

# Toward Gender-Equitable Fisheries Management in Solomon Islands

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Photo Credit: Kate Barclay

This report was written by Olha Krushelnytska, World Bank. It synthesizes the study *Gender, Fisher, Trader, Processor: Towards Gender-Equitable Fisheries Management and Development in Solomon Islands* (Barclay, Payne and Mauli, 2015).

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This report aims to identify gaps in the available data on the social and economic opportunities and constraints for women in the fisheries sector in Solomon Islands in order to inform policy directions and future investments in the sector. It examines women's involvement in two supply chains in the fisheries sector of Solomon Islands – tuna fisheries and coastal fisheries – and recommends next steps for improving the information and data to better address the inclusion of women in fisheries to enhance the social benefits and outcomes from this sector.

Women make up a large proportion of the workforce in tuna and coastal fisheries supply chains, however there is little or no data available to measure the extent of their engagement. As a result, many initiatives including training, awareness programs, and policies are not gender-informed and as such overlook the needs of women engaged formally and informally in the fisheries sector.

However, as this report finds, women have a high potential to improve the sustainable management of coastal fisheries in Solomon Islands, both in their own fisheries and aquaculture activities and in supporting men's activities.

## **II. Why Analyze Gender in Pacific Fisheries Management?**

**Fisheries are a fundamental driver for many PIC economies.** For PICs<sup>1</sup>—especially the fishery-dependent small-island states—fish stocks comprise the primary natural resource on which future economic growth will be based. Tuna (part of oceanic fisheries) caught in PIC waters represent around 35 percent of the world's tuna catch, with an estimated total first sale value of US\$3.4 billion in 2013. PICs received roughly 7 percent of this total in public revenues. The coastal fisheries throughout the region play a very different but equally crucial role in PIC economies. Although they do not generate significant amounts of national revenue, they are crucial supporters of local livelihoods, food security and dietary health in all PICs.

**Benefits from fisheries resources depend on how well they are managed.** PICs tuna resources are now reaching their long-term sustainable limits, due in large part to overexploitation. Similarly, coastal fisheries are threatened (and in some cases severely impacted) by overfishing and coastal degradation driven by population growth, increased demand for coastal fish products, inefficient fishing technologies, and the erosion of customary management regimes due to increasing monetization of local economies.

**Understanding the role of women in the fisheries supply chain is key to effective fisheries management and development.** Women play a pivotal role in fisheries around the world. Contrary to the widespread perception that fishing is a male-dominated activity, a recent study by FAO<sup>2</sup> finds that of the 120 million people worldwide who work in capture fisheries<sup>3</sup> and associated supply chains, half are women. However, since informal activities in the sector are not well recorded, the number of women involved may actually be higher. In

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<sup>1</sup> The report refers to PIC Bank member countries, which include Federated States of Micronesia (FSM), Fiji, Kiribati, Palau, Papua New Guinea, the Republic of the Marshall Islands (RMI), Samoa, Solomon Islands, Tonga, Tuvalu and Vanuatu. The Cook Islands and Niue are also members through New Zealand.

<sup>2</sup> Sustainable fisheries and aquaculture for food security and nutrition. Rome: Food and Agriculture Organization of the United Nations (FAO), High Level Panel of Experts (HLPE) on Food Security and Nutrition of the Committee on World Food Security. HLPE, 2014.

<sup>3</sup> Capture fisheries refer to all kinds of harvesting of naturally occurring living resources in both marine and freshwater environments.

Solomon Islands, women constitute most of the workforce in the processing sector of the *tuna fisheries supply chain*. They also make up half of the community *coastal fisheries supply chain* – both in their own fisheries and aquaculture activities, and as support for men’s activities through providing food, trading and financial backup.

**Gender analysis needs to be integrated into planning processes and policy development to strengthen fisheries management policies in PICs.** The perception that fisheries is a male-dominated sector has led to a degree of ‘gender blindness’ in the fisheries sector. This gender blindness means that the post-harvesting and trading activities of women are often overlooked or neglected in fisheries development and management. As a result, training and assistance programs are often targeted for men. There is also a lack of gender-disaggregated data overall, and a knowledge gap about gendered retail and consumption patterns and the differing constraints on men and women to more effective participation in markets. This lack of data on women’s roles in fisheries perpetuates the existing assumption that women’s interests are taken care of by men and that benefits are shared within households.

**Solomon Islands’ fisheries sector makes a significant impact on the national economy.** Over 90 percent of the country’s territory is ocean, with an Exclusive Economic Zone of more than 1.3 million square kilometers. This area includes tremendous fisheries resources, such as tuna fisheries<sup>4</sup>, coastal fisheries and aquaculture essential for food security and livelihoods for many communities. Women play a central role in development and resource management outcomes in Solomon Islands, but as their role is considered informal, or not recognized, they are often excluded in the planning and decision-making processes. To begin to address this, the Solomon Islands Ministry of Fisheries and Marine Resources (MFMR) developed a Gender Implementation Strategy (2011-2014) to take a more gender-informed approach to coastal fisheries management and development.

### III. Study Methodology

**This report uses the “fish chain” as a conceptual framework to analyze the gender aspects of the fisheries supply chain.** Fish chains can be considered the same as supply chains, but they start with the ecosystem, and they integrate social and ecological dimensions with economic considerations. The gender analysis conducted along selected Solomon Islands fish chains took into account the multifaceted relationships between men and women – as boat owners, processors, sellers, family members, community members and co-workers. It considered the advantages or disadvantages of particular policy or practice for both men and women.

The report focuses on two key fish chains – the industrial tuna fisheries and coastal fisheries – which differ in terms of product, use, and processing. The study focused on elements of the fish chains present in Solomon Islands: for the tuna fish chain the case study focused on processing, for coastal fisheries it focused on production, harvesting, and marketing elements.

The fieldwork was conducted in two short periods between September 2014 and February 2015 and included individual and group interviews, focus groups<sup>5</sup>, and non-participant observation around ports and market areas in three provinces: Guadalcanal (which includes

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<sup>4</sup> Tuna fisheries provided an estimated US\$19 million in revenues to the Government in 2014.

<sup>5</sup> Approximately 60 people were interviewed in the fisheries and related sectors: Those interviewed included SolTuna employees, focus groups of women in coastal fisheries, Noro market vendors, NGO workers, community participants, government and donor representatives, police officers, shell-money producers. Interviewees were recruited via ‘convenience’ and ‘snowball’ sampling.

Honiara), Western (which includes Noro and Munda), and Malaita (which includes Auki and the Langalanga Lagoon area).

The primary data collection was qualitative only. However the research also drew on two relevant pieces of quantitative analysis which included work done by Pomeroy and Yang (2014) associated with the *Hapi Fis*<sup>6</sup> project, and the SolTuna workforce profiles.<sup>7</sup> The analysis of the coastal fish chain is more limited than that undertaken for the tuna fish chain. Coastal fisheries are widely diffused in Solomon Islands and have a broad array of products. These factors, coupled with limited time and resources for the research, allowed the team to undertake a broad analysis only of coastal fisheries.

#### IV. Study Findings

##### *Gender issues in the tuna fisheries chain*

**The industrial tuna fish chain follows the fish from the water to the plate.** It starts at the ecology and continues through production, processing, trading and consumption (see Figure 1). The analysis focused on women’s roles in processing element of the tuna fish chain in Solomon Islands, which are discussed below. Gendered characteristics for all other elements of the fish chain are presented in Annex 1.

