



# Assessing tuna fisheries governance for community wellbeing: case studies from Indonesia and Solomon Islands

Summary report

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# Executive summary

The key question addressed in this project is how the governance of fisheries affects the wellbeing of coastal communities. The aim of the project is to contribute to the development of a methodology for structured and evidence-based decision-making for fisheries policies and projects intending to benefit coastal communities.

In developing methods to support these policies, we include consideration of the potential benefits and risks associated with policy changes and projects, who derives those benefits or is exposed to the risks, and to what extent intended benefits are in fact realised over time. These are not usually assessed or monitored in fisheries in relation to social and economic outcomes at the community level..

The method for the project involves four case studies of tuna fisheries in Indonesia and the Solomon Islands, utilising qualitative interview data augmented with scientific and technical literature and available statistical reports. These form the basis of a comparative analysis across the case studies. From the analysis we developed a framework with which governance interventions can be assessed in terms of their likely impact on the wellbeing of coastal communities.

## Key findings on tuna fisheries' contributions to coastal communities' wellbeing

- As well as generating revenue for regional economies, tuna fisheries generate livelihood opportunities up and down the value chain. These opportunities are important sources of income for people who may have few other economic options, but many of these livelihoods are chronically insecure and some carry significant physical risk.
- Domestic tuna market channels, including informal domestic channels associated with export markets, provide significant sources of food for coastal communities.
- Tuna fisheries provide important “welfare” functions through providing livelihoods and food for poor and marginalised members of coastal communities. In some cases this includes directly alleviating poverty and providing food security at the community level.
- Regional agreements, government regulation, market standards (certification) and community-led management all have roles to play in keeping tuna fishing within sustainable catch levels. This ensures the long-term provision of social and economic benefits to coastal communities.

## Key findings on governance factors influencing wellbeing

- Government policy encouraging domestic tuna fishing and processing can generate positive impacts on community wellbeing, with longstanding domestic-sector development policies in Indonesia and Solomon Islands both successful in delivering substantial benefits to coastal communities at certain times.
- Maintaining wellbeing benefits from domestic tuna industries requires policy co-ordination between different fisheries policies, and between different arms of government. Anti-Illegal Unreported and Unregulated (IUU) fishing policies, the implementation of labour laws, and the provision of basic services are policy areas alongside fisheries development which can impact the contributions from tuna fisheries to coastal community wellbeing.
- In case-study areas, government fisheries policies have not yet had substantial positive impacts on small-scale tuna fisheries.
- In large-scale fisheries relationships between government fisheries managers and the private sector are critical for ensuring coastal community wellbeing is not unduly impacted by changes in fisheries management or policy.
- Export market preferences including certification strongly influence the operation of fisheries, and the benefits that flow from them.
- Relationships between fishing, trading and market actors along the value chain influence the flow of benefits, and the ability of stakeholders to effect change.
- Social relations shaped by socio-economic status, migration and gender influence the distribution of wellbeing benefits at the community level, and represent a type of informal governance influencing how fisheries operate at the community level.

## Planning for community wellbeing

- There is no “one size fits all” solution for delivering on coastal community wellbeing. Careful, co-ordinated planning by multiple stakeholders is required to deliver benefits to coastal communities, while mitigating risks for vulnerable groups.
- Planning and decision-making processes for tuna fisheries should adopt explicit objectives that include ensuring the wellbeing of communities, and/or the welfare of vulnerable groups reliant on tuna fisheries, is maintained or enhanced.
- Collating and collecting data on the social and economic aspects of tuna fisheries at the national, provincial and, where appropriate, the community level can assist in monitoring objectives related to coastal community wellbeing.
- Consultation with industry, civil society actors and communities, and co-management of fisheries can support the initial identification of broad likely impacts of policy, as well as the likely variations across fisheries, regions and ports, and work to address these during implementation.

## A framework for assessing the potential impacts of governance changes on community wellbeing in tuna fisheries

The assessment framework is a set of topics to consider sequentially. Depending on the level of knowledge or data available in a fishery, the framework may be used to perform a “first pass” qualitative assessment that can help orient future research efforts, or it may be able to provide a more robust assessment of the likely effects where a high level of knowledge and data availability exists. Including evidence to support assessments increases the robustness of the assessment.

Our framework does not provide policy-makers with prescriptive solutions – it is not a model that can generate decisions, or a table that once filled out will produce an obvious answer. Instead, it clarifies the key questions to ask in order to find out what the impacts of a change in fisheries management might be on the wellbeing of relevant communities, and what information can be used to answer those questions.

Table 1. Framework for assessing fisheries governance in terms of community wellbeing

<b>The potential governance intervention</b>	The intended change in a fishery, or a set of options for managing a fishery or an aspect of a fishery, is listed.
<b>The fishery affected</b>	Relevant information on gear/vessel type, target species, geographical focus, destination market or any other characteristics of the fishery that are relevant to determining the scope of the intervention are included.
<b>Potential benefits to coastal communities</b>	The intended or anticipated benefits that would arise from the initiative, as well as whether these are likely to be realised in the short, medium or long term. Where relevant, this should include consideration of contributions to wellbeing related to economy, food and nutritional security, and healthy environmental systems, as well as consideration of poverty alleviation and food security functions the fishery may perform.
<b>Who in the value chain benefits</b>	The actors, communities or stakeholders who would receive the benefit are listed. Close consideration should be paid to socio-economic status, participation of migrant communities or migrant labour, and gender.
<b>Potential lost benefits/risks to coastal communities</b>	The benefits that may be lost as a result of the intervention (such as livelihoods if catches are restricted), are listed, with likely time frame (short, medium or long-term). Where relevant, this should include consideration of contributions to wellbeing related to economy, food and nutritional security, and healthy environmental systems, as well as consideration of poverty alleviation and food security functions the fishery may perform.
<b>Who in the value chain bears the loss/is exposed to risk?</b>	The actors, communities or stakeholders who might lose benefits, or be exposed to risks, are listed. Close consideration should be paid to socio-economic status, participation of migrant communities or migrant labour, and gender.
<b>Factors influencing effectiveness and the ability to mitigate risks/vulnerabilities</b>	Any factors likely to influence the effectiveness of an initiative, or if present may mitigate the risks of an initiative, are listed. For example, the presence of alternative livelihoods, alternative food sources, or the presence of effective monitoring or management systems. This allows for realistic assessment of the feasibility of an initiative in the context of a specific fishery and management system.

