>244</sup>.

It is important to recognize that gender equality and empowerment is not only about women. Men play an integral role in contesting and adapting gender roles and responsibilities. A narrow focus on women could add to their workloads and may

not contribute to lasting changes to participation in decision-making or access to benefits. Such gender accommodative strategies may in fact further entrench gender inequalities. Through men's active engagement in the transformation of gender norms, they can be powerful champions for gender equality, which benefits society broadly. In Fiji, for instance, male village leaders are critical for community life and decision-making. In that capacity they also have the power to ask that women's needs and interests are recognized, their knowledge and skills integrated into approaches for community adaptation, and for women's rights (as human rights) to be upheld<sup>97</sup>. Norms and expressions of masculinity that "demand conformity to silence and suppression of vulnerable emotions, enactments of power, invincibility, and risk-taking"<sup>245</sup> can also constrain and be harmful to men<sup>115,246</sup>.

**“In very real ways, climate change thwarts the rights and opportunities of women and girls. These realities make gender-responsive strategies for climate resilience and adaptation critical. They make centering the rights, voices, and leadership of women and girls a necessity.”**

**– Katharine Wilkinson,**  
*Vice President at Project Drawdown*



### Box 3 Barotse fisheries, Zambia – combining technical and social interventions for success

Adapted from case study presented in FAO and CARE <sup>251</sup>

Fisheries contribute an important source of food and income to communities of the Barotse flood plain in Zambia. However, these fisheries have high post-harvest losses due to spoilage, damage, or being unwanted bycatch. Research shows women processors – who dominate this segment of the supply chain – tend to experience higher post-harvest losses and get lower returns on their financial investments than men. Barriers contributing to these disparities include less access to government extension services as well as technical and business training opportunities; lack of fishing assets; difficulties in transport; and less available time due to domestic care and responsibilities.

From 2014 to 2017, WorldFish, in partnership with the Department of Fisheries, University of Zambia and private sector partner, *NoNo Enterprises*, designed and implemented a project targeted at improving fish processing technologies. The project simultaneously sought to improve livelihoods and gender relations in several rural fishing communities. Specifically, the project introduced four improved fish processing technologies – salting, ice, improved smoking kilns, and solar tent dryers. The project also provided training for Department of Fisheries extension officers to facilitate the piloting of these new technologies with value chain actors. In developing technical and social solutions, particular attention was paid to women’s needs so they could fully benefit from the new technologies. The new technologies were tested over two fishing seasons applying a participatory action research (PAR) approach, enabling both men and women to adapt means to their own needs and overcome challenges through action planning, learning-by-doing,

and reflection. These activities were also complemented by gender-transformative drama skits developed in partnership with the Zambia Centre for Communication Programmes. The skits encouraged men and women to engage in dialogue in an informal setting and critically reflect on existing social and gender norms, associated power relations, and how these may impact women.

The improved technologies reduced fisheries losses and substantially benefited women by reducing their time and work burdens. For those involved in skits, attitudes about gender equality were found to improve over the course of the project. Men showed a shift in mindsets and behaviours around ownership of fishing and processing assets. Women reported greater involvement in fishing activities and decisions about income generated from fish processing.

While this example is focused on freshwater fisheries in Zambia, many of the lessons learned and successes registered through implemented activities are also applicable to coastal fisheries and other contexts.



A fish trader collects her dried fish for sale in a bafa (tin basin used to sell fish in) in Mukakani fishing camp, Mongu district, Zambia. Photo: Olek Kaminski/WorldFish

Gender transformative approaches engage women and men to understand and dismantle constraining norms and power structures that do not serve society, and to redress inequalities in terms of roles, opportunities, and agency<sup>247,248</sup>. To be effective the gender-specific programming components also need to be monitored over time and re-evaluated if they are not achieving expected results. Means of engagement should be locally-led, place-based, culturally appropriate and sensitive (i.e., ensuring tools and approaches are adequately contextualized)<sup>249</sup>. Examples include the use of theatrical skits and/or images or icons. A comparative assessment of gender accommodative versus gender transformative approaches in inland fisheries in Zambia found that the latter led to a demonstrable increase in gender equal attitude scores and improvement in women's empowerment outcomes (see Box 3 - Barotse fisheries). While external agencies can support local efforts, they cannot and should not impose change; sustainable change can only be brought about by local individuals and groups<sup>250</sup>.

While gender is a critical consideration, understanding how gender intersects with other axes of social differentiation, is key to transformation efforts<sup>252</sup>. However, few studies to date, particularly in the marine realm, have used an intersectional lens to explore variation in people's adaptation experiences<sup>103</sup>. For instance, a recent study of communities in Madagascar and Kenya explored the relationship between a composite index of social adaptive capacity and socio-economic characteristics (including gender, age, level of education, and market access), hypothesised to play a role in adaptive capacity<sup>253</sup>. Results highlighted that market accessibility and education are clear determinants of adaptive capacity – an important finding. However, the study did not explicitly consider interactions across socio-economic characteristics (e.g., young women versus older women). Ensuring intersecting identities are better understood and considered in the development of resilience building approaches is critical to avoid further marginalization of certain groups of people and to build resilience in a more sustainable and equitable manner.

In the following sections we provide some higher resolution discussion and reflections on how to build resilience and adaptive capacity across different levels of social organisation.

## **Adaptive capacity at the individual, household, and community level**

At the individual, household, and community level, **adaptive capacity** can be considered and strengthened across five domains: assets (e.g., fishing gear, credit, and savings); flexibility (e.g., alternative

livelihood opportunities, switching between gears and species); organization (e.g., social networks, collaboration with diversity of partners); learning; and agency<sup>254</sup>. All these domains are influenced by social and gender differentiation.

Interventions to support adaptive capacity should consider interactions across the five domains<sup>33,51,254,255</sup>. Across three sites in the Solomon Islands, whether individuals communicated with external organisations and the quality of that relationship influenced the degree to which they had access to information and were willing and able to tolerate risk<sup>33</sup>. This in turn strongly influenced learning and the capacity to innovate (see also Box 4 - Sea Power). Community governance structures also differentially shaped women and men's ability to participate and contribute to decision making. Moreover, development projects often support flexibility in the form of alternative livelihoods by building agency (e.g., handicraft skills or financial literacy).