Figure 1. Tuna fisheries chain



**The domestic tuna industry in Solomon Islands relies heavily on the processing element of the fish chain.** Processing in Solomon Islands is represented by one large company, SolTuna, which operates at Noro in Western Province. SolTuna processes skipjack, albacore and yellowfin tuna mainly for export-grade canning, but it also processes for domestic consumption. SolTuna is majority owned by multinational tuna trading company Tri Marine, with just under half of the shareholdings owned by the Solomon Islands government. SolTuna now employs approximately 1,500 people – almost two-thirds of whom are women – and it anticipates adding 500 more jobs over the next five years.

##### *The impact of gender inequality on the processing element of the tuna fish chain*

**The flow of benefits from the tuna sector in Solomon Islands has been constrained by two main gender-related factors:** (i) *turnover and absenteeism* among women fish processing workers, which affects productivity rates and profitability, and (ii) *sex segregation* in work roles in this sector (i.e., the lack of women in supervisory and senior roles). Addressing these factors has the potential to improve gender equity, the wellbeing of the women’s families and communities, and the profitability of the industry.

*Turnover and Absenteeism.* Turnover at SolTuna in 2014 was 2 percent a month – nearly a quarter of workforce turning over every year. As a result, the company had to absorb higher operational costs, maintaining a roster of 300 workers more than needed

<sup>6</sup> Hapi Fis is a project, financed initially by USAID and continued under the *Mekem* Strong Solomon Islands Fisheries project in MFMR, which resulted in the development of a mobile application and a web-based platform to report fish landings in Solomon Islands. More information at <http://www.usaid.gov/pioneers-prize/hapi-fis-hapi-pipol>

<sup>7</sup> The most recent version of the Solomon Islands Household Income and Expenditure (HIES) statistics, which includes more gender disaggregated data than the previous HIES was not available at the time of this research.

(20 percent for every shift) to ensure 1,500 workers are available. This practice inflates the remuneration and overheads needed to adequately staff the fish processing lines. Factors contributing to absenteeism and turnover include: lack of childcare, limited transportation to and from work, no or poor quality housing, poor health, gender-based violence, and insufficient wage income, and family and community responsibilities. To address absenteeism, the company has implemented an incentive bonus system whereby workers can receive up to 35 percent of gross wages for full attendance for a month. Many of these challenges are also reported by managers of tuna factories in Papua New Guinea (PNG).

*Lack of childcare.* In an effort to attract and retain women employees, SolTuna has a comparatively generous maternity leave policy granting 12 weeks maternity leave paid on a sliding scale according to length of employment. Former and current employees of SolTuna reported that the maternity leave was appreciated, but not a significant enough incentive for them to join the company or remain there. However, the lack of adequate childcare was mentioned as a key driver for staff turnover and a problem for SolTuna in losing experienced staff. This also presents a roadblock for women to progress within the company due to inability or irregularity of attendance.

*Housing Supply.* The supply of housing for employees of SolTuna in Noro is inadequate. The company provides housing for managers, but much of the low-income housing that exists in Noro is in a poor state of repair, and residential services (water, power, sewerage, rubbish disposal) are inadequate. The reasons behind the housing problems are complex, involving customary land tenure and low government capacity to plan for and deliver services. This problem is also apparent in the tuna processing industry in Papua New Guinea and is consistent with the problem of peri-urban informal settlements across Melanesia.

*Housing Allocation.* In addition to inadequate housing supply, it was found that the allocation of housing was gender-biased. For instance, SolTuna's internal Housing Committee, which is responsible for allocating housing, selects candidates based on criteria such as seniority and years of service. As a result, the majority of housing is allocated to men in management roles, while the majority of workers are women in lower positions. To address this problem, the company reviewed the practices of the Housing Committee and appointed a woman as Chair and women and men from each Department were appointed as Committee members. In addition, gender equity was introduced as a new criterion for allocating housing. More housing and efforts to improve gender equity in distributing housing are needed, but filling the need for low-income housing in Noro is likely to take at least several years.

*Health.* Data from SolTuna showed respiratory diseases (asthma, cold/flu, pneumonia) at the top of the list in terms of number of occurrences and cost for treatment, and second in causing numbers of absentee days. It is not clear whether these diseases are related to the working or living conditions. Other ailments included diarrhea, infections of the ear and eye, dental, and obstetric/gynecological problems. SolTuna has a company clinic with a registered nurse and two nurse aides. A doctor comes to the company to do health checks for new recruits (which is required for food safety reasons) and also does emergency assessments when there are accidents. The company provides medical trips to Gizo<sup>8</sup> for workers who need to go to the hospital.

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<sup>8</sup> Gizo is the capital of Western Province, which is situated approximately 1.5 to 2 hours boat ride away or approximately 15 minutes flight time.

*Gender-based violence (GBV).* GBV is prevalent throughout Solomon Islands. It is estimated 64 percent of women aged 15 to 49 have experienced physical or sexual violence from an intimate partner or someone related or known to them.<sup>9</sup> Several interviewees and SolTuna managers raised violence against women by their partners as a problem for employees that contributes to increased absenteeism and low productivity. There is a unit within the company security department to deal with violence through counseling. SolTuna has also supported the multi-stakeholder initiative SafeNet, which aims to reduce violence against women in Noro by providing training on combating domestic violence. SolTuna allowed 20 staff to attend the training on paid time. SolTuna is also supporting the plan to establish a women's refuge in Noro, at the time of writing they were awaiting land approval for the site for the house.

*Low wages.* In the Pacific, formal employment at low pay is a less attractive option for women when compared to running their own informal micro-enterprise from home, on their own terms. Formal employment comes with challenges of transport, housing, childcare, and low career prospects. In the case of SolTuna, low wages were the most common reason given for women leaving processing work at SolTuna. The benefits provided by formal employment (e.g., wage security, paid maternity leave or long service leave) did not significantly influence their decision to stay in or leave formal work.

*Budgeting.* Managers at SolTuna have observed income management, or budgeting, as an issue for their workers who have difficulty making their cash income last from one pay period to the next. The risk is that they then take days off to pursue other income-generating activities to fill this gap. A solution SolTuna management was considering was to shorten the pay period to weekly. SolTuna has an employee's credit union but, according to staff interviewed, it is not being utilized by workers as part of their personal budget management. Therefore, household budgeting and financial literacy training are potential interventions to consider.

### *A gender-segregated workforce in the tuna industry*

**Gender segregation exists in the tuna industry in Solomon Islands and in other PICs with these industries.** In Solomon Islands, the number of women in formal employment is half the number of men. Women are over-represented in low-paid, low-skilled jobs and face serious obstacles when they attempt to enter the labor market. Unequal sharing of household responsibilities and other unpaid labor is also a major contributor to economic inequalities between women and men. In the tuna fish chain, no women are employed as crew on industrial tuna fishing vessels, although some women work as government observers on vessels. At the other end of the spectrum, virtually no men work on fish processing lines and in the SolTuna factory women outnumber men three to one. This sex segregation in SolTuna's workforce, which is also observed in the other much smaller fish processing company in Solomon Islands, is part of entrenched gender norms in Solomon Islands society and the broader international seafood sector.

**Pay differentials between men and women results in women clustering around the lower end of the pay scale both in waged labor and salaried professional work.** This wage differential between men and women is similar across Solomon Islands, with women

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<sup>9</sup> Ministry of Women, Youth Children and Family Affairs. *Solomon Islands Family Health and Safety Study: A study on violence against women*, 2009.

earning approximately 8 percent less than men. This difference results from differential pay for similar work and over-representation of men in well-paid jobs.<sup>10</sup> SolTuna human resources data for 2014 show that the higher paid salaried staff category in Production/Cannery Department included 25 men and only seven women, though there were nearly three times as many women as men in this department. Unskilled or low skilled labor (e.g., fish cleaning) is female-dominated and in the lower band of worker remuneration, while male-dominated roles such as trades, driver, and forklift operator are categorized in the higher wage band.