A series of “hypothetical assessment examples” are provided in Section 4.1 of the main body of the full report, that illustrate how this framework might be used. A monitoring framework for selecting indicators relevant to tracking wellbeing in particular fisheries is provided in Section 4.2 of the full report.

A purse seine vessel in Bitung Harbour, North Sulawesi Province, Indonesia.  
Photo Nick McClean





# Overview of key findings

## Key findings on tuna fisheries' contributions to coastal communities' wellbeing

**As well as generating revenue for regional economies, tuna fisheries generate livelihood opportunities up and down the value chain. These opportunities are important sources of income for people who may have few other economic options, but many of these livelihoods are chronically insecure and some carry significant physical risk.**

Key economic contributions to local and provincial economies occur firstly through revenue generation. Tuna fisheries are a major sub-sector of the economy in Eastern Indonesia and rural Solomon Islands, each of which have significant development challenges and relatively few other major industries. Tuna fisheries therefore generate significant contributions to regional development and to government revenues at provincial and national levels.

This supports the second major contribution, the provision of employment and livelihoods along the value chain. Tuna fisheries support a wide variety of fishing, trading and processing roles in formal export chains, and businesses supplying inputs and services to the fishing industry. Additionally, a wide variety of livelihood opportunities for smaller-scale fishers, processors and traders in informal market chains and fisheries supplying markets in villages and provincial centres exist. Lower-paid roles in formal and informal market chains are open to people across the social and economic spectrum.

Working conditions are highly variable however, and influence the extent to which these employment/livelihood opportunities support the wellbeing of workers, or expose them to risks and vulnerabilities. Key variables here relate to income security and workplace safety. In particular, fishing roles tend to be less secure overall, often relying on insecure catch-share models, and – in general – expose workers to greater health and safety risks than land-based trading/processing roles. Similarly, informal market chains supplying provincial and local markets around ports/landing sites tend to be less secure forms of work and with fewer safety protections in place for known risks than those in the formal sector.

**Domestic tuna market channels, including informal domestic channels associated with export markets, provide significant sources of food for coastal communities.**

While the largest tuna fisheries have been primarily driven by export markets, even these export-oriented fisheries generate important food supply benefits. This includes canned tuna distributed throughout the Solomon Islands and likely extensive distribution of canned and prepared tuna throughout Indonesia (less readily available data exists on domestic markets for canned tuna in Indonesia). Informal market chains selling coastal tuna species, low-value bycatch and discards in provincial and local markets around landing/trans-shipment sites also provide substantial volumes of fresh, brined and smoked fish to rural and regional communities. Moreover, two case studies in this report are fisheries that solely supply tuna to growing urban populations in provincial centres. Tuna fisheries thus play important and largely under-appreciated roles in domestic food supply. However, due to the low value of these domestic chains, regulation or market-driven improvements are not commonly implemented, and food quality and safety issues with fresh and brined fish in particular are common. These detract from the wellbeing contributions these chains make to both fishers/traders and consumers.

**Tuna fisheries provide important “welfare” functions through providing livelihoods and food for poor and marginalised members of coastal communities. In some cases this includes directly alleviating poverty and providing food security at the community level.**

Tuna fisheries in Indonesia and the Solomon Islands support livelihoods and food supplies to the poorest people in communities several ways. Through supporting a basic standard of living where few other alternatives exist (safety net function); through absorbing excess labour in the economy and thus alleviating the impacts of wider economic changes (safety valve/ labour buffer function); and through providing basic subsistence (food security function).<sup>1</sup> Due to the multi-sited nature of our study we have not been able to establish the extent of these functions for particular fisheries and communities. Further research of this nature would be of high value to future planning and management processes. Ideally this would be based on national-level household survey raw data, disaggregated for tuna fishing communities, and with further targeted data collection.<sup>2</sup>

<sup>1</sup> See Béné et al. (2010) and FAO (2005) for discussion of the poverty alleviation and food security functions of fisheries introduced here.

<sup>2</sup> In Indonesia SUSENAS national household survey is conducted annually by the National Bureau of Statistics. Reporting of data is publicly available for download at <https://microdata.bps.go.id/mikrodata/index.php/catalog/SUSENAS>. Raw data may be accessed via request to the bureau. In Solomon Islands, the Household Income and Expenditure Survey (HIES) is a decadal survey run by the Solomon Islands National Statistics Office. For national and provincial level reporting see <https://www.statistics.gov.sb/statistics/demographic-statistics/household-income-and-expenditure-surveys>. Raw data may be accessed via request to the bureau.

In all four cases, tuna fisheries are providing livelihoods for people in the poorest groups in communities. In the case of large-scale fisheries, high levels of internal migration for low-paid work suggest that these fisheries may provide a safety valve/labour buffer function, although focused studies into both the “push” and “pull” factors associated with entering low-paid tuna work in the Solomon Islands and Indonesia do not exist.

In small-scale fisheries, migrant communities fish offshore for tuna in part due to their entrenched status on the margins of rural society and lack of other options. While returns from tuna fishing can be periodically attractive, the risks of these livelihoods are very high. The available evidence suggests that in the Solomon Islands tuna fishing is an important economic opportunity for marginalised migrant communities with relatively few other sources of income or food. In Indonesia, migrant communities in export handline fisheries exist periodically below the poverty line due to seasonality of fisheries.

Rural areas of Eastern Indonesia and the Solomon Islands each have high levels of fish consumption. The presence of informal market chains supplying large amounts of fresh and smoked tuna in regional and provincial towns and villages indicates that tuna therefore plays an important role in the daily subsistence of many community members. While some of this fish is of lower quality than that entering export chains, creating food safety issues, it provides an accessible low-cost source of food and micronutrients for low-income consumers, performing a food security function.

**Regional agreements, government regulation, market standards (certification) and community-led management all have roles to play in keeping tuna fishing within sustainable catch levels.**

Healthy stocks underpin the social and economic benefits of tuna fisheries flowing to coastal communities. Co-operative regional management and efforts to reduce IUU, driven by national governments and government institutions in end markets (particularly the EU), have impacted on large-scale fisheries supplying canneries in both Indonesia and the Solomon Islands. While the impacts are complex and varied, these have contributed to important improvements in government policy and capacity that arguably underpin the longer-term sustainability of these fisheries.