**“Women all over the world are ... on the frontlines of the fall-out from climate change and therefore on the forefront of climate action. What we — the international community — need to do is talk to them, learn from them and support them in scaling up what they know works best in their communities.”**

**– Natalie Samarasinghe,**  
Executive Director,  
United Nations Association UK

Building, delivering, and/or increasing access to **assets** has been the focus of many development interventions. Assets are clearly important for supporting livelihoods and maintaining well-being<sup>33,256</sup> and have been identified by fisherfolk as a key determinant of their vulnerability<sup>257</sup>. Several case studies have highlighted that because of social norms, women often face constraints in accessing assets. In Fiji, for instance, local indigenous *i-Taukei* women had less access to fishing gear, education, information, and training than men<sup>81</sup> and also received less support from the government and local NGOs<sup>258</sup>.

## **Box 4** Sea PoWer: an innovative seaweed farming technology to empower women

By Cécile Brugère

Sea PoWer is an initiative which aims to achieve, in partnership with women seaweed producers, an adapted seaweed farming technology – tubular nets – that transforms their lives, supports their aspirations, farming and livelihoods needs, and helps them adapt to the challenges of climate change. Sea PoWer is implemented in Zanzibar, where seaweed farming is a small-scale but important livelihood activity carried out at 80% by women. It was developed in response to (i) the observed declines in productivity caused by high water temperatures and salinity variations due to climate change, which lead to disease ("ice-ice"), epiphytes, and prevent the growth of the high-value *Cottonii* seaweed species, and to (ii) health and occupational safety concerns for producers, associated with their traditional production technique using pegs and ropes in shallow waters which, in addition to poor working conditions, does not yield good quality harvests.

To turn the situation around, Sea PoWer has adopted a transformative approach combining the introduction of an innovative way of farming seaweed in deeper water using tubular nets, with empowerment based on a deep engagement with the women producers. At the core of Sea PoWer is the belief that a technological innovation, co-designed with women and as a nature-based solution to climate and livelihood challenges, can also have the power to transform gender relations, improve livelihoods, and reconnect women and their communities with the sea.

Tubular nets do have challenges. They need to be placed in deeper waters, and thus, require swimming or boat handling skills that most women do not have. To overcome this challenge, along with the restrictions on women's movement imposed by cultural and gender norms, Sea PoWer built women's capacity, imparting them both technical and soft skills which grew women's self-awareness, agency and social capital with fellow producers. It also brought in men and other community members in the piloting of the tubular nets and supported women producers' engagement with seaweed buyers and scientists, enabling the co-design of a seaweed farming technology adapted to their needs and strengthening their capacity to cope with the vagaries of climate change on seaweed

production. The growth trials also demonstrated that seaweed productivity from tubular nets in deeper water is higher than with the traditional off-bottom technique in shallow areas and that they reduced the harshness of women's working conditions.

Women's confidence in using the tubular nets innovation, in working together more closely and in asserting themselves have grown as a result, alongside their capacity to earn a more stable income from regular seaweed harvests.

### **Lessons learnt**

Multi-pronged approaches to climate change adaptation, which combine innovation, capacity building, and empowerment in equal measures, hold much potential. Sea PoWer highlights how a nature-based solution such as seaweed farming, when designed not to simply increase productivity but also support women's emancipation, can simultaneously enhance adaptation to climate challenges and reconnect producers with the sea as a prime source of inspiration and resilient livelihoods. While this example focuses on seaweed farming, the lessons that can be leveraged in terms of innovation that also promotes gender equality are applicable to other ocean sectors.



Women seaweed farmers in Zanzibar, Tanzania. Photo: Cécile Brugère



Improved economic conditions will help women meet their basic needs and the needs of their families. In Madagascar, Village Savings and Loan Associations (VSLAs) and Saving and Internal Lending Communities (SILCs) have been important in advancing women's economic empowerment, especially by providing access to informal credit and capital. Similarly, in Sierra Leone, local microfinance groups<sup>259</sup>, where participants contribute a weekly amount to a communal rotating credit fund that can be accessed by participants in turn or when needed, don't only provide financial capital but also perform a social role by enhancing women's local support networks<sup>76</sup>. Access to finance can also improve women's access to health, education, and other services. Access to education represents an important opportunity for women to build self-esteem, to access alternative livelihood opportunities (flexibility), and can facilitate a greater role in decision-making (agency)<sup>253</sup>. To help fishers and traders build a financial identity recognised by governments, authorities should support improvements to (national fisher) registration systems that are inclusive of roles throughout the value chain. This would ensure that small-scale fishers, particularly women, can build a formal financial identity with the possibility of social security and insurance benefits provision<sup>71</sup>, as well as access to other financial services offered by private sector providers<sup>260</sup> (see also Box 2 - ABALOB).

However, there are also risks to increasing assets. The study in the Solomon Islands highlighted that more financial capital does not always lead to improvements in well-being or adaptive capacity<sup>33</sup>. This conclusion was mirrored by findings from Dominica, where more affluent citizens were less able to cope mentally with the impacts of hurricane Maria<sup>261</sup>, or Mozambique, where fishers with more assets had less flexibility to change livelihoods<sup>262</sup>. Similarly, in an assessment of 22 small-scale fisheries, Green et al.<sup>255</sup> found that access to financial assets was not as important at the household level as it was at the community scale, with diversity and flexibility emerging as the most important factors for adaptive capacity overall.

Access to and use of information and communication technologies (ICTs) are increasingly seen as important for adaptive capacity and resilience. However, while capabilities and uptake are expanding, access to many ICTs remains restricted to a minority of the population in LDCs and gender divides in internet access are wide. In 2019, the gender gap in LDCs between men and women using the internet was approximately 43%, compared to 23% across low and middle-income countries globally<sup>263</sup>. While gender-disaggregated studies on the impacts of digital technologies in fisheries are scarce, studies in agriculture show

that women can benefit substantially from digital solutions (see also Box 2 - ABALOB), especially where socio-cultural norms constrain their mobility and access to associations, information, and knowledge exchange<sup>264</sup>. However, to be able to access such platforms, women must first have access to electricity, own a phone, and be able to read and use it. All of these represent significant barriers to women in several SIDS and coastal LDCs, particularly in rural areas. For example, the mobile phone gender gap in rural Senegal lies at 32%, compared to 11% in urban areas<sup>265</sup>. In facilitating women's access to digital applications and solutions, approaches should consider gender differentiated local knowledge, culture, relations, and capacities<sup>266</sup>.

**Flexibility** can increase adaptive capacity to shocks and change through a diversification of opportunities in support of income generation and food provisioning. In Zanzibar, male traders have more marketing options for their products as they are more likely to have access to private modes of transportations, and to a variety of customers, including hotels<sup>209</sup>. They also generate more income than women as they can sell their products at a higher price in town while having access to lower prices at the rural landing sites<sup>209</sup>.