**In 2014, management of SolTuna included two women and 11 men.** At the deputy manager level all nine were men. In the salaried staff category – which receives higher pay, better access to housing, and benefits such as pre-paid phones – the ratio of men to women was 78:19. The 19 women staff were in Production/Cannery, Quality Control, Human Resources, Administration and Finance, and not in the conventionally male work areas of Engineering or IT. There is an opportunity for women to move into a wider range of roles within SolTuna, as the management team wants to have more women in non-conventional roles (e.g., technical areas including welding, mechanics, excavator operating, and plumbing).

**Diversifying the workforce at SolTuna will be difficult, despite management commitment.** Various initiatives by SolTuna to empower women at a workplace, like housing and health care, have important but limited benefits due to gender perceptions in Solomon Islands in general. Entrenched gender norms around family responsibility, the kinds of work suitable for women, and gender-based violence constitute a real constraint to fully addressing gender issues within the company.

The ‘bottleneck’ for women to move from low paid unskilled work through to the skilled, supervisory and management-level positions results from lower levels of education, as well as fewer training and promotional opportunities available to them in the workplace (in comparison to those offered to men). This is a result of sociocultural norms that enable men to hold positions of authority and restrict women from attaining leadership or management roles. Women thus need to be mentored to be able to take on leadership roles within the company. This bottleneck could be addressed in part through the creation of women-only consultative groups within the company as a way to empower women to speak up about their issues and concerns.

### ***The impact of tuna processing on gender equality***

**The capacity for fish processing alone to deliver on gender equality is limited.** The Solomon Islands government policy is to encourage growth in onshore tuna processing, as it is perceived to bring major benefits through employment. Notwithstanding government efforts to harness international investment in tuna processing, the capacity of the tuna processing industry alone to deliver social and economic outcomes for women is limited by several factors.

**A major factor is competition and cost structures within the global tuna industry.** Processing tuna for canning is a high-volume, low-margin business. Therefore increases in costs to improve incomes and conditions for workers are not always easy to accommodate. Although many cannery operations in the Pacific are not profitable, the guaranteed access to fish is factored into the decision-making process in this industry. Lastly, external factors such

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<sup>10</sup> *Increasing the Participation of Women Entrepreneurs in the Solomon Islands Aid Economy.* Haque and Greig, World Bank. 2011.

as existing gender norms, gender-based violence and stereotyping in work roles constitute a real constraint to fully deliver on gender equality at work. These factors exist across all PICs.

**Transactional sex and sexual violence seem to be related to the industrial tuna fisheries, but more evidence is needed.** Girls and young women have been visiting foreign fishing vessels in harbors for commercial sex around the Pacific, including Solomon Islands, since at least the 1970s. In some cases the transaction involves women being given fish, which they then sell in local markets.

Interviews with community leaders and people involved with the industry in Noro and anecdotal evidence indicates that there has long been a phenomenon of “women going on the boats”, which may include explicit sex work, but also includes women seeking to “party” with alcohol and to meet men who have cash to spend.<sup>11</sup> Violence against women and the prevalence of sexually transmitted infections (STIs) may well be exacerbated by these activities, and women’s vulnerability to negative impacts is likely to be increased with limited options for earning cash.

The police in Noro aim to address the issue through their ongoing awareness and training activities targeting young women and girls, as well as parents. More data is needed to understand the relationship between the transactional sex and the tuna industry.

**The tuna industry also has gender-specific impacts around industrial ports and factories in Solomon Islands.** The masculine culture of seafarers, not limited to the tuna sector, has norms of “partying” when ashore, involving sex (including transactional sex) and alcohol. Factories also attract people seeking work, many of whom are experiencing for the first time living out of the cultural context of the village, which can result in unrestrained behavior in terms of sexual relations, alcohol consumption and violence.

Problems arising from social change and tensions are exacerbated by a lack of infrastructure and services in Noro and Honiara, low incomes and unemployment, and urban/peri-urban migration. The intersection between customary tenure, commercial activity and labor migration has not been well governed, giving rise to further sources of conflict including insecure tenure for housing.

Women bear the brunt of many of these issues, for example, with increased risk of violence and STIs. There is potential to improve the lives of women and their families involved in the industrial tuna fish chain by addressing the lack of infrastructure and services in port and factory towns, including services promoting health, reducing violence against women, and finding socially acceptable solutions for accommodating labor migration.

**Gender stereotyping in work roles is strong, and gender-based violence rates are high.** Therefore, it could be expected that discrimination and/or harassment occurs in workplaces. SolTuna has long had a policy of equal pay for the same work, even though this has not been legally required, in part because buyer companies have required a certain level of equal opportunity to be demonstrated.

**A deeper investigation is needed for a thorough understanding of discrimination/harassment of women in the industrial tuna fish chain.** Such an investigation should also include a review of the current legislative framework for equal

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<sup>11</sup> *Report of the Special Rapporteur on the violence against women. Mission to Solomon Islands.* Manjoo., 2012. United Nations.

employment opportunities and protection from discrimination and sex-based harassment in the workplace, and of available services and training in Solomon Islands in this area.

### *Gender issues in the coastal fisheries chain*

**The coastal fish chain, like the tuna fish chain, starts with ecology and continues through harvesting, processing, marketing, export and consumption** (see Figure 2).

However, in contrast to tuna fisheries, the data and information on coastal fisheries is more difficult to obtain due to their diffuse and non-homogeneous nature. In addition the limited resources available for the research did not enable fieldwork to be conducted with those actually fishing. Instead, fieldwork was limited to interviewing fish sellers at the markets and in some communities. Therefore, further detailed analyses on the coastal fish chain is recommended, and should be narrowed to selected products to better understand specific coastal fish chains such as bêche-de-mer.

Figure 2. Coastal fisheries chain



**The report analyzes the production and harvesting, manufacturing, and marketing elements of selected coastal fish chain.** Gendered characteristics of all other elements of the coastal fish chain are presented in Annex 2.

**General assumptions about gender roles in coastal fisheries are difficult to make, as the patterns for each community and coastal fish products need to be identified individually.** In the Pacific region, one study has estimated that women’s small-scale fisheries make up 56 percent of total estimated small-scale fishery catches, contrasting sharply with the conventional perception that women play a minor role in capture fisheries. This has serious implications for fisheries management and development, as well as food security.<sup>12</sup>

**Women in Solomon Islands do a great deal of fishing, taking well over half of the subsistence catch, and increasingly fish to generate income through market activities.** Women’s fishing is crucial for a coastal community’s food security and increasingly for cash incomes. This is similar to the situation in agriculture in PNG where men predominate in cash crop production and women in subsistence production. Women also provide extensive labor inputs for cash production, but men control the income from cash crops.

**Internationally, women have largely been excluded from coastal resource decision-making, and from coastal fisheries development activities.** Community-Based Resource Management (CBRM) is seen as key to the sustainable development of coastal fisheries in the Pacific, however very few places have an understanding of the gender-inclusive resource management. Solomon Islands is ahead of the curve due to the “gender transformative” coastal resource work done by WorldFish since 2011.

Coastal fisheries were examined in terms of the elements in the fish supply chain for production and harvesting and marketing along three main product groupings: (i) bêche-de-mer; (ii) trochus, greensnail, pearl oysters, and shell money; and (iii) aquarium trade, deep-water snapper and seaweed production.

<sup>12</sup> Women and fisheries: Contribution to food security and local economies. *Marine Policy*, Harper et al., 2013.

## **Production and Harvesting**

Bêche-de-mer (sea cucumbers) exports are consistently one of Solomon Islands' high export-earning marine commodities after tuna, earning SBD33 million in 2013 (increasing from SBD10 million in 1992). Bêche-de-mer are easily overfished due to their high financial value in Asian markets and their long growth period. To make bêche-de-mer fisheries sustainable, strong support from the government and other stakeholders is needed for monitoring, surveillance and enforcement, as well as awareness raising and providing alternative income opportunities during closed seasons.