Regarding small-scale fisheries, Indonesian government policy focused on IUU has seen a shift in effort towards small and medium-scale vessels as a potentially environmentally sustainable form of tuna fishery. These are yet to have documented positive impacts on stocks or sustainable levels of effort, and effort reductions in large-scale foreign vessels are reported as being steadily replaced by effort in domestic small and medium vessels (Cabral et al., 2018). However, civil society and market-based efforts focused on

“one-by-one” fisheries (e.g. handline) have had a substantial impact on how small-scale fisheries contribute to overall sustainability, through supporting the development of robust data collection initiatives that will support the longer-term development of effective management systems. In the Solomon Islands voluntary community-based effort management in the small-scale tuna fishery in Gizo has had the most substantial impact on the levels of fishing in this small-scale tuna fishery. While this is an extremely small fishery and these changes were driven primarily by economics, it provides a potentially instructive example of how small-scale fisheries with restricted markets can contribute to implementing catch/effort limits.

In general, future stock sustainability relies on effective catch and/or effort limits being in place regardless of the allocation of catch to small-scale or large-scale vessels, or to domestic or foreign fleets.



A lure and hand-line used for tuna fishing. Maluku Province, Indonesia. Photo Dedi S. Adhuri

## Key findings on governance factors influencing wellbeing

### **Government policy encouraging domestic tuna fishing and processing can generate positive impacts on community wellbeing.**

Longstanding domestic fisheries and onshore processing development policies in both Indonesia and the Solomon Islands have at different times been successful in delivering wellbeing benefits to coastal communities.

The development of a Solomon Islands domestic fleet and processing sector since the early 1970s provides a particularly long-lived and on-the-whole successful example of domestic-sector development, creating the largest private-sector employer in the country. This is in spite of the high-cost operating environment and highly competitive market conditions of Pacific tuna fisheries creating barriers to profitability that commonly hamper domestic-sector development elsewhere in the Pacific Islands.

Between the early 2000s and 2014 the Indonesian government supported increasing the capacity of the fleet operating in Indonesian waters, tied to incentives to invest in onshore processing and to land-catch domestically. Indonesian tuna production substantially increased, especially in major ports in Eastern Indonesia. While this trajectory was not without problems and the situation has changed substantially since 2014, it did provide livelihood opportunities in tuna ports across Eastern Indonesia, with tuna production in Bitung employing almost 14,000 people and being responsible for 87% of provincial agricultural production at its peak.

### **Maintaining wellbeing benefits from domestic tuna industries requires policy co-ordination.**

Implementation of domestic-sector development policies requires co-ordination with wider government fisheries policy and with other arms of government to successfully deliver wellbeing benefits to coastal communities. Where planning and policy co-ordination is not undertaken then the wellbeing benefits for coastal communities associated with domestic-sector development can be diluted, or placed at risk, including by increasing vulnerabilities for lower-paid workers.

In the case of interacting fisheries policies, problems related to IUU fishing created substantial fisheries management challenges in both Indonesia and the Solomon Islands that potentially threatened domestic sector benefits, and the contrasting experiences of addressing these are instructive by highlighting the importance of policy co-ordination.

In the case of the Solomon Islands the issuing of an EU yellow card threatened access to the EU, the principal market for tuna exports. This required substantial reforms to government fisheries management processes to address and maintain the viability of the domestic sector, which occurred over a four-year period. In this case meeting these requirements was undertaken in a way that did not unduly impact on domestic-sector operations, and the benefits it delivers to coastal communities.

In the case of Indonesia, substantial amounts of catch being illegally trans-shipped created resource pressure that impacted small-scale fishers and reduced catch flowing to domestic processing operations. Efforts to address IUU that were implemented quite suddenly in late 2014 by the Indonesian government did substantially reduce trans-shipment of catch outside of Indonesia. However, these efforts also had the effect of reducing landed catch in major Eastern Indonesian ports by as much as 60%, which may potentially have been lessened or avoided with transition planning. Indonesia's IUU regulations may in the future deliver benefits to small-scale fishers, and it is not clear how widespread the negative impacts were of these regulatory changes, however the abrupt implementation of regulations reduced the wellbeing benefits associated with the existing large-scale fishing and processing operations. Reductions in landed catch led to over 5,000 job losses in Bitung, reduced the volume of catch entering informal market chains supplying food to villages and provincial urban markets, and greatly reduced livelihood security for remaining workers, particularly those in lower-paid, casualised roles. This led to heightened risks of labour abuse.

The need for policy co-ordination applies to policies beyond the remit of fisheries agencies alone. The persistent insecurity and danger of work in fishing jobs significantly dilutes the benefits of entering tuna fisheries, particularly where catch-share models or dangerous offshore working conditions are prevalent. Where issues relate to provision of adequate housing, sanitation and basic services exist in tuna ports and fishing-dependent areas, they also dilute the benefits of entering tuna work. Provision of these services goes beyond the responsibilities of fisheries agencies to deliver alone, however, and policy co-ordination with other arms of government is required to ensure the benefits of tuna fishing flow back to coastal communities, and support their overall wellbeing.



Purse seine net and workers in Noro Port, 2013. Western Province, Solomon Islands.  
Photo Kate Barclay

**In case-study areas government fisheries policies have not yet had substantial positive impacts on small-scale tuna fisheries.**

In the Solomon Islands small-scale tuna fishers supply markets in the country's urban centres. Despite notable benefits associated with these fisheries in the form of livelihoods to fishers and traders, and a locally important source of fresh fish, these fisheries have so far been the focus of very little government effort or activity. Greater support from government for these fisheries, including addressing the lack of business support, providing safety equipment, and developing inshore Fish Aggregating Devices (FADs), may be highly beneficial for these fisheries.

In Indonesia small-scale tuna fisheries exist to supply both lucrative export markets, and substantial urban markets in provincial centres. Government policies for domestic-sector development have sought to shift fishing effort from large to small-scale fisheries since 2014. Current Harvest Strategy development similarly has the capacity to deliver benefits to small-scale fisheries upon implementation, and efforts to support the basic rights of small-scale fishers and vessel crews have been put in place in recent years. However, benefits flowing from these policies to small-scale fishers and traders were not yet apparent in case-study areas at the time of fieldwork in 2018, or in available published literature.