Alternative livelihoods at the individual level can promote economic empowerment and may in part be shaped through interactions with other adaptive capacity dimensions (e.g., access to education<sup>254,267</sup>) and are often constrained by gender norms. At the household and community level, women's differentiated role in fisheries can contribute to adaptive capacity through the provisioning of additional and diversified food and income<sup>268</sup> (see also Box 1 - Cyclone Winston). However, women's agency and flexibility to pursue new livelihood opportunities can be constrained by individual perceptions of risk as well as local norms limiting their physical mobility and decision-making power<sup>269</sup>. As women often pursue a variety of livelihood opportunities in addition to existing household and family duties<sup>270,271</sup>, these may add to women's everyday time and labour burdens. Thus, while alternative livelihoods may confer adaptive capacity in the event of a shock, transformative approaches must also identify trade-offs with overall well-being.

Proximity to urban centers can support individual and community flexibility, agency, and social capital through access to markets and salaried income opportunities. The extent to which this potential is maximized, especially in response to a shock, will depend in part on the type of shock experienced, the way it affects local social-ecological systems and the degree to which women's livelihood opportunities are



truly diversified. Recent research highlights the role of marketplaces and vendor collectives as meaningful entry points for building adaptive capacity, particularly since these are often significant spaces for women's livelihoods<sup>272</sup>. In the Pacific region alone 75-90% of all market vendors are women<sup>273</sup>. Where livelihood opportunities depend on resource extraction (e.g., selling invertebrates and fin fish to tourists<sup>274</sup>) inclusive and equitable management measures will need to accompany sustainable use to avoid resource overexploitation and associated negative social-ecological consequences<sup>275</sup>.

**Social organisation** can be instrumental in supporting collective adaptation to social-ecological change. As such, women-led cooperatives or collectives can represent formidable mechanisms to empower women by boosting their self-confidence and level of autonomy, as well as strengthening their collective will, bargaining power, and action. Opportunities facilitated by such social groups include: a space for women to support one another; access to finance, insurance, and markets; linkages to women-owned businesses for mentoring purposes; development of leadership and entrepreneurship skills; as well as access to financial literacy, business best practices, and other skills training<sup>276,277</sup>. From an intersectional perspective, efforts should ensure that women from groups that are often marginalized from public participation, such as indigenous women and their associated knowledges, are included<sup>109</sup>. Promoting effective participation and communication, supporting cohesion among members<sup>278</sup>, and ensuring that opportunities afforded through such groups result in greater decision-making opportunities for women are also key to the effectiveness of these initiatives in promoting collective action.

The Village Savings and Loan Associations (VSLAs) set up by CARE across several LDCs provide individuals of a small self-managed group the opportunity to save regularly, access loans, and gain emergency support. The overwhelming majority of CARE-supported VSLAs participants are women. The organisation's current vision is to reach 65 million people, including 50 million women and girls, by 2030<sup>279</sup>. To date VSLAs have shown success in building women's individual and collective capacity and confidence to accumulate productive assets, increase adaptive knowledge, strengthen their political influence, and build resilience in the face of adversity<sup>279</sup>. Through engagement with governments and corporations as scaling partners, efforts are also underway to embed VSLAs in policies and supply chains, respectively. In Côte d'Ivoire, for instance, a partnership between Mars and CARE saw the formation of VSLAs across the supply chain. Since it began in 2015, the partners have supported 6,827 women and 1,391 men to form 314 VSLAs. These

**Despite the significant role that women play, they are facing a lot of challenges. One critical challenge is the lack of organisation. [Organisations such as Tanzania Women Fish Workers Association] can bring women together to share ideas, share experiences and together unify their voices to air their issues and present them to decision-makers.**

**– Editrudith Lukanga,**  
*founder and executive director of the Environmental Management and Economic Development Organization (EMEDO)*

groups save on average USD287,000 every 9 to 12 months<sup>279</sup>. Another example is provided by the Women Business Resource Centre in Port Moresby, Papua New Guinea, an entrepreneurial hub that assists women in establishing and strengthening their businesses<sup>280</sup>. Since its inception in 2016, it has reached 3,668 women and helped them find relevant training opportunities (with childcare services during classes) to connect with other initiatives that support women's economic empowerment, to seek capital, and to develop relevant leadership skills<sup>280</sup>. The TRY Oyster Women's Association, which operates in 15 villages in the Greater Banjul areas of the Gambia, is a strong example of how cooperatives can be successful at empowering women across the fisheries value chain while promoting responsible fisheries. Key to its success is access to microfinance opportunities as well as appropriate equipment and technologies; setting higher standards for the processing and marketing of value-added products; reforestation of mangrove forests and environmental awareness building; and provision of policy guidance for decision makers<sup>110</sup>.

At a broader level, opportunities for different groups across countries and regions to come together and for women to share their voices, knowledge, and experiences should be encouraged<sup>167</sup>. Studies have shown the benefits of fisher knowledge exchange programs, highlighting their effectiveness for sharing fisheries challenges and solutions; empowering fisherfolk; creating communities of practice and building social capital; and developing solutions<sup>281,282</sup>.

**[T]o be empowered women must not only have equal capabilities (such as education and health) and equal access to resources and opportunities, they must also have the agency to use those rights, capabilities, resources and opportunities to make strategic choices and decisions (such as are provided through leadership opportunities and participation in political institutions). And to exercise agency, women must live without the fear of coercion and violence.**

– Millennium Project Task Force on Education and Gender Equality, 2005, *'Taking action: achieving gender equality and empowering women'*

## National level

National-level policies and development programs aimed at supporting adaptive capacity and strengthening resilience must integrate gender considerations in their development or risk furthering gender inequalities. Several countries have made strides towards integrating gender equality across important areas, including the creation of supportive legal and policy frameworks. In the Pacific region, several countries, including Cook Islands, Papua New Guinea, Federated States of Micronesia, and Solomon Islands, have national women or gender policies in place and government structures assigned to mainstream gender equality and promote women's advancement<sup>250</sup>. In the Caribbean, the recent "The Technical Support to Mainstreaming Gender Equality in the Fisheries of the Caribbean" that contributed to the gender mainstreaming initiative of the Caribbean Regional Fisheries Mechanism\*, drafted five national fisheries and gender action plans and developed a regional Gender Analysis, Strategy, and Action Plan (Gender ASAP) to facilitate traction over the next five years<sup>283-285</sup>.