Bêche-de-mer are one of the coastal fisheries activities important to women, and one in which women's involvement could potentially be enhanced. However, the literature on bêche-de-mer is overwhelmingly gender blind, with little written on the role of women in this fishery. Interviews conducted during this research, indicated that women are usually heavily involved with bêche-de-mer fisheries – either fishing themselves or supporting men's fishing activities through the provision of food for fishing parties, and participating in post-harvest processing.

Increasing the involvement of women in this fish chain may help to improve effective and sustainable management of this resource. However to understand how to effectively integrate women into this fishery information on gender relations in the bêche-de-mer chain needs to be strengthened. A qualitative investigation of the gender relations involved in fishing, processing and trading bêche-de-mer, along with a livelihoods analysis in one or more communities heavily reliant on this fishery is important to help communities better manage this resource and move beyond export bans to more effective resource management.

**Trochus, greensnail, pearl oysters and the range of shells used in customary money** have also for many decades been successful in generating cash income for Solomon Islands coastal communities. Like bêche-de-mer they are high-value, small, light, shelf-stable products that suit the economic, geographic and cultural contexts of remote coastal communities. Trochus buttons have been partially manufactured domestically, adding value before export. However, all three of these products have been overfished. Export bans and size limits for exports have been implemented, but a more comprehensive spread of consultatively established measures need to be put in place to enable sustainable development of these fisheries. These fisheries also produce the shells that are incorporated into handicrafts and 'shell money'<sup>13</sup> that are traditionally made and marketed by women, therefore these fish chains are as likely as bêche-de-mer to be important livelihood opportunities for women.

**Aquarium trade, deep-water snapper and seaweed production** may also present income opportunities for women in Solomon Islands. Reports show that women and men have been involved in wild harvest and cultured production for the aquarium trade and in 2005 the annual turnover was SBD5 million, with profit for exporters estimated to be SBD1.8 million.<sup>14</sup> The aquarium trade has had mixed success in Solomon Islands, its viability and gender impacts would need to be examined further. A gender analysis of the implications of deep-water snapper should be undertaken to ascertain the level to which women will be needed to support the fishery. For example, opportunities for women may exist in the marketing elements of the supply chain. Seaweed farming is not suitable in all areas of

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<sup>13</sup> Traditionally, shell money is used for bride price and traditional ceremonies, but in the modern market, these crafts are also commercialized as jewelry and souvenirs.

<sup>14</sup> Financial Assessment of the Marine Trade of Corals in Solomon Islands. Suva: Foundation of the People the South Pacific International, South Pacific Regional Environment Programme. Lal and Kinch., 2005.

Solomon Islands and its attractiveness depends on international prices among other things.<sup>15</sup> It has been introduced as an alternative source of income to bêche-de-mer in some communities. The gender dimensions of this product should be examined to better understand the role women play and if it assists to minimize impacts of closed bêche-de-mer seasons.

### **Manufacturing of Shell Money and Jewelry**

**Shell money is not a highly profitable way to earn a living.** The profits in shell money (estimated at 1SBD per hour of labor input) are small due to the costs women incur while trying to sell their product. As women primarily sell the shell money in Honiara, they incur costs such as boat fare to and from Malaita Province to Honiara in Guadalcanal Province; daily transport to the market; buying food while staying with relatives in town; daily market fees; etc. Buying more shells for future production is also part of their cost structure. The majority of the shell money and handicrafts come from the Langalanga Lagoon area in Malaita Province, however, due to the degradation of coastal habitat in the Lagoon there are fewer resources to support this as an income-generating activity for the growing population.

**The declining supply of shells in the Langalanga Lagoon needs to be addressed for both economic and environmental reasons.** Further analysis into the shell supply chain and profitability could be considered as a way to increase income-generating opportunities for women, and reduce further environmental damage. For example, fishers in Western and Isabel Provinces are currently supplying shells for the production of shell money and handicrafts in Malaita. This spreads income-earning opportunities but the shell fisheries must be sustainably managed to avoid also spreading resource depletion.

### **Marketing**

**Economic returns from marketing fish generates better income than processing work at SolTuna.** However fish vendors are mostly men. A survey associated with the *Hapi Fis* project that collected questionnaire data from 100 vendors in four Honiara markets in 2012 found that 76 percent of fish vendors were men. There are more men than women involved in fresh fish sales, but women (usually family members of fishermen) dominate the sale of salt fish and selling to restaurant owners. In the Honiara Central Market, a new system of intermediaries has emerged whereby specialist fish vendors buy through fish receivers. There is not yet any data on the gendered composition of this group.

Market trading work was also reported to be easier and more flexible work for women to combine with childrearing duties than formal paid work at a plant. It was reported that income from market trading was enough to pay rent, school fees and food bills. In order to better support the marketing element of the fish chain, more gender disaggregated information is needed on net incomes and how this livelihood works in balance with people's life situations, the kinds of relationships that enable and constrain the business, and the gendered aspects of this element.

**The management system of the markets adds a challenge for women.** Marketplace locations are overcrowded, have inadequate infrastructure, unsanitary and unsafe conditions, including threatening or demeaning social interactions which present as problems for women vendors. Although women comprise the majority of traders in markets, there are few women

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<sup>15</sup> Solomon Islands Diagnostic Trade Integration Study. Honiara, Solomon Islands: Solomon Islands Government Department of Trade Industry and Investment, Implementing Agency: United Nations Development Programme. Gay, (Ed.), 2009.

in management. A recent study<sup>16</sup> found that market systems are corrupt, dysfunctional, and contain discriminatory policies. There is a need for gender-responsive, effective and accountable local government and market management. Collaborative action by vendors can be a positive force for improving market conditions. This may be in the form of inclusive, effective representative marketplace groups. Women's collective action groups can enable women to maintain control over increased income they earn, minimize costs and labor inputs, and facilitate transportation through pooling funds and labor.

**Poor financial literacy and a lack of market information inhibit women's ability to get the best value for their product and the best outcomes from their earnings.** Financial training and business management has been identified by vendors as useful for women to manage their budgets and the daily operations of their business, including wages for their casual workers and investing income back into the business. This supports the finding of Honiara-based women entrepreneurs interviewed in 2010<sup>17</sup> who cited basic financial literacy and business sense as a constraining skills gap by women, whereas men considered the primary gap to be in access to training in more technical areas. A lack of financial services, namely savings facilities and credit for market vendors and to support production, is a problem for women and men. The procedures required to open savings accounts are difficult for a large portion of the population who do not have identification documentation. In addition, women with limited literacy and who lack confidence dealing with public institutions are even less able to open savings accounts.

**There are some current development programs focused on providing financial services for women market vendors in Solomon Islands.** The International Finance Corporation<sup>18</sup> is working with the ANZ Bank and Bank of South Pacific to make financial services more accessible via mobile banking and financial literacy training, and aim to include women as half of the participants in these initiatives. The UN Women Markets for Change (M4C) project is working with the Honiara Central Market and the Auki market in Malaita Province to address many of the issues noted above. The project encompasses improving market facilities (including sanitation), creating market vendors associations, capacity development including training, access for people with disabilities, access to organized savings schemes, improving food quality and safety standards (including food storage), revising market regulations, and addressing security issues.

One of the key local partnership organizations is the Solomon Islands Women in Business Association (SIWIBA) established in 2005. One of SIWIBA's main activities is monthly 'mere markets' in Honiara selling mainly handicrafts. The market vendors association started in 2014 under the M4C project and includes women selling fresh and cooked fish, but at the time of fieldwork this project was too new to yet have identifiable positive impacts.