Of note here is that Indonesian FAD management regulations have yet to be implemented effectively, but if they are implemented they may reduce wellbeing benefits flowing from some small-scale fisheries, depending on the nature of the regulations. This particularly applies to fisheries supplying markets in provincial centres, where small-scale vessels rely on co-operative arrangements with a variety of FAD owners for resource access. Focused research on different FAD management options would enable the Indonesian government to account for vulnerable fishers and the needs of coastal communities in implementing FAD management.

**In large-scale fisheries relationships between government fisheries managers and the private sector are critical for ensuring coastal community wellbeing is not unduly impacted by changes in fisheries management or policy.**

In the Solomon Islands, public-private partnerships have always underpinned the viability of the large-scale domestic tuna fishing and processing sector. The commercial viability of large-scale tuna fishing and processing is the foundation for community wellbeing benefits, and thus should be considered in the context of government policy changes. During the period under the EU Yellow Card, for example, changes in government fisheries management systems occurred largely in collaboration with industry and therefore did not lead to loss of market access, and the negative impacts on coastal communities that would have caused.

In Indonesia, as noted the rise of IUU fishing and particularly illegal transshipment led to major regulatory changes in 2014, which were carried out by the national government. This had substantial impacts on the wellbeing contributions from these fisheries to coastal communities in Bitung and Ambon, and also contributed to a deterioration in trust between the fisheries ministry and domestic-sector companies. Effective management systems, however, require collaboration between government and private-sector actors in data sharing, policy development, policy implementation, and monitoring the outcomes of policy in both environmental and social terms. As a result, the wellbeing benefits that flow from fisheries rely on these relationships being in place, and the impacts on domestic private-sector operations should be considered in policy transitions.

**Export market preferences including certification strongly influence the operation of fisheries, and the benefits that flow from them.**

Extensive and specialised tuna fisheries have primarily emerged in response to export market demand, and whether tuna fisheries are connected to export or domestic markets tends to strongly influence the benefits associated with them.



Export markets have enabled significant wealth generation in some parts of the chain and have provided new livelihood opportunities in rural and remote areas. The nature of export market connections varies, and this influences food safety, sustainability and labour practices. In particular, export markets in the EU and the US have significant upstream influences on fisheries. Buyer preferences related to labour standards and sustainability have always exerted informal influence on fisheries, while improvements in food safety and hygiene have been driven by both buyer standards and government regulation. The rise of standards under Fair Trade, MSC and other global and market-specific labels have come to play a significant role in securing market share and access in EU and US markets that underpin the viability of entire fish chains in Indonesia and the Solomon Islands. In many cases these initiatives have as substantial an impact on the benefits flowing to coastal communities as government policy in tuna fisheries.

Domestic-oriented fisheries tend to be lower value, and benefits may also be restricted due to small market sizes. As a result, benefits are focused more around food supply and new livelihood opportunities in rural and remote areas, rather than wealth generation. Domestic markets also tend to have lower standards around health and safety, and little attention from government or market actors regarding implementation of regulations, standards and safe practices.

**Relationships between fishing, trading and market actors along the value chain influence the flow of benefits, and the ability of stakeholders to effect change.**

In export-oriented small-scale fisheries in Maluku, Indonesia, patron–client relations and relations with processing and trading firms each facilitate access to lucrative export markets, and enable the flow of benefits to remote coastal communities that were not available prior to the growth of the export-oriented fishery. In particular, connections to exporters to the US market have enabled enhanced benefits associated with Fair Trade-certified product to be delivered to fishers and communities. However, patron–client relations also lead to persistent debt for some fishers, and the accretion of financial benefits from tuna fishing among relatively few traders. Meanwhile fishers receive an adequate, though not lucrative and at times highly insecure livelihood.

By contrast, in the Solomon Islands, independent handline tuna fishing families in Gizo do not rely on patrons for capital, engage in both fishing and trade, and have been able to voluntarily limit effort within the fishery, thereby capturing the greatest share of the value of the catch, and maintaining high prices. However, they lack a connection to trading firms that can facilitate high-value export market access, and therefore the returns from the sale of fish are comparatively limited, due to the small size of their market.

In domestic-market oriented fisheries, such as those in the Maluku and Gizo case studies, relations between non-FAD owning small-scale vessels and FAD owners influence resource access, and therefore to a large extent the viability of these fisheries to provide employment and food supply to provincial urban centres. Due to the fact that these are low-value domestic fisheries, market-based efforts to influence sustainability, traceability or labour standards are also not likely to be effective, and so little attention is paid to these fisheries by government or certifiers.

In large-scale fisheries in Indonesia, a variety of both integrated and independent vessels, trading firms, canneries and informal traders mediate the flow of fish. This affects consistency of supply, price negotiations for raw materials, and whether fish enter the cannery chain, or the informal chain for consumption in provincial towns and villages. The complexity of these relations makes implementing certification and standards around sustainability, traceability and labour conditions particularly challenging. The diversity of end markets and the presence of many independent vessels can dilute incentives to enter certified chains.

In large-scale fisheries in the Solomon Islands, the high cost of fishing operations and the highly competitive nature of the global tuna market means that integration of fishing and processing operations under a single firm with global trading connections is an important aspect of operational viability. This also makes implementation of certification and standards around sustainability, traceability and labour conditions relatively simple.

**Social relations shaped by socio-economic status, migration and gender influence the distribution of wellbeing benefits at the community level, and represent a type of informal governance influencing how fisheries operate at the community level.**

In general, socio-economic status influences the ability of individuals and communities to participate in different types of economic activities, and gain access to opportunities to advance socially and economically (see e.g. Stiglitz, Sen, & Fitoussi, 2009). In tuna fisheries individuals or communities of lower social-economic status are more likely to occupy lower-paid jobs in formal chains, as well as more unsafe and insecure roles such as offshore fishing in small-scale fisheries, or casual trading roles in informal chains. Migration and gender norms are two further influences intersecting with socio-economic status, which in combination affect the distribution of benefits within communities.