\* Which falls under the Caribbean and North Brazil Shelf Large Marine Ecosystem (CLME+) Sub-project on ecosystem approach to fisheries (EAF) for Flyingfish

Gaps remain with regards to the accountability of SIDS and LDCs on delivering and measuring gender equality. For example, the Organisation for Economic Co-operation and Development (OECD)'s 2019 Social Institutions and Gender Index (SIGI) ranks 13 out of the 19 assessed SIDS and coastal LDC countries, as "very high", "high" or "medium" in institutional gender-based discrimination. Its scores are based on measures of discrimination within the family, restricted physical integrity, limited access to productive and financial resources, and curtailed civil liberties. The Dominican Republic – one of only 5 SIDS represented in the 19 countries for which data was available – was the only country ranked as "very low", with Cambodia, Jamaica, Mozambique, Singapore and Trinidad and Tobago categorised as "low". Given that the SIGI is one of the official data sources for monitoring SDG5.1.1 ("Whether or not legal frameworks are in place to promote, enforce and monitor gender equality and women's empowerment"), more comprehensive coverage of SIDS and LDCs is crucial to the UN's Sustainable Development Agenda.

While several policies mention gender, progress on achieving, and accountability for delivering and measuring gender equitable outcomes is lagging. This is partly the result of social, cultural and economic barriers, including harmful social norms and exclusionary practices. Across Oceania, the prevalence of women having experienced gender-based violence is dramatically above the global average (35%), reaching 79% in Tonga, 76% in Samoa, 73% in Kiribati, and 72% in Fiji and Vanuatu<sup>286</sup>. Limited technical capacity in mainstreaming gender, insufficient budget allocations, and lack of political will further constrain the ability of governments to promote gender equality<sup>287,288</sup>. There is still a considerable lack of focus on gender-related issues in climate negotiations as well as climate and fisheries mechanisms, instruments, and measures. And women are still underrepresented in decision making and leadership at all levels of governance. At 8%, the Pacific region has one the lowest levels of female parliamentarians (across all sectors)<sup>289</sup>, compared to an average of 24% across developing countries and 26% globally<sup>290</sup>. There is variation across coastal LDCs/SIDS, however: in Cuba, 53% of parliamentary seats are held by women; and in Senegal, a new law ushered in in 2010 requiring gender parity for candidates for elected positions led to a rise in the number of women representatives from 23% to 43% in the National Assembly in 2012, and from 16% to 47% in local government in the 2014 local election<sup>291</sup>. However, religious forces have been trying to limit the implementation of parity. Out of the 62 countries included in this study\*\*, the Federated States of Micronesia is the only country

\*\* See table in supplementary material at [www.oceanrisk.earth](http://www.oceanrisk.earth).

**Box 5****Frameworks that promote gender equality and women's empowerment for sustainable development in the context of change**

**Agenda 2030** and its 17 Sustainable Development Goals (SDGs) was adopted in 2015 by all countries of the United Nations with a vision "to achieve a better and more sustainable future for all". It recognises the importance of advancing gender equality to achieve improvements in health, education, human rights, economic growth and climate resilience. The importance of empowering women and girls is mentioned in its preamble, with SDG5 dedicated specifically to equality and the empowerment of women and girls. Gender-specific targets are included across other goals, with a notable omission within SDG14 (Life Below Water).

**The Beijing Declaration and Platform for Action (BPfA)** was adopted by 189 member states at the Fourth World Conference on Women on 15 September 1995 – which also unanimously adopted Hillary Clinton's phrase "women's rights are human rights". It is still considered one of the most progressive frameworks for advancing gender equality to date. The importance of gender equality in fisheries and links between gender equality and climate change are specifically noted under several of the 12 areas it identifies as of critical concern. Many countries listed as SIDS and/or coastal LDCs (including Belize, Cook Islands, Cuba, Dominica, Eritrea, Guinea-Bissau, Haiti, Nauru, Niue, Papua New Guinea, St Vincent and the Grenadines, Singapore, and Yemen) did not submit national reviews – comprehensive assessments States are called upon to document the progress made and challenges encountered in the implementation of the BPfA – for the 25th anniversary and fifth review of the BPfA.

**The Convention on the Elimination of all Forms of Discrimination Against Women (CEDAW)** reaffirms non-discrimination as a key human rights principle and is often referred to as the international bill of rights for women. It was adopted in 1979 by the UN General Assembly and entered into force as an international treaty on 3 September 1981, after the 20<sup>th</sup> country had ratified it. Parties that have ratified CEDAW are legally obligated to take appropriate measures to eliminate discrimination against women and advance gender equality. The CEDAW Committee – a group responsible for reviewing the progress of implementing the Convention

– recently urged States to ensure rural development, agricultural and water policies, including for fisheries, are gender-responsive and adequately budgeted<sup>298</sup>. The Convention currently has 189 State Parties. The United States and Palau have signed, but not ratified the treaty. Only 6 countries – The Holy Sea, Somalia, Sudan, Islamic Republic of Iran, Niue and Tonga – have not taken any action regarding the Convention. Because of certain, notably religious, principles at odds with the Convention, several State Parties have made reservations specific to an article of the Convention or to dimensions of the Convention. Bangladesh for instance "does not consider as binding upon itself the provisions of article 2, as they conflict with sharia law based on [the] Holy Koran and Sunna." Similarly, Mauritania indicated it approved the Convention "in each and every one of its parts which are not contrary to Islamic sharia." Despite these cases and challenges, CEDAW has been leveraged to advance gender equality in many contexts, with many countries incorporating its principles into legislation and policy, improving the lives of women and girls in many places around the world.

**The Voluntary Guidelines for Securing Sustainable Small-Scale Fisheries in the Context of Food Security and Poverty Eradication** (The SSF Guidelines) are the first international instrument dedicated entirely to the small-scale fisheries sector, focusing on the rights of fishers and fish workers along the entire value chain. They were unanimously adopted by the UN FAO's Committee on Fisheries in June 2014 following a long participatory and inclusive consultation process. The Guidelines articulate that "States should comply with their obligations under international human rights law and implement the relevant instruments to which they are party, including, inter alia, CEDAW, and should bear in mind the Beijing Declaration and Platform for Action". More specifically, chapter 8 focuses on gender equality stating that "gender mainstreaming should be an integral part of all small-scale fisheries development strategies" and that these strategies "require different approaches in different cultural contexts and should challenge practices that are discriminatory against women"<sup>73</sup>.

Under the **United Nations Framework Convention on Climate Change (UNFCCC)**, the parties to the Paris Agreement committed to action on gender and climate change in the enhanced Lima work programme on gender and its Gender Action Plan<sup>191</sup>. The Gender Action Plan (GAP) emphasises that gender equality and the effective participation of women in developing and implementing climate policies are key to a just transition to sustainable development<sup>191</sup>.