## V. Data and Information Gaps

**The analysis has highlighted a number of gender-specific issues related to the management of tuna and coastal fisheries in Solomon Islands.** However during the research it became evident that limited information and robust data exists on both of these fish chains, but more so in the case of the coastal fish chain. The gender disaggregated HIES

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<sup>16</sup> DFAT., 2014. *Pacific Women Shaping Pacific Development. Solomon Islands Country Plan Summary*. Retrieved from [http://www.pacificwomen.org/wp-content/uploads/Solomon-Islands-Country-Plan-Summary3 .pdf](http://www.pacificwomen.org/wp-content/uploads/Solomon-Islands-Country-Plan-Summary3.pdf)

<sup>17</sup> *Increasing the Participation of Women Entrepreneurs in the Solomon Islands Aid Economy*. Haque and Greig, World Bank. 2011.

<sup>18</sup> The International Finance Corporation, a member of the World Bank Group, is the largest global development institution focused exclusively on the private sector in developing countries.

may help fill some of the data gaps but at the time of this research it had not yet been released. The report lists below some of the key data gaps that exist.

### ***Overall data gaps***

- Female participation (%) in the fisheries sector and ratio of men to women in the sector (this includes both formal (private and public) and informal sectors as main and secondary activities).
- Aggregated individual income statistics for those in the formal sector.
- Household income statistics for those in the informal sector.
- The correlation of income level and educational attainment of women participating in fisheries.
- Women's access to micro-credit facilities.
- Income, expenditure and consumption profiles of households with female fishers/fisheries employees at the household level.

### ***Data gaps in tuna fish chain***

- Proportion of men and women in each part of the industrial tuna supply chain. For example fishing for bait; owning boats; working as support staff for fishing in store control, administration and office work; working in government departments; and related businesses in seafood export, transport and retail; and those employed in processing activities.
- Workforce profile of employees of large and small companies involved in processing and analysis of this information as compared to other similar countries.
- Data on health and housing conditions of SolTuna employees.
- A thorough understanding of workplace discrimination/harassment in the industrial tuna fish chain. Such an investigation should include a review of the current legislative framework for equal employment opportunities and protection from discrimination and sex-based harassment in the workplace, and of available services and training in Solomon Islands in this area.
- Inventory of activities aimed at addressing gender dimensions in tuna fisheries and evaluation on their effectiveness and/or how they could be improved.

### ***Data gaps in coastal fish chain***

- The degree to which women have access to transport to the markets. For example, anecdotally it is thought that men tend to control the transportation, while women are involved in seafood retailing.
- Income generated from selling coastal fish products and uses of this income, disaggregated by men and women.
- Expenses generated from coastal fisheries – how does this differ for women and men?
- Impact of declining fisheries and/or closed seasons on communities and women's livelihoods.
- Mapping of coastal fish chains for all coastal fisheries products across Solomon Islands.

## **VI. Recommendations**

Specific recommendations and potential areas for action in the tuna industry and in coastal fisheries are presented below to address some of the data gaps relating to the social and

economic opportunities and constraints for women in the fisheries sector in Solomon Islands to help move to more gender-informed policy directions and investments.

Overall, a comprehensive and integrated approach should be taken to fill some of the data and information gaps that exist, particularly for coastal fisheries. This should also be closely aligned with MFMR's gender strategy.

<b>Table 1 – Tuna Industry</b>	
<b>Recommendation</b>	<b>Areas for Action</b>
SolTuna should be supported to continue its efforts to improve gender equity and remove barriers, and measure effectiveness of programs and initiatives.	<ul style="list-style-type: none"> <li>• Assess options to strengthen women's financial literacy to build their capacity to manage income and household budgets</li> <li>• Assess options for reducing absenteeism such as improved childcare, housing opportunities and regular access to transport for low income families</li> <li>• Develop training and mentoring opportunities for women to move into more senior or non-traditional women roles</li> <li>• Work closely with other stakeholders in Noro to support ongoing initiatives such as SafeNet, improving infrastructure and/or services and creating a safe community</li> <li>• Evaluate effectiveness of current initiatives</li> <li>• Company awareness campaign to support organisational and behaviour change</li> <li>• Conduct a survey of women in industry to profile them (educational attainment, health, income, housing situation, etc.) and get feedback on gender mainstreaming initiatives proposed</li> </ul>
Strengthen the data and information about tuna fisheries industry	<ul style="list-style-type: none"> <li>• Analyse the HIES and strengthen the information about formal sector and fisheries sector employment trends</li> <li>• Profile the workforce of small and large scale operators in the Solomon Islands</li> <li>• Undertake comparative analysis against similar countries such as PNG</li> <li>• Compile gender disaggregated data on all tuna fishery companies in Solomon Islands – including the smaller operators and compare against large and small operators for commonalities/differences</li> </ul>
Understand the social and economic impacts and benefits of processing plants on communities in Solomon Islands	<ul style="list-style-type: none"> <li>• Undertake household and village surveys for social and economic impact assessment looking at the impacts and benefits of SolTuna in the immediate and surrounding areas</li> </ul>

<b>Table 2 – Coastal Fisheries</b>	
<b>Recommendation</b>	<b>Area for Action</b>
Support the implementation of MFMR Gender Strategy	<ul style="list-style-type: none"> <li>• Design more effective coastal fisheries management and development through engaging more effectively with communities, including the gender and intersectional issues relevant to coastal resource use, World Bank financing under the PROP presents an opportunity for MFMR to take the lead in coordinating this activity</li> </ul>
Improve data collection and analysis on gendered issues along fishery supply chains and develop a single repository, including:	<ul style="list-style-type: none"> <li>• Livelihood and market surveys</li> <li>• An analysis of MFMR Hapi Fis market data collection system to determine how it may be improved or complemented to reflect/capture gender aspects</li> <li>• In-depth gender analysis (quantitative and qualitative) on a few select coastal fishery chain</li> <li>• Identify income generating opportunities and micro-credit facilities for women</li> <li>• Review the HIES analysis for relevant information and data on coastal fisheries</li> </ul>
Support improvements to opportunities and conditions for women vendors at markets	<ul style="list-style-type: none"> <li>• Support or expand upon the Markets for Change (M4C) project, including improved access to financial/microcredit services for market vendors, potentially working with other stakeholders such as IFC</li> </ul>
Undertake a pilot project to develop a participatory model for integrated coastal zone community-based resource planning and management in 2-3 locations, to be scaled out in future	<ul style="list-style-type: none"> <li>• Research into gender dimension of fisheries in which women are already heavily involved in or potential markets, including: bêche-de-mer, shells for export, deep-water snapper, seaweed farming and shell money</li> <li>• Research mechanisms or models to enable community participatory planning for integrated resource management</li> <li>• Build on existing experience and analysis of ways to improve women’s participation in resource use decision-making</li> </ul>

## Annex 1: Industrial Tuna Fish Chain – Key Gendered Characteristics and Issues

\*GDL – gendered division of labor. X = predominantly/exclusively male; Y = predominantly/exclusively female; Z = shared/joint tasks