The influence of migrant status on socio-economic background and outcomes in fishing communities is a well-established phenomenon globally (e.g Bailey et al., 2008; Cassels et al., 2005; Jul-Larsen et al., 2003; Kramer et al., 2009, Bailey, 1997). In small-scale tuna fisheries in Maluku

and Gizo, migrant Butonese and Gilbertese communities who arrived two to three generations ago experience entrenched social and economic marginalisation in coastal communities, which structures their participation in tuna fisheries. Offshore tuna fishing is a viable but often dangerous livelihood available to migrant communities with few other economic options, and something that locals are often unwilling to do.

The distribution of benefits and costs resulting from this division of labour is variable – in Maluku it economically advantages local traders over migrant fishers, while in Gizo it economically advantages fishers who monopolise both fishing and trade. However, in all cases it exposes marginalised communities to the riskiest aspects of the fishery. A further aspect of general significance is the influence of these dynamics on the feasibility of implementing initiatives that rely on harmonious relations between fishers and coastal communities, such as Fair Trade certification. Migrant fishers often have highly variable relationships with coastal communities, as indicated by their marginal social and economic status, and so in cases where co-operative relations cannot be brokered, fishers with legitimate claims to meeting certification standards may not be capable of accessing these schemes.

In large-scale tuna fisheries in both Bitung and Noro labour migration is a key feature of the operations of the chain. The presence of Filipino labour in the Bitung fishery was central to its historical development, and internal migrants from Java and across Eastern Indonesia continue to have a strong presence among vessel crew today. In Noro, most employees in the fishing and processing sectors are internal migrants, with people seeking work in Noro from all over the archipelago. In addition to remittances distributing economic benefits across Indonesia and the Solomon Islands, the classic macroeconomic “safety valve/labour buffer” function of fisheries revolves around internal migration due to economic shocks or excess labour in the rural economy leading to entry into fisheries and fisheries jobs, to alleviate landlessness (see e.g. Bailey, 1997) or unemployment (see e.g. Jul-Larsen et al., 2003). Further research into the “push and pull” factors leading to labour migration would be of high value for understanding the economic functions of tuna fisheries.

The wider literature (ADB, 2015; Chaaban & Cunningham, 2011) indicates investing in women’s training, skills, education and workforce participation has impacts on wider family and community wellbeing. Gender norms around work influence the nature of men’s and women’s participation in tuna fisheries at the community level, and tuna fisheries in Indonesia and the Solomon Islands reflect wider patterns of participation across Pacific tuna fisheries. Men tend to occupy roles associated with fishing, heavy physical labour, positions associated with authority, and trading roles associated with higher levels of wealth generation. Women tend to participate in roles associated with the trade of lower-value products, often



Fish and chip vendor preparing fish for cooking and sale. Gizo, Western Province, Solomon Islands. Photo Reuben Sulu

occupy the majority of processing roles, and tend not to be in positions of authority. There are many exceptions to this, however these patterns can initially assist in understanding the distribution of benefits and risks in tuna fisheries at the community level.

Men are exposed to the greatest risks in tuna fisheries by virtue of their involvement in at-sea work, as well as having greater access to positions of influence and wealth generation along the chain. At the local level women are less exposed to physical risks as a result of their work, but often experience income insecurity through involvement in low-value local trading roles in informal markets. At the same time, in Indonesia this means many women build detailed knowledge of markets, prices, food supply and local trade through their work. In some cases, particularly in Indonesia, this has led to some upward mobility to enter more lucrative roles in export chains for both canned and fresh fish. In some prominent cases, by virtue of their involvement in successful fishing businesses, women have been able to leverage significant influence on fisheries management and politics in Indonesia, including the former fisheries minister, Susi Pudjiastuti.

In the Solomon Islands, a focus on improving women's participation in the workforce through financial incentives and a range of training initiatives in Noro has also led to greater workforce participation and women occupying non-traditional roles. In some cases, upward mobility has also led to women occupying management positions in companies.

These examples of social mobility and investing in women's working conditions warrant further research, in the context of seeking to understand the influence of gender roles and norms on tuna fisheries, and in developing strategies to enhance community wellbeing in tuna fishing communities.

## Findings on planning for community wellbeing

**There is no “one size fits all” solution for delivering on coastal community wellbeing. Careful, co-ordinated planning by multiple stakeholders is required to deliver benefits to coastal communities, while mitigating risks for vulnerable groups.**

The cases presented in this report vary greatly in their basic operational characteristics, and the social, economic and governance contexts in which they operate. A key point to be made in developing governance interventions that are capable of delivering on sustainability and wellbeing outcomes for coastal communities, is that there are no solutions considered in these cases which could be successfully applied across all the conditions found in tuna fisheries. There are no panaceas. Arrangements that support worker welfare in Noro are not immediately transferable to Bitung. Arrangements that support implementing Fair Trade certification in handline yellowfin fisheries in Maluku are not immediately transferable to handline tuna fisheries in Gizo, or even to other handline tuna fisheries in Eastern Indonesia.

Every fishery, and different communities within each fishery, has unique sets of challenges and opportunities. Context-specific planning needs to be undertaken to ensure feasibility and the achievement of socio-economic objectives, while maintaining fishing at biologically safe levels. At the same time this process must fit within the capacities of stakeholders and regulators to design and apply context-specific planning approaches.

Given that there is no “one size fits all” solution, and the complexity of the factors that influence the flow and distribution of benefits from tuna fisheries, multi-stakeholder co-operation is required in order to deliver on community wellbeing outcomes. This includes fisheries agencies, as well as other government departments with responsibilities that overlap with fisheries, industry actors, civil society organisations and coastal communities themselves.

**Planning and decision-making processes for tuna fisheries should adopt explicit objectives that include ensuring the wellbeing of communities, and/or the welfare of vulnerable groups reliant on tuna fisheries, is maintained or enhanced, alongside objectives related to biological, ecosystem and high-level economic considerations.**

In light of the substantial contributions tuna fisheries make to regional and coastal economies, food supply, and to groups and communities seeking to alleviate economic hardship, insecurity and social marginality, tuna fisheries' planning processes can and should explicitly seek to manage for wellbeing outcomes in coastal communities. This ideally would occur through adopting management objectives that include ensuring the wellbeing of communities, and/or the welfare of vulnerable groups reliant on tuna fisheries is maintained or enhanced, alongside objectives related to biological, ecosystem and high-level economic considerations.