**United Nations Declaration on the Rights of Indigenous Peoples (UNDRIP)** is an international instrument adopted by the UN on 13 September 2007, to enshrine (according to Article 43) the rights that “constitute the minimum standards for the survival, dignity and well-being of the indigenous peoples of the world.” Article 22 states, “Particular attention shall be paid to the rights and special needs of indigenous elders, women, youth, children and persons with disabilities in the implementation of this Declaration” and that, “States shall take measures, in conjunction with indigenous peoples, to ensure that indigenous women and children enjoy the full protection and guarantees against all forms of violence and discrimination.” (UNISDR, 2015)

The **Sendai Framework for Disaster Risk Reduction 2015–2030** has recommendations on gender-sensitive Disaster Risk Reduction as well as promotes the role of women and need for enhancing women’s leadership in building resilience (Paragraph 36 (a) i)<sup>300</sup>. It was adopted at the Third UN World Conference on Disaster Risk Reduction in Sendai, Japan, on 18 March 2015.

The **International Labour Organization (ILO)** is the only tripartite UN agency, which, since 1919, brings together governments, employers and workers across 187 UN Member States, to set labour standards, develop policies, and implement safe, fair and equitable working conditions with benefits for all. The ILO has a primary goal to “promote opportunities for women and men to obtain decent work in conditions of freedom, equity, security and human dignity.” ILO Conventions and Protocols are legally binding and can be ratified, while Recommendations are not legally-binding and serve as guidelines<sup>318</sup>.

that has never had a female member of parliament. There are also no women elected to parliament in Papua New Guinea and Vanuatu. Higher numbers of women in parliament and an enabling environment for their participation and leadership have been shown to result in the implementation of stronger climate change policies<sup>292</sup>. In electing women to parliament, attention should be paid to intersecting identities to avoid reinforcing other power dynamics and hierarchies. While representation is clearly an important dimension of gender equality, gender parity is in and of itself not enough to develop and achieve a truly transformational agenda. A strong emphasis on Western views (e.g., number of seats in parliament) can also risk devaluing the important and influential roles women play and the means through which they assert leadership in traditional cultural settings, for example matrilineal societies where women elect traditional male leaders<sup>167</sup>, but act as their advisors<sup>294</sup>.

To achieve gender equality, national-level policies will also need to effectively navigate the complexities of customary laws while engaging with human rights norms. Legal frameworks to support gender equality and integrate gender mainstreaming across domains such as fisheries,

climate change, and disaster risk resilience policies, should recognize and accommodate the foundational values of indigenous customs that support sustainability and assert gender-related rights within a human rights framework. In practice, such an approach will likely need to incorporate a type of rights-balancing that strives to uphold both culture and equality<sup>295</sup>.

Governments must ensure policy coherence and harmonisation in support of gender equality across sectors. This requires effective institutional arrangements, collaboration across institutions, and coordination across policies and strategies to capitalise on synergies and avoid unintended trade-offs. As a starting point, legislative efforts should ensure that the definition of SSFs is inclusive, extending not only to non-vessel-based fishing activities (e.g., gleaning), but also to processing and marketing activities where women typically are more active, and inclusive of subsistence as well as commercial activities. Ensuring a purposefully broad definition will allow the formal recognition of women’s contributions and facilitate their access to financial support, membership of unions or organizations, and the protection of their rights<sup>73</sup>. Efforts should also ensure that women are



included when policies are discussed and crafted, resources allocated to support gender-responsive research, and women's leadership skills developed and strengthened. Gender mainstreaming efforts also need to be supported by individuals with expertise in gender transformative approaches, gender-specific governance mechanisms, and clear accountability tools<sup>257</sup>. Meaningful engagement and partnerships with enabling institutions and frameworks can significantly elevate national-level strides to support gender equality and women's empowerment.

## Regional and international fora

Regional governance mechanisms and frameworks are important in guiding, supporting, and accelerating the implementation of commitments to gender equality by individual countries. At a meeting in 2012, for instance, Pacific Forum leaders in Oceania committed to advancing gender equality in the region under the Pacific Leaders' Gender Equality Declaration (PLGED). To accelerate the implementation of these commitments, Pacific Forum ministers adopted the Pacific Platform for Action (PPA) 2018–2030. Another example from the Pacific, which highlights regional collaboration across actors, is a 10-year initiative funded by the Australian government "*Pacific Women – Shaping Pacific Development*", which engages Pacific governments, civil society organisations, the private sector and multilateral, regional and United Nations agencies to support gender equality at all levels across the region. The project's activities focus on four key themes: leadership and decision making, economic empowerment, ending violence against women, and enhancing agency. An important element of the programme is the delivery of

support through individual country plans for the 14 Pacific Forum countries that are part of the initiative. Between 2012 and 2017, *Pacific Women* has supported 10,605 women to take on leadership roles at the community, provincial, or national level; 1,053 women to attain formal qualifications (e.g., internationally recognised certificate in leadership and management); and 5,964 women to attend training sessions on financial literacy and financial services<sup>296</sup>.

Internationally, the majority of SIDS and coastal LDCs are signatories to a wide range of agreements that represent key instruments for promoting gender equality and women's empowerment for sustainable development in the context of change, notably climate change\* (see Box 5 for key examples). Women and women's organisations are still vastly underrepresented in associated decision-making roles and processes. For instance, only 41 of 196 Heads of Delegation (21%) were women at COP25 in 2019. The most gender balanced teams in 2019 came from Antigua and Barbuda, Botswana, Cuba, Mongolia, Norway, and Peru<sup>297</sup>. To be effective it will be critical for efforts to continuously strive for harmonized and coherent gender-responsive integration across agreements and sectors and for women to be more actively engaged and represented in the process. Efforts should particularly strive to engage with indigenous and local communities, as they have a long history of adapting to social and ecological conditions in harmony with the environment, and ensure both women and men in these communities are represented.

\* The list included here was informed by work undertaken as part of Technical Support to Mainstream Gender Equality in Fisheries in the Caribbean.<sup>283</sup>

# Finance, gender and ocean risks

**A**chieving gender equality and women’s empowerment (SDG5) and building adaptive capacity across SIDS and coastal LDCs requires significant, diversified and increasing financial solutions across scales. Below, we touch on Official Development Assistance and climate risk insurance. We also refer the reader to the discussion around assets for further financial opportunities at the individual / community level.