Chain elements	Actors	Activities	GDL*	Overarching issues	Gender-based constraints	Gender-based opportunities
<b>Ecology</b> 	<ul style="list-style-type: none"> <li>Oceanic ecosystems</li> <li>Fishing companies</li> <li>MFMR</li> <li>WCPFC</li> <li>SPC Oceanic Fisheries Program</li> </ul>	<ul style="list-style-type: none"> <li>Log fish catches</li> <li>Monitor &amp; analyse catches relative to stocks</li> <li>Regulate fisheries</li> </ul>	X	<ul style="list-style-type: none"> <li>Skipjack stocks good, some problems with yellowfin &amp; bigeye stocks</li> </ul>	<ul style="list-style-type: none"> <li>Tuna fisheries science &amp; resource management male dominated</li> <li>Gender differences in education and training</li> <li>Gender norms: 'fishing is a man's world'</li> </ul>	<ul style="list-style-type: none"> <li>Improve women's access to education &amp; training</li> <li>Expand # &amp; capacities of women in resource science &amp; management</li> </ul>
<b>Inputs</b> 	<ul style="list-style-type: none"> <li>Farmers around Noro</li> <li>Salt fish traders in ports</li> <li>Formal food provisioning businesses</li> </ul>	<ul style="list-style-type: none"> <li>Supply fresh food for canteen &amp; fishing vessels</li> </ul>	Z	<ul style="list-style-type: none"> <li>Local supply sometimes inadequate, requiring use of imported food</li> </ul>	<ul style="list-style-type: none"> <li>Unknown, see work on gender in agricultural development in Solomon Islands</li> </ul>	<ul style="list-style-type: none"> <li>Facilitate farmers and produce traders to increase supply</li> </ul>
	<ul style="list-style-type: none"> <li>Chandlers</li> <li>Fishing vessel manufacturers</li> <li>Repair &amp; maintenance services</li> <li>Sundry supply businesses</li> <li>SolTuna Engineering Department</li> </ul>	<ul style="list-style-type: none"> <li>Supply fishing gear, vessels, other materials</li> <li>Repair &amp; maintenance vessels &amp; gear, processing factory</li> </ul>	Z, X	<ul style="list-style-type: none"> <li>Lack of entrepreneurial activity to service and supply fishing &amp; processing</li> </ul>	<ul style="list-style-type: none"> <li>Women face gender-specific barriers to business development, including credit</li> <li>Interventions need to take into account risks of violence &amp; women's existing work burdens</li> </ul>	<ul style="list-style-type: none"> <li>Investigate potential service &amp; supply businesses (uniforms, cleaning, gardening, etc.)</li> <li>Train &amp; recruit women for non-typical technical roles</li> </ul>
<b>Inputs</b> 	<ul style="list-style-type: none"> <li>Shops, eateries, bars, casinos in Noro &amp; Honiara</li> </ul>	<ul style="list-style-type: none"> <li>Services for visiting fishing crew</li> </ul>	Z, Y	<ul style="list-style-type: none"> <li>Culture of 'partying' with sex and alcohol among male seafarers</li> <li>Lack of non-party activities for seafarers</li> <li>No affordable accommodation for seafarers away from vessels</li> </ul>	<ul style="list-style-type: none"> <li>Male culture among seafarers, including substance abuse, sex &amp; risk taking</li> <li>Inadequate services for sexual health and violence against women</li> <li>Lack of cash-earning opportunities for women</li> </ul>	<ul style="list-style-type: none"> <li>Develop services to encourage socially desirable behaviour from seafarers</li> <li>Improve services for sexual health and preventing violence against women</li> <li>Improve women's cash-earning opportunities</li> </ul>
	<ul style="list-style-type: none"> <li>SolTuna</li> </ul>	<ul style="list-style-type: none"> <li>Management &amp; maintenance of factory &amp; fishing fleet</li> </ul>	X	<ul style="list-style-type: none"> <li>Management, professional and supervisory roles dominated by men</li> </ul>	<ul style="list-style-type: none"> <li>Societal gender norms discourage women from seeking leadership roles</li> <li>Gender differences in education and training opportunities</li> <li>Lack of childcare</li> </ul>	<ul style="list-style-type: none"> <li>Facilitate learning process of how to include women in senior roles</li> <li>Improve childcare services in Noro</li> </ul>
	<ul style="list-style-type: none"> <li>Tri Marine International</li> <li>Commercial banks</li> <li>IFC</li> </ul>	<ul style="list-style-type: none"> <li>Capital</li> </ul>	Z	NA	NA	NA

<b>Harvesting</b> 	<ul style="list-style-type: none"> <li>National Fisheries Development (NFD)</li> <li>Albacore longline vessels, many based in Fiji</li> </ul>	<ul style="list-style-type: none"> <li>Fishing</li> </ul>	X	<ul style="list-style-type: none"> <li>Limited pool of skilled &amp; experienced human resources in Solomon Islands for industrial fishing</li> </ul>	<ul style="list-style-type: none"> <li>Industrial tuna fishing crews exclusively male</li> <li>Management of fishing male dominated</li> <li>Gender differences in access to relevant education &amp; training</li> <li>Gender norms: 'fishing is a man's world'</li> </ul>	<ul style="list-style-type: none"> <li>Improve women's access to education &amp; training</li> <li>Expand # &amp; capacities of women in fishing management &amp; technical roles</li> </ul>
<b>Logistics tuna supply</b>	<ul style="list-style-type: none"> <li>SolTuna</li> <li>NFD</li> <li>Tri Marine International</li> </ul>	<ul style="list-style-type: none"> <li>Ensuring supplies of required quantities &amp; qualities of fish from National Fisheries Development (NFD &amp; longline vessels</li> </ul>		<ul style="list-style-type: none"> <li>Complex international trading work requiring extensive networks of contacts &amp; capital</li> </ul>	<ul style="list-style-type: none"> <li>Unknown, but may be similar as for managing fishing</li> </ul>	<ul style="list-style-type: none"> <li>Expand # &amp; capacities of women in tuna trading</li> </ul>
<b>Processing</b> 	<ul style="list-style-type: none"> <li>SSI</li> </ul>	<ul style="list-style-type: none"> <li>Processing fresh fish for airfreight</li> </ul>	Y	<ul style="list-style-type: none"> <li>Declining yellowfin &amp; bigeye stocks</li> <li>Warm equatorial waters do not produce highest value sashimi</li> </ul>	<ul style="list-style-type: none"> <li>Gender stereotyping of roles: processing &amp; office administration for women, technical &amp; management for men</li> </ul>	<ul style="list-style-type: none"> <li>Expand # women in technical &amp; management positions</li> </ul>
	<ul style="list-style-type: none"> <li>SolTuna</li> </ul>	<ul style="list-style-type: none"> <li>Thawing, butchering &amp; cooking fish for loining/canning</li> <li>Packing &amp; retort</li> </ul>	Z		<ul style="list-style-type: none"> <li>Women and men work in these areas, but men dominate in senior ranks</li> </ul>	<ul style="list-style-type: none"> <li>Increase # &amp; capacities of women in senior ranks</li> </ul>
	<ul style="list-style-type: none"> <li>SolTuna</li> </ul>	<ul style="list-style-type: none"> <li>Cleaning skin and bones from fish to prepare it for canning</li> </ul>	Y	<ul style="list-style-type: none"> <li>High rates of absenteeism &amp; turnover</li> <li>Difficulties making income last from one pay period to the next</li> <li>Inadequate low-income housing</li> <li>Indications of health problems among processing workers &amp; their children</li> </ul>	<ul style="list-style-type: none"> <li>Women face gender-specific difficulties continuing paid employment:</li> <li>Lack of childcare for low-income families;</li> <li>Violence from partners related to work;</li> <li>Responsibility for food provision if pay runs out</li> <li>Women underrepresented in senior ranks</li> <li>Housing allocation has been biased against women</li> </ul>	<ul style="list-style-type: none"> <li>Investigate ways to better manage income</li> <li>Improve childcare options</li> <li>Improve housing</li> <li>Improve domestic violence services</li> <li>Increase # women in senior ranks</li> <li>Continue work addressing gender bias in housing allocation</li> </ul>
	<ul style="list-style-type: none"> <li>SolTuna</li> </ul>	<ul style="list-style-type: none"> <li>Quality control</li> </ul>	Z	<ul style="list-style-type: none"> <li>Difficulties having workers with low levels of schooling understand food safety principles</li> </ul>	<ul style="list-style-type: none"> <li>Women comparatively well represented in technical &amp; management roles</li> </ul>	<ul style="list-style-type: none"> <li>Maintain women's opportunities for skilled roles</li> <li>Improve processing workers' literacy</li> </ul>