Existing regional and national fisheries legislation and policy provide a sound basis for this in case study sites.

In the Solomon Islands, the Regional Roadmap for tuna fisheries have clear goals to increase domestic employment in onshore processing, nested within the wider regional strategy and monitoring processes of the Pacific Islands Forum<sup>3</sup>. At a national level the Solomon Islands Constitution, and the Solomon Islands National Fisheries Policy and the National Tuna Management and Development Plan each support policies which have already delivered outcomes in relation to community wellbeing, and the welfare of vulnerable groups, in large-scale tuna fisheries. However, these have not yet been implemented in small-scale tuna fisheries.

In Indonesia the Indonesian Constitution, the objectives of the Fisheries Management Act 2004 (and amendments 2009), and the policy priorities of the current ministry provide a sound basis for policies focused on community wellbeing, and the welfare of vulnerable groups. While some policies with the aim of supporting wellbeing/welfare outcomes in small-scale fishing communities have been implemented, there have yet to be major attempts to account for wellbeing/welfare outcomes in large-scale fisheries.

To build progress requires taking these wider legislative and policy instruments and incorporating wellbeing/welfare objectives into ongoing planning, monitoring and management cycles for specific tuna fisheries.

<sup>3</sup> The roadmap and periodic report cards can be downloaded at <https://www.ffa.int/node/1569>

**Collating and collecting data on the social and economic aspects of tuna fisheries at the national, provincial and, where appropriate, community level can assist in monitoring objectives related to coastal community wellbeing.**

Currently there is a substantial amount of data that is collected for tuna fisheries at the sub-national level, that can be collated and disaggregated (where necessary) for tuna fisheries and tuna fishing communities. The following are existing sources of information, or data that is regularly collected by agencies and companies, that could potentially be used to begin informing decision-making, where objectives related to community wellbeing are concerned.



Hand-line/troll-line vessels docked at Arumbai Market, Ambon City, Maluku Province, Indonesia. Photo Dedi S. Adhuri

## **Solomon Islands**

- Catch, value, employment and earnings data for the domestic sector collected by the Solomon Islands Ministry of Fisheries and Marine Resources, and reported under Forum Fisheries Agency fisheries indicators and report cards.
- National coastal fisheries catch data collected by the Solomon Islands Ministry of Fisheries and Marine Resources.
- Markets data in Gizo, Honiara and Auki collected under the HapiFis program.
- Household Income and Expenditure Survey household socio-economic survey raw data collected by the Solomon Islands National Statistics Office.
- Internal reporting attached to Fair Trade fisheries certification and implementation of independent labour standards collected by domestic private sector companies and certifying bodies.

## **Indonesia**

- Fisheries data (Catch, production, vessel numbers, fisher numbers, price and cost data) collected by provincial fisheries ministry offices and port authorities. In some cases this is publicly available on the national ministry website. See <http://sidatik.kkp.go.id/>
- Fisheries data (Catch, production, vessel numbers, price and cost data) collected via port sampling programs and held by Fisheries Co-Management Committees (FCMCs).
- SUSENAS national household socio-economic survey raw data collected by the Indonesian Bureau of Statistics.
- Internal reporting attached to Fair Trade fisheries certification collected by private companies and certifying bodies.

While these data sources may not cover all aspects of relevance to community wellbeing, they can contribute to developing a baseline understanding of the social and economic aspects of tuna fishing communities, where data is able to be shared with planning/policy development processes. This can help in developing more targeted data collection processes, and establishment of regular monitoring cycles. Section 4.3 of the full report provides a framework to assist in developing data collection and monitoring systems for wellbeing in tuna fishing and coastal communities.



**Consultation with industry, civil society actors and communities, and co-management of fisheries can support the initial identification of broad likely impacts of policy, as well as the likely variations across fisheries, regions and ports, and work to address these during implementation.**

While social and economic data is critical for making robust, evidence-based decisions, in many cases the broad likely impacts of policy can be forecast in the early stages of planning, to allow for management options to be canvassed that do not unduly impact on the wellbeing of communities or the welfare of vulnerable groups. This can be done via consultation with knowledgeable industry, civil society and community stakeholders where collaborative relationships exist, alongside consulting independent experts and using readily available information.

Given the resource-intensive nature of data collection and analysis in what are often complex fisheries, careful consideration therefore should be given to what new data is required, and the extent to which consultation with knowledgeable stakeholders and experts, alongside existing available information, can identify likely social and economic impacts of policies. It is also worth noting that where effective co-management of fisheries exists, development of a knowledge base about fisheries and effective implementation of policy can be supported by clear agreements on data and information sharing between industry and government, for the purposes of effective management (see e.g. Jentoft et al., 1998; PIRSA, 2013).

In some cases consultation and co-management processes may be sufficient to craft workable policy that accounts for social and economic impacts adequately, and support its effective implementation, and these should be explored in the context of tuna fisheries. However, such processes will in many cases also highlight knowledge gaps that need to be filled via further research or analysis, and in all fisheries certain aspects of decision-making will always remain the responsibility of government agencies.

Skipjack tuna being unloaded from a hand-line/troll-line vessel at Arumbai Market, Maluku Province, Indonesia. Photo Dedi S. Adhuri



# Key findings and recommendations from case studies

## Case study: Indonesia

### Maluku handline yellowfin fishery

#### Key wellbeing contributions

- The development of this export-oriented fishery in the 1990s has provided a widespread livelihood opportunity to fishers and a variety of traders in remote and rural areas of Maluku that was not previously available.
- As well as exporting high-quality fish, low-quality and smaller fish and bycatch enter informal chains supplying markets in towns on Ambon, Buru and Seram Islands, as well as being consumed and traded in villages by fishing families.
- The presence of this livelihood opportunity has provided an important economic opportunity to migrant Butonese fishers who are marginalised in coastal communities and in many cases have few other economic opportunities. These fishers periodically exist below the poverty line due to the seasonality of these fisheries, and this fishery likely provides a basic poverty alleviation via performing a “safety net” function.

#### Factors influencing wellbeing contributions

##### Government regulation

Reforms related to IUU and ex-foreign vessels have not yet had a direct impact in this fishery in terms of increases in fish abundance. While these policies may deliver benefits in time to small-scale fishers, a substantial medium-term risk exists in relation to small-scale effort replacing large-scale effort, leading to potential overfishing of yellowfin and erosion of the substantial social and economic benefits arising from the fishery.