## Official Development Assistance

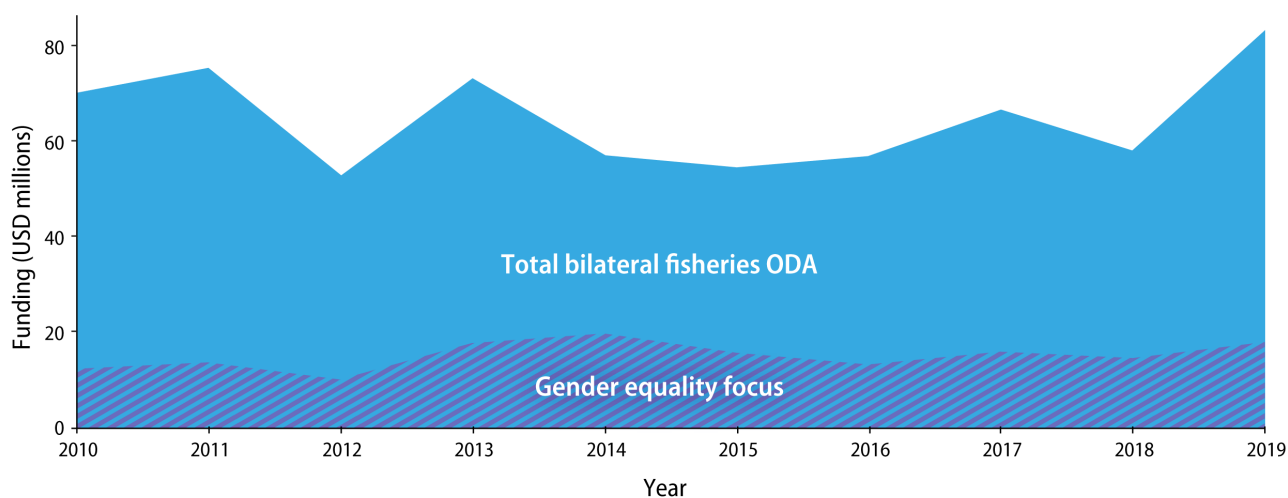
Official development assistance (ODA) from the Development Assistance Committee (DAC) donors is one of the key sources of financing towards achieving SDG5. To better track intended impacts of ODA, the OECD instituted a set of project markers, including one for gender equality (GE). Based on donor intentions at the design stage, projects or programmes for which gender equality is an “important and deliberate objective” are marked as *significant* (GE1) while those for which gender equality is the “main objective and is fundamental in its design and expected results” are coded as *principal* (GE2)<sup>301</sup>. While philanthropy is playing an increasing role in support of sustainable development across the ocean economy<sup>302</sup>, with a renewed focus on advancing justice and equity (e.g., Packard Foundation 2021<sup>303</sup>), there are currently no

gender equality markers that would enable tracking of philanthropic funding in support of gender equality (E. Peterson, CEA consulting, pers. comm.).

Between 2010 and 2019, bilateral fisheries funding that targeted gender equality as a *significant*\* (GE1) or *principal*\*\* (GE2) objective was channelled through a total of 476 projects, amounting to USD154 million overall (Figure 1). This represents 24% of country-specific fisheries-focused allocations to SIDS and coastal LDCs (or 7% of fisheries allocations globally). Coastal LDCs were the largest beneficiaries of this funding (92%), with Mozambique, Bangladesh, Solomon Islands, Mauritania, and Madagascar representing the top 5 recipients (Figure 2). Among SIDS, Solomon Islands (32%), Timor-Leste (15%), Vanuatu (9%), Kiribati (6%), and Papua New Guinea (4%) were the main beneficiaries (Figure 2). Norway, Germany, New Zealand, Japan, Denmark, Iceland, and Australia, together accounted for 84% of total

\* “The project/programme, in addition to other objectives, is designed to have a positive impact on advancing gender equality and/or the empowerment of women and girls, reducing gender discrimination or inequalities, or meeting gender-specific needs.”<sup>301</sup>

\*\* “The project/programme is designed with the principal intention of advancing gender equality and/or the empowerment of women and girls, reducing gender discrimination or inequalities, or meeting gender-specific needs.”<sup>301</sup>



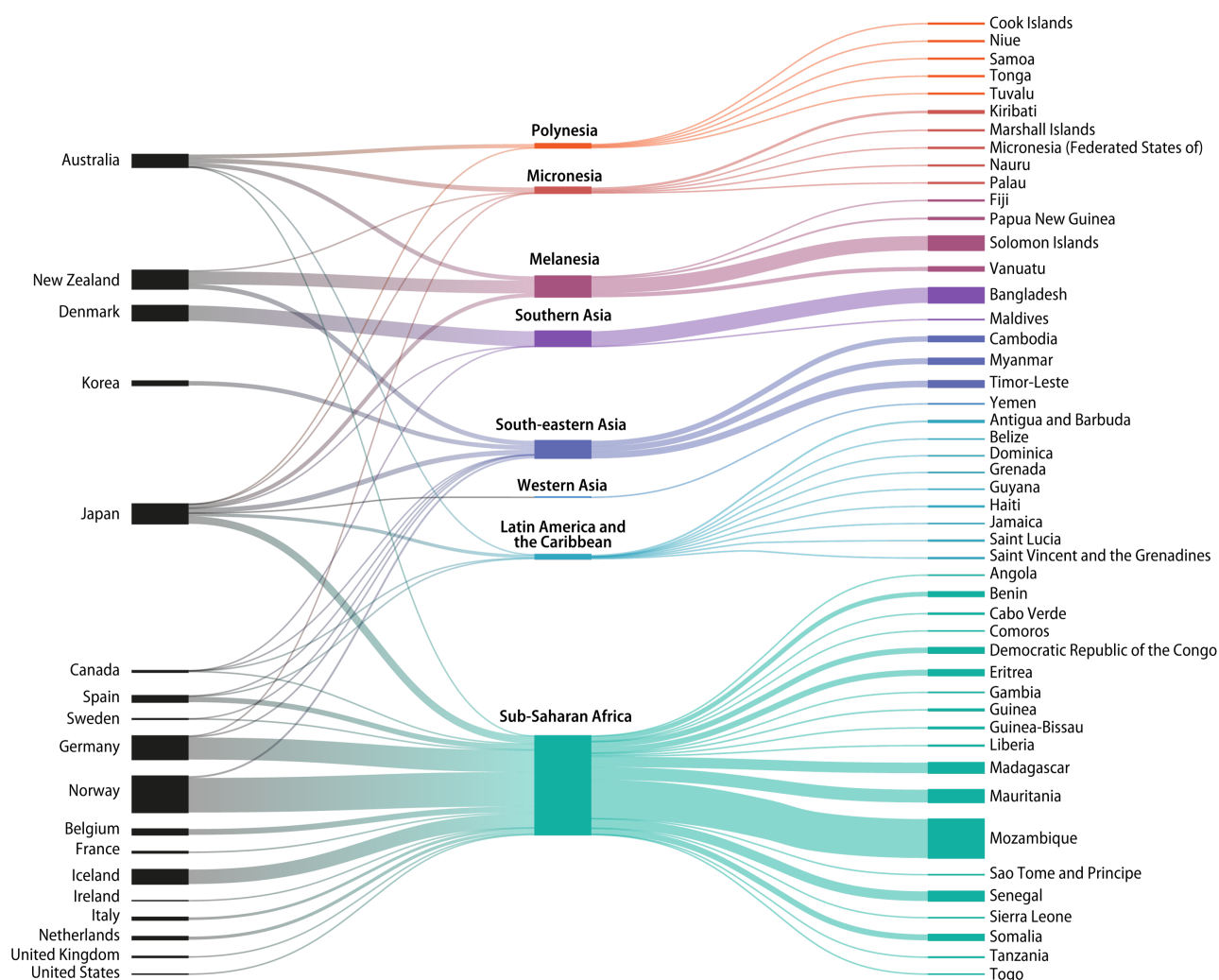
**Figure 1** - Total bilateral fisheries Official Development Assistance (ODA) funding (2010-2019) allocated to SIDS and coastal LDCs and associated sums with a gender equality focus (projects or programmes for which gender equality is an “important and deliberate objective” (GE1) or for which gender equality is the “main objective and is fundamental in its design and expected results” (GE2)).