Chain elements	Actors	Activities	GDL	Overarching issues	Gender-based constraints	Gender-based opportunities
<b>Distribution &amp; marketing</b>  	<ul style="list-style-type: none"> <li>SolTuna</li> </ul>	<ul style="list-style-type: none"> <li>Arranging transport &amp; importation logistics, according to requirements of buyers</li> </ul>	Z	<ul style="list-style-type: none"> <li>Complex international trading work requiring extensive networks of contacts &amp; capital</li> </ul>	<ul style="list-style-type: none"> <li>Unknown, possibly similar to managing fishing</li> </ul>	<ul style="list-style-type: none"> <li>Investigate increasing # women?</li> </ul>
	<ul style="list-style-type: none"> <li>Tri Marine International</li> </ul>	<ul style="list-style-type: none"> <li>As above</li> </ul>		<ul style="list-style-type: none"> <li>As above</li> </ul>	<ul style="list-style-type: none"> <li>As above</li> </ul>	<ul style="list-style-type: none"> <li>As above</li> </ul>
	<ul style="list-style-type: none"> <li>Salt fish buyers</li> </ul>	<ul style="list-style-type: none"> <li>Liaise fishing crews</li> <li>barter/buy fish from fishing vessels</li> <li>transport fish from fishing vessels to markets</li> <li>retail fish or sell to other sellers</li> </ul>	X	<ul style="list-style-type: none"> <li>Food safety - Fish may sit in the hot sun for hours before being collected</li> </ul>	<ul style="list-style-type: none"> <li>Possible transactional sex for fish</li> <li>Affordable product for women entrepreneurs but inconsistent supply which can impact livelihoods</li> </ul>	<ul style="list-style-type: none"> <li>Support UN Women M4C initiatives for women salt fish sellers</li> </ul>
<b>Importing</b>	<ul style="list-style-type: none"> <li>European canned tuna companies</li> </ul>	NA	Z	NA	NA	NA
<b>Retail</b>  	<ul style="list-style-type: none"> <li>Salt fish vendors</li> </ul>	<ul style="list-style-type: none"> <li>Buy from buyers at wharf</li> <li>Sell raw at Central Market, or</li> <li>Take home, cook, bring back to markets to sell</li> </ul>	Y	<ul style="list-style-type: none"> <li>General problems with working conditions in markets (safety, sanitation, water supply, comfort, storage for goods, etc.)</li> <li>Ice not used for preservation</li> <li>Unclean water used to keep fish looking fresh</li> </ul>	<ul style="list-style-type: none"> <li>General issues for women in market work i.e. - safety concerns</li> </ul>	<ul style="list-style-type: none"> <li>Consult women vendors</li> <li>Support UN Women M4C initiatives for women salt fish sellers</li> </ul>
<b>Consumption</b>	<ul style="list-style-type: none"> <li>Canned tuna customers - in Europe, Solomon Islands</li> </ul>	NA	Z	NA	NA	NA
	<ul style="list-style-type: none"> <li>Salt fish customers</li> </ul>	<ul style="list-style-type: none"> <li>Customers buy raw fish (markets) or cooked fish (eateries - 'kai bar')</li> </ul>	Z	<ul style="list-style-type: none"> <li>Food safety issues</li> <li>Reluctance on the part of MFMR or the Honiara Central Market to formalize the salt fish trade</li> </ul>	<ul style="list-style-type: none"> <li>Unknown</li> </ul>	<ul style="list-style-type: none"> <li>Consult women improvements supply chain &amp; distribution re food safety</li> </ul>

## Annex 2: Coastal Fisheries and Aquaculture Fish Chain – Key Gendered Characteristics and Issues

\*GDL – gendered division of labor. X = predominantly/exclusively male; Y = predominantly/exclusively female; Z = shared/joint tasks

Chain elements	Actors	Activities	GDL *	Overarching issues	Gender-based constraints	Gender-based opportunities
 <b>Ecology</b>	<ul style="list-style-type: none"> <li>Resource-owning communities</li> <li>Government</li> <li>Conservation NGOs</li> </ul>	<ul style="list-style-type: none"> <li>CBRM</li> <li>Export bans</li> <li><i>Hapi Fis</i> data collection</li> </ul>	X	<ul style="list-style-type: none"> <li>Reef areas depleted in some areas</li> <li>To date low involvement of government in coastal fisheries management</li> <li>Illegal trade of <i>bêche-de-mer</i> undermining management efforts</li> <li><i>Hapi Fis</i> data not capturing all coastal fisheries (e.g., local pelagic &amp; gleaned crustaceans/shellfish)</li> <li>No data collection in villages</li> </ul>	<ul style="list-style-type: none"> <li>Women not included in CBRM</li> <li>Coastal fisheries management male dominated</li> <li>Gender differences in education &amp; training</li> <li>Gender norms: 'fishing is a man's world'</li> </ul>	<ul style="list-style-type: none"> <li>Improve women's access to education &amp; training</li> <li>Expand # &amp; capacities of women in planned increase in government management of coastal fisheries</li> <li>Increase <i>Hapi Fis</i> data collection to gleaned products</li> <li>Gender disaggregate <i>Hapi Fis</i> data &amp; revise questions to gather data relevant for gender analysis</li> <li>Scale out WorldFish lessons learned to improve women's inclusion/participation in CBRM</li> </ul>
 <b>Inputs</b>	<ul style="list-style-type: none"> <li>Suppliers of fishing vessels &amp; gear</li> <li>Suppliers thread &amp; tools for shell money</li> </ul>	<ul style="list-style-type: none"> <li>Supply to fishers &amp; gleaners</li> <li>Supply to shell money manufacturers</li> </ul>	NA	NA	NA	NA
 <b>Production &amp; harvesting</b>	<ul style="list-style-type: none"> <li>Fishers</li> <li>Gleaners</li> <li>Divers</li> </ul>	<ul style="list-style-type: none"> <li>Gleaning from intertidal zone</li> <li>Fishing from shore or boat</li> <li>Diving for shells, <i>bêche-de-mer</i>, spear fishing</li> <li>Cultivating corals, clams for aquarium trade</li> </ul>	Z	<ul style="list-style-type: none"> <li><i>bêche-de-mer</i> &amp; shells stocks depleted</li> <li>Some reef areas depleted of food fish</li> <li>High transport costs &amp; lack of ice make fishing for fresh fish markets unviable in many areas</li> </ul>	<ul style="list-style-type: none"> <li>Women's fishing not assisted in development projects</li> <li>Women excluded from decision making about resource use</li> </ul>	<ul style="list-style-type: none"> <li>Scale out lessons learned in AAS to improve women's inclusion/participation in fisheries development activities &amp; decision making</li> </ul>
	<ul style="list-style-type: none"> <li>Aquaculturists</li> </ul>	<ul style="list-style-type: none"> <li>Cultivating tilapia for village food</li> <li>Cultivating seaweed for export</li> </ul>	Z	<ul style="list-style-type: none"> <li>Aquarium trade limited viability</li> <li>Seaweed production high labor &amp; low profit</li> </ul>	<ul style="list-style-type: none"> <li>Unknown</li> </ul>	<ul style="list-style-type: none"> <li>Support WorldFish AAS gender-transformative work in Malaita, scale out</li> <li>Investigate opportunities regarding seaweed</li> </ul>