##### Non-government influences

The emergence of an export market chain for fresh tuna transformed tuna fisheries in the region and led to substantial new benefits flowing to remote and coastal villages. The distribution of wellbeing contributions from the fishery are shaped by the way the industry operates, as well as underlying social relations.

- Patron–client relations between fishers and traders have supported the growth and development of the fishery, while also leading to a clear distribution of benefits in favour of traders operating in the export chain.
- US market demand for Fair Trade–certified fish has led to wellbeing benefits (training, market knowledge, community development projects) for fishers able to meet the criteria for this market. However, barriers to entry into FT schemes exists, and incentives are not always aligned with fishers’ aspirations and needs. The current standards, while highly promising, are unlikely to be scaleable across all similar handline yellowfin fishing communities.

### **Influences on the distribution of benefits**

#### **- Socio-economic status and status as a migrant**

The presence of migrant communities has structured participation in the fishery from its initial development, and therefore the distribution of economic benefits, as well as exposure to safe/unsafe work conditions for different groups. In particular, the marginal status of migrant Butonese has led to them become tuna fishers, which means they have gained fewer financial benefits than traders in the export chain and they are exposed to greater livelihood insecurity and safety risks.

#### **- Gendered division of labour**

Gender relations structure participation in the fishery in terms of which roles men and women occupy. While men tend to be associated with fishing and roles that focus on trading higher-quality fish (associated with greater wealth accumulation), women have a key role in managing household income and local trading. As a result, some women have been able to use their financial and business literacy to achieve upward mobility and enter the higher value export chain.



A seasonal camp for handline yellowfin fishers, North Buru Island, Maluku Province, Indonesia. Photo Terry Indrabudi

## Maluku handline/troll-line fishery

### Key wellbeing contributions

- Supplies substantial amounts of skipjack tuna to growing urban populations in Ambon, in both fresh and smoked forms.
- Provides livelihoods for vessel crew and a range of casual retailers in Arumbai Market. While these roles are insecure, they are highly accessible and appear to provide economic opportunities for people from across the socio-economic spectrum, including some crew who enter the fishery in teenage years to alleviate family financial difficulties.

### Factors influencing wellbeing contributions

#### Government

- Government regulations regarding FAD management (with some minor exceptions) and labour and safety standards have not had a major influence on these fisheries as yet.
- There remains a lack of understanding about how implementation of FAD management would affect wellbeing contributions coming from the fishery.
- Contributions to low income and potentially vulnerable groups likely flow from this fishery. Regulation has to be carefully planned in order not to exacerbate poverty or food insecurity among those groups of people.

#### Non-government influences

- Wellbeing is significantly affected by relations between actors in the fish chain. In particular, access arrangements for FADs between FAD owners and handline vessels are a critical aspect of ensuring that resource access, and therefore wellbeing benefits, can be maintained for this chain.
- Being focused on domestic and low-value markets, this fish chain is almost entirely informal. As a result, residents of Ambon with little income or education can participate, however this also means there are issues regarding food safety and work conditions, and a lack of security of income/employment.

#### Influences on the distribution of benefits

- Socio-economic status and the gendered division of labour influence the distribution of benefits in this fishery. Further research is required to build the evidence base on who derives basic poverty alleviation and food security benefits, and identify clear patterns related to the participation of migrant fishers.



Yellowfin tuna for sale in a local Market. Seram Island, Maluku Province, Indonesia.  
Photo Terry Indrabudi

## Bitung purse seine/pole-and-line skipjack fishery

### Key wellbeing contributions

- Tuna fishing accounts for as much as 87% of agricultural production in North Sulawesi province, and has historically been a major source of economic activity in Eastern Indonesia.
- Over 8,000 people are currently employed in Bitung across fishing and processing sectors, with historical highs of almost 14,000 prior to 2014. In addition, substantial numbers of people are employed in informal chains supplying markets throughout North Sulawesi.
- Bitung is a substantial source of food supply for North Sulawesi, with fresh and smoked tuna entering informal chains supplying markets in Bitung, the provincial capital Manado and rural village markets. It is likely that the low-cost nature of this product means it provides important food security benefits through provision of an accessible source of protein for low-income consumers.
- Due to the prevalence of migrant labour in Bitung, it is likely that this fishery alleviates poverty for some migrant workers who may be entering the fishery due to difficulties in home regions.

## Summary of key factors influencing wellbeing

### Government influences

#### - National-level policy and regulation

National policy and regulation has had a profound impact on the fleet operating out of Bitung, and consequently on tuna production levels in the processing sector. Fisheries development policies supported substantial growth of the sector in Bitung up to 2014. Anti-IUU regulations in 2014 however led to sustained reductions in employment in processing plants of sometimes over 50% of staff, increases in work insecurity and vulnerability to labour abuses, and an increase in fish prices. This impacted the viability of some trading operations in the local chain, particularly fish-smoking businesses supplying the local trade. However, there are anecdotal reports of increased resource availability for small-scale operators, and some well positioned local fish traders and fishing vessels have benefited from increases in fish prices following reductions in supply.

#### - Historical lack of evidence-based planning processes

Since 2012, successive major policy shifts related to both fisheries development and IUU have been enacted that have substantially impacted on wellbeing of coastal communities in unintended ways, and in ways that run counter to the overall objectives of fisheries policy in Indonesia. This is in part due to a lack of formalised, evidence-based planning and policy development processes, and a lack of knowledge of the likely social and economic impacts of policy.

#### - Historical lack of stakeholder inclusive decision-making

While tackling entrenched problems such as IUU requires a commitment to action from the government, developing effective fisheries management systems that underpin the longer-term viability of the social and economic benefits flowing to communities requires co-operative efforts between industry, communities and government. Moreover, forecasting the likely impacts of policy may have been achievable with existing knowledge of the industry among stakeholder networks. Part of the legacy of the 2014 regulatory changes has been a lack of trust in government from industry. Re-establishing co-operative relationships between industry and government while achieving stock sustainability stands to benefit community wellbeing over the long term.