country-specific fisheries aid with a focus on gender equality (Figure 2). However, Denmark (96%), Iceland (98%), and the Netherlands (91%) reported the strongest focus on gender equality as a proportion of their aid contributions to fisheries projects (Figure 3).

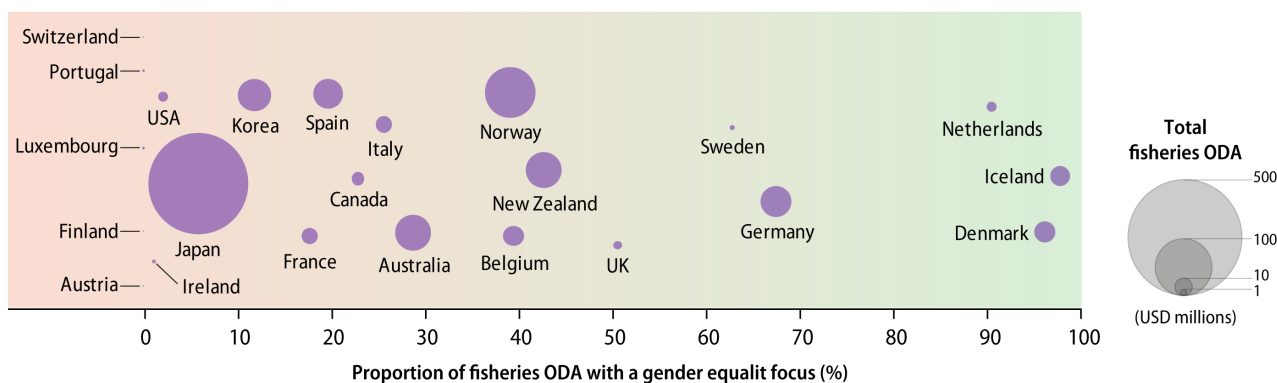
Over the 10-year period considered, only USD2 million was allocated to a total of 27 projects with gender equality as the *principal* (GE2) objective. Funding was provided by Australia, Belgium, France, Italy, Japan, Spain, and USA to Benin, Cambodia, Mauritania, Federated States of Micronesia, Liberia, Papua New Guinea, Senegal, Solomon Islands, Somalia, and Yemen. For projects which included sufficient information, activities appeared to mostly support women to gain skills in the transformation of fisheries products and to strengthen their economic empowerment, with some funds allocated to institutional strengthening. Activities scored as having gender equality as a *significant* (GE1) objective were supported by USD152 million in allocations over the same timeframe. Many project designations were vague (e.g., training provision,

fisheries monitoring, sustainable fisheries, fisheries development, or fisheries improvement projects), and out of the 83 unique descriptions, only 8 included the word “women”, “woman” or “gender”. Most of the 83 projects were aimed at: supporting training opportunities and economic empowerment to facilitate sustainable production, optimise product quality and enable better commercialisation as well as improve food security and nutrition; creating alternative livelihood opportunities; and providing institutional strengthening support. Several activities were also aimed at providing “donor country graduates with valuable international development work experience abroad” rather than directly empowering or building capacity and skills in coastal LDCs or SIDS. While the variation in information available about each project is a barrier to more detailed analysis, from the available evidence, most activities seemed gender accommodative rather than transformative.

The OECD also measures and monitors bilateral development finance targeting climate change



**Figure 2** - Bilateral fisheries Official Development Assistance (ODA) (2010-2019) allocated to coastal LDCs and/or SIDS, targeting gender equality (labelled as GE1 or GE2). Donor countries are depicted on the left and recipient countries on the right, grouped by UN subregion.



**Figure 3** - Total fisheries Official Development Assistance (ODA) (2010-2019) directed to SIDS and coastal LDCs by donor country (size of bubble), and allocations in support of gender equality (markers GE1 and GE2) as proportion of total fisheries funding (horizontal position).

objectives using two so called “Rio” markers, one focused on climate adaptation and the other on climate mitigation. Out of USD84 million in country-specific ODA funding for climate adaptation in fisheries, USD48 million was allocated to projects focused on adaptation and gender equality in SIDS and coastal LDCs between 2010 and 2019. Mozambique, Madagascar, and Eritrea (61%) followed by SIDS in Oceania (29%) were the main recipients of this funding. Fisheries climate mitigation funding was found to be less responsive to gender needs and priorities (USD8.5 million out of USD31 million) and targeted mainly at SIDS in Oceania (57%), followed by Senegal, Madagascar, and Liberia (31%). It is important to note that an additional USD3 million for mitigation and USD31 million for adaptation were allocated at a regional level to gender-responsive projects in Oceania.

Between 2010 and 2019, half of gender-responsive country-specific fisheries ODA allocations consisted of project-type interventions followed by sector budget support (19%), and these were mostly in support of fishery development (51%) followed by fishing policy and administrative management (45%). Half of this funding was channelled through recipient governments, followed by donor country-based NGOs (13%). Given the important role that local civil society groups play in navigating the local contexts and building resilience at the grassroots level, increasing efforts to allocate funding in support of locally-led civil society organisations is important<sup>304,305</sup>. To this end, procedures to access funding should be simplified to facilitate women’s organizations and indigenous and local communities’ participation in climate finance processes and direct access to climate funds<sup>167,306</sup>.

Donors should demonstrate their commitment to and leadership on the integration of gender equality across fisheries and climate finance by increasing their total and proportional allocations to programmatic activities (Figure 3).