Chain elements	Actors	Activities	GDL	Overarching issues	Gender-based constraints	Gender-based opportunities
 <b>Manufacture</b>	<ul style="list-style-type: none"> <li>Shell money makers, Langalanga Lagoon</li> </ul>	<ul style="list-style-type: none"> <li>Turn shells into beads</li> <li>Make strings of beads</li> <li>Combine strings into finished products (many varieties)</li> <li>Families use own labor</li> <li>Larger scale operators pay others to make for them</li> </ul>	Y	<ul style="list-style-type: none"> <li>Shell stocks depleted</li> <li>Shell money is a low-income activity</li> <li>Langalanga Lagoon ecosystem already depleted, increasing population pressure</li> <li>Lack of alternative livelihoods</li> </ul>	<ul style="list-style-type: none"> <li>Lack of water supply some villages meaning women must paddle long distances for water daily</li> <li>Lack of modern energy for cooking means women cut mangroves</li> <li>Lack of food gardens for some villages (distance for others) puts heavy burden on women</li> </ul>	<ul style="list-style-type: none"> <li>Improve village livelihoods through gender-sensitive ICZM CBRM (interlinked problems of resource depletion, livelihoods, sanitation, water, energy, food supplies)</li> <li>Investigate improvements to marketing arrangements</li> <li>Increased opportunity for entrepreneurial women to do larger scale manufacturing</li> </ul>
 <b>Consolidation of products</b>	<ul style="list-style-type: none"> <li>Fish receivers in provinces</li> </ul>	<ul style="list-style-type: none"> <li>Coordinate fishers to fill eskies sent by vendors from Honiara</li> </ul>	Z	<ul style="list-style-type: none"> <li>Unreliability of transport</li> <li>Unavailability of ice</li> <li>Communication by phone or radio</li> </ul>	<ul style="list-style-type: none"> <li>Unknown</li> </ul>	<ul style="list-style-type: none"> <li>Investigate opportunities for entrepreneurial women to operate as fish receivers</li> </ul>
	<ul style="list-style-type: none"> <li>Langalanga village trade stores</li> </ul>	<ul style="list-style-type: none"> <li>Barter store goods for shells or strings</li> <li>Finish manufacturing</li> </ul>	Z	<ul style="list-style-type: none"> <li>A way to purchase store goods, but makers income less</li> </ul>	<ul style="list-style-type: none"> <li>Women's need for cash &amp; store goods due to lack of gardens, fishery resources &amp; energy for cooking</li> </ul>	<ul style="list-style-type: none"> <li>Improve village livelihoods through gender-sensitive ICZM CBRM</li> </ul>
	<ul style="list-style-type: none"> <li>Buyers of bêche-de-mer, shells, aquarium products, etc.</li> </ul>	NA	?	NA	NA	<ul style="list-style-type: none"> <li>Investigate opportunities for businesswomen in exports</li> </ul>
 <b>Transport</b>	<ul style="list-style-type: none"> <li>Inter-island shipping services</li> <li>Public road transport</li> <li>Private small boats</li> </ul>	<ul style="list-style-type: none"> <li>Send fish from Provinces to Honiara by ship</li> <li>Send fish from other parts Guadalcanal &amp; nearby islands to Honiara</li> <li>Get fish to urban markets around the country</li> </ul>	Z	<ul style="list-style-type: none"> <li>High cost of transport/fuel</li> <li>Access to transport difficult from many areas</li> <li>Logistics chain problems cause high wastage</li> <li>Risk losing shipments due to shipping delays/breakdown</li> <li>Ice availability limited</li> </ul>	<ul style="list-style-type: none"> <li>Women lack confidence dealing with outsiders</li> <li>Women less mobile</li> <li>Transport businesses dominated by men?</li> </ul>	<ul style="list-style-type: none"> <li>Investigate opportunities for women in transport businesses</li> </ul>

Key elements of the chain	Actors	Activities	GDL	Overarching issues	Gender-based constraints	Gender-based opportunities
<b>Marketing</b> 	<ul style="list-style-type: none"> <li>Fish vendors</li> </ul>	<ul style="list-style-type: none"> <li>Selling raw fish in municipal markets around the country</li> <li>Selling cooked fish – fish &amp; chips – various traditional styles of cooking</li> </ul>	X & Z	<ul style="list-style-type: none"> <li>Unhygienic market conditions (lack of toilets &amp; clean water, wooden benches, dogs roaming)</li> <li>Limited banking facilities</li> <li>Lack of facilities (storage, seating, shelter from sun &amp; rain, quality of flooring)</li> <li>Lack of coordination among vendors to push for improvement</li> </ul>	<ul style="list-style-type: none"> <li>Women’s greater risk of violence/harassment in robbery or family taking cash</li> <li>Shell money: difficult for women &amp; families to spend long periods Honiara to sell</li> </ul>	<ul style="list-style-type: none"> <li>Support UN Women M4C initiatives for women fresh and cooked seafood sellers</li> </ul>
		<ul style="list-style-type: none"> <li>Sell at road side stalls</li> </ul>	?	<ul style="list-style-type: none"> <li>Unknown</li> </ul>	<ul style="list-style-type: none"> <li>Likely to be similar to other market/business constraints</li> </ul>	<ul style="list-style-type: none"> <li>Requires investigation</li> </ul>
		<ul style="list-style-type: none"> <li>Selling to restaurants</li> </ul>	?	<ul style="list-style-type: none"> <li>Unknown</li> </ul>	<ul style="list-style-type: none"> <li>Likely to be similar to other market/business constraints</li> </ul>	<ul style="list-style-type: none"> <li>Increased opportunity for women seafood traders</li> </ul>
	<ul style="list-style-type: none"> <li>Shell money vendors</li> </ul>	<ul style="list-style-type: none"> <li>Sell in Honiara Central Market or bulk sales</li> </ul>	X	<ul style="list-style-type: none"> <li>As above for market conditions</li> <li>Need to stay in Honiara weeks to sell</li> </ul>	<ul style="list-style-type: none"> <li>Family difficulties with women away in Honiara for long periods</li> <li>Low income relative to effort</li> </ul>	<ul style="list-style-type: none"> <li>Investigate alternative marketing options</li> </ul>
	<ul style="list-style-type: none"> <li>Exporters of bêche-de-mer, shells, aquarium animals, seaweed</li> </ul>	<ul style="list-style-type: none"> <li>Logistics</li> <li>Complying with regulations</li> </ul>	Z	<ul style="list-style-type: none"> <li>Depleted stocks of bêche-de-mer &amp; shells</li> <li>Difficulties exporting live aquarium animals</li> </ul>	<ul style="list-style-type: none"> <li>Unknown</li> </ul>	<ul style="list-style-type: none"> <li>Increased opportunity for women marine commodity exporters</li> </ul>
<b>Consumption</b> 	<ul style="list-style-type: none"> <li>Customers for fresh fish, urban &amp; rural</li> </ul>	<ul style="list-style-type: none"> <li>Buy fish, take home to cook</li> </ul>	Z	<ul style="list-style-type: none"> <li>Food safety</li> <li>High prices in Honiara</li> <li>Lack of refrigeration</li> </ul>	<ul style="list-style-type: none"> <li>Unknown</li> </ul>	<ul style="list-style-type: none"> <li>Requires investigation</li> </ul>
	<ul style="list-style-type: none"> <li>Restaurant customers</li> </ul>	NA	Z	<ul style="list-style-type: none"> <li>Unknown</li> </ul>	Unknown	NA
	<ul style="list-style-type: none"> <li>Customers for shell money/jewellery</li> </ul>	NA	NA	<ul style="list-style-type: none"> <li>Unknown</li> </ul>	Unknown	NA
	<ul style="list-style-type: none"> <li>Overseas customers exported products</li> </ul>	NA	NA	<ul style="list-style-type: none"> <li>Unknown</li> </ul>	Unknown	NA

NA – not applicable, beyond the scope of this report.