### Non-government influences

#### - Business relations and markets

The complexity of trading relations along the chain makes implementation of effective regulation, and formalised standards related to supply chain transparency, sustainability and ethical practices challenging to implement. This potentially undermines the longer-term sustainability of the fishery, subjects lower-paid workers to risks, and potentially restricts access to benefits in chains that are implementing good practices.

- **Labour standards disparity between processing and fishing sectors**  
There is a substantial disparity of income security and working conditions between the processing and fishing sectors. While all sectors are vulnerable to wider shocks and regulatory changes, workers engaged as fishing crew are most commonly uncontracted, on insecure catch-share models, have little health insurance coverage, and are subjected to unsafe work conditions to a greater extent than processing sector workers.

### **Influences on the distribution of benefits**

- **Socio-economic status and status as a migrant**  
Socio-economic status and status as a migrant impacts the distribution of wellbeing benefits in this fishery. Bitung's tuna fisheries provide an accessible source of work for people from lower socio-economic backgrounds in both the fishing and processing sectors, and people from all over Eastern Indonesia. It is also likely to provide important contributions to economically marginal communities through poverty alleviation functions for some workers and families. Since 2014 Filipino workers who previously occupied many roles as vessel crew and processing workers have left the fishery, which has increased Indonesian involvement in the fish chain, but has also led to a loss of knowledge that supported the growth and viable operation of the fishery.
- **Gendered division of labour**  
Gender relations impact the distribution of wellbeing benefits in this fishery. These structure participation in the fishery in terms of which roles men and women occupy. While men tend to be associated with fishing and roles that focus on trading higher-quality fish (associated with greater wealth accumulation), women have a key role in managing household income and local trading. As a result of this, some women have used their financial and business literacy to achieve upward mobility and become successful traders.



Catch from pole and line vessel in Kendari Port, South-East Sulawesi Province, Indonesia.  
Photo Nick McClean



## Recommendations: Indonesia

### Government

#### Management and planning

- Ensure that small and medium scale tuna fisheries continue to be viable through protecting tuna stocks from overfishing by:
  - Continuing to develop effective overall fisheries planning, management, monitoring and enforcement systems.
  - Implementing effective management of catch/effort across all sectors. This includes ensuring catch levels do not exceed sustainable thresholds in the medium to longer term as a result of replacement of effort from foreign and ex-foreign vessels.
- Ensure management objectives related to the wellbeing/welfare of coastal communities are incorporated into the current tuna Harvest Strategy, alongside those related to biological sustainability, and prosperity/wealth generation.
- Continue engagement with provincial-level government and Fisheries Co-Management Committees, to include engagement around social and economic impacts of policy. This includes facilitating data collection and storage, as well as assisting to develop feasible regulations and management processes, that are capable of accounting for local variations in how fisheries operate, and the contributions tuna fisheries make to coastal community wellbeing across different ports/provinces.
- Establish social and economic data collection processes appropriate for tracking sub-national contributions of tuna fisheries to coastal communities.
- Support and undertake focused socio-economic studies to determine the dependency of communities in Eastern Indonesia on tuna fisheries for poverty alleviation and food security.
- Ensuring traceability and management processes, including data collection, surveillance, enforcement and licensing systems, do not unfairly penalise or create unreasonable barriers to participation for fishers with low levels of schooling and limited financial and technological capabilities.
- Investigate adopting a co-management model which devolves some agreed aspects of decision-making to industry over the longer term.

- Specifically in relation to FAD management and regulations:
  - Ensure implementation of the existing FAD regulations or policy revision is based on solid information and consultation about FAD-based handline/ troll-line and mini-purse seine fisheries in particular, so as not to risk causing possibly severe livelihood problems for already low-income groups of fishers and downstream workers.
  - Ensure national policies and plans account for the uses of FADs by non-FAD owners, particularly for non-FAD owning vessels that deliver raw materials to provincial and local markets.

### **Improving working conditions**

- Advancing implementation of Fisheries Regulation (PP) No. 35/2015 on a System for Certifying Human Rights in the Fisheries Sector.
- Extend social insurance schemes to all small-scale fishers and vessel crew.
- Investigate, in partnership with private sector actors, the possibility of providing safety equipment for small-scale fishers, such as Ocean Safety ‘grab bags.’<sup>4</sup>
- Support or undertake training in the use of inflatable rafts, emergency locator beacons, handheld VHF radio, use of compasses/GPS and thermal blankets to support effective use of grab bags.<sup>5</sup>
- Investigate ways to address income security issues, including but not limited to:
  - making existing small-scale financing schemes more accessible to independent tuna fishers.
  - support or provide financial planning and household budgeting training to fishing families, which include both men and women in the delivery of this training.
- Investigate feasibility of redevelopment of fish markets focused primarily on supplying provincial/local markets, to improve standards and facilities available for fishers and traders.

<sup>4</sup> A useful reference document for this may be found in the FAO “Safety at Sea for Small Scale Fishers” manual. <http://www.fao.org/documents/card/en/c/ca5772en>

<sup>5</sup> See <https://www.spc.int/updates/news/2015/11/emergency-grab-bags-to-promote-safety-at-sea-in-niue>

## **Private sector actors**

Including civil society organisations, certifying organisations and buyer companies

### **Certification systems**

- Ensure certification auditing systems are inclusive of fishers with low levels of schooling, small vessels, and limited financial and technological capabilities.
- Designing incentives such as the Fair Trade Premium Fund in ways that enable migrant fishers to participate, and address social equity issues facing fishers regarding persistent debt.
- Further improving access to safety equipment and GPS under Fair Trade schemes, and looking at ways to extend these initiatives beyond Fair Trade communities.
- CSOs investigating ways to play a greater role in brokering relationships between fishers, communities, processors/exporters and buyers in end markets, to allow greater entry in Fair Trade certification.
- CSOs and companies investigating ways to play a greater role in brokering local trading relations that address power and income distribution inequalities between fishers and traders in the export chain, and also support greater participation of women traders in the export chain.
- Investigating ways to address income security issues, including but not limited to providing financial planning and household budgeting training to fishing families, that include both men and women in the delivery of this training.

### **Improving working conditions**

- Investigate options for crews to move away from a pure catch-share model to a mix of day wage/catch share, to improve income security.
- Investigate barriers and opportunities for retailers, and particularly female traders and retailers, to move away from casual engagement