### Climate risk insurance\*

Several financial instruments are available to support countries’ effort to mitigate ocean risk and build resilience, in particular to climate change. Risk financing instruments vary according to their sources, whether they are applied based on forecasts or after a disaster has happened<sup>307-309</sup>. As part of the portfolio of options, climate risk insurance represents an important opportunity to support resilience. Social equity considerations, however, are not inherently considered in the design of such finance measures and need to be included to protect and support vulnerable groups, including those operating as part of the informal sector, many of whom are women. While risk insurance currently only plays a minor role in disaster risk response and climate adaptation in most developing countries, it can provide support to vulnerable communities, especially if explicitly designed as pro-poor (including the use of participatory, inclusive, and transparent processes) to ensure accessibility, affordability, and value to target groups.

The types of climate risk insurance that are of particular interest in the context of affordability and accessibility include: parametric or index-based insurance, micro-insurance schemes, and regional insurance pools – where the latter two can adopt an index-based format. Index insurance schemes hold much promise in protecting fishing communities from climate risk, including extreme weather events. Index (or parametric) insurance mechanisms are designed to unlock payouts quickly and automatically to affected individuals when environmental indicators associated with extreme weather events exceed pre-determined thresholds (e.g., wave height, rainfall, wind speed, and storm surge). Common in agriculture<sup>310</sup>, their application to fisheries was pioneered in 2019 through The Caribbean Ocean and Aquaculture Sustainability

\* This section is largely adapted from key findings in Hirsch and Hampel<sup>307</sup>



Facility (COAST)<sup>311</sup>. The macro insurance risk-pooling facility was developed through a joint effort between US State Department, the WorldBank, the CCRIF SPC (formerly the Caribbean Catastrophe Risk Insurance Facility), and the Caribbean Regional Fisheries Mechanism (CRFM). In this case the policyholder is a government (Grenada and Saint Lucia in the pilot phase), which pays for the insurance premium on behalf of vulnerable populations groups and receives loss payments from COAST, which they distribute to affected individuals. Losses caused by bad weather and direct damage to fishing vessels, equipment and infrastructure as a result of tropical cyclones are covered by the COAST product. Surprisingly, despite the central role that marine resources play in the culture, livelihoods, and nutrition security of Pacific Island Countries and Territories, the Pacific Catastrophe Risk Assessment and Financing Initiative focuses exposure on infrastructure and major crops, without a single mention of fisheries.

Regional level insurance pools are more cost-efficient for each party because risks are shared and spread among the pool of participants. For example, the InsuResilience Initiative has facilitated the establishment of four such pools, with CCRIF SPC representing the most established<sup>307</sup>. While the rise of such schemes – especially if focusing on gender equality – are promising, several challenges have been highlighted for their implementation<sup>312</sup>. First, unlike agriculture, fisheries production is reaped daily. While insurance payouts may compensate for gear losses, they do not cover foregone income due to lags in production until market chains are re-established or the weather allows for safe fishing opportunities<sup>312</sup>. Second, while payouts should be commensurate with lost assets, care needs to be taken to not drive overcapacity and increase fishing effort, particularly through the further marginalisation of small-scale fishers<sup>312</sup> who are especially reliant on fisheries for their livelihoods as well as food security and nutrition. Third, while COAST was designed with gender inclusion in mind, recognising men and women's differentiated role in the fisheries sector, the list of beneficiaries predefined by governments tends to include those holding more formal positions within the fisheries industry, i.e., fishermen able to register for licenses. Women processors and vendors often hold informal and less visible roles and risk being overlooked. This is also an area where intersectionality will be important to consider, as it is not only women, but also part-time fishermen and other small-scale actors who are less likely to be formally registered and who risk losing out<sup>312</sup>. Approaches and tools such as those deployed by ABALOBI (see Box 2) can represent hopeful solutions by promoting the recognition of women and other small scale fishers'

work along the entire value chain. By logging their activities, the platform provides small-scale actors with an identity and recognition of the extent of their work in any operation. This information can be used to demonstrate their level of activity and engage with financial institutions.

Micro-level insurance schemes directly insure private individuals or micro-sized businesses or cooperatives. They involve a contractual relationship where the policyholder is also the ultimate beneficiary of loss payments. By building on local knowledge, they can be effectively tailored to serve community needs. Such schemes may be able to provide services that can be more easily accessed by women in comparison to other financial products. Provision of financial literacy programmes for users and streamlining the claims process and policy language can help improve delivery<sup>313</sup>. Additionally, because women may face different barriers around access and have different preferences around distribution and servicing, providers need to be responsive to needs, including access to credit, which is often linked to insurance policies. Further research is needed to better understand insurance models that are gender sensitive and tailored to women's risk profiles, purchasing power and preferences, as well as their ability to access such products<sup>314</sup>. Of concern is that because the group sharing the risk tends to be small and face similar levels of exposure, participating individuals are likely to all be hit at the same time when a climate disaster (or other shock) strikes, exhausting 'risk capital' quickly. Re-insurance presents a potential solution to strengthen the viability and financial capacity of such schemes, yet it remains poorly explored and it is likely that informal microinsurers will have greater difficulties accessing reinsurers. Such schemes also lack replicability because where they have worked, part of their success has hinged on being carefully adapted to local contexts.

The Rural Resilience Initiative (R4) represents an example of a micro insurance scheme that actively supports gender equality through engagement in public-private partnerships and cooperation with a diversity of locally based and led organisations. The initiative focuses on vulnerable smallholder farming communities across 6 countries in Africa - Ethiopia, Kenya, Malawi, Senegal, Zambia, and Zimbabwe<sup>315</sup>. It was launched in 2011 by the World Food Program and Oxfam America "to enable vulnerable rural families to increase their food and income security by managing climate-related risks"<sup>316</sup>. As of 2019, it had reached 87,000 farmers (435,000 people). Since 2018, the initiative has distributed around USD2.4 million in insurance payouts to participants because of weather-related losses in all countries,

bar Zimbabwe <sup>315</sup>. What makes the scheme innovative is that insurance holders are directly involved in the design of the programme to ensure it targets their needs and specific risk exposure. This helps customize coverage and create relevant and fitting indices. An additional pro-poor function is the possibility of insurance holders to work in community projects aimed at reducing risk. This opportunity has met with unexpected success and highlights the importance of affordability when designing climate insurance. The initiative also actively and explicitly supports gender equality. In

Senegal, for instance, women claimed the initiative had contributed to their decision-making, credit eligibility, and empowerment. This is because it helped them develop knowledge and skills in numeracy, literacy and business, in addition to the direct benefits from involvement in the project such as having increased access to land, seeds, and water.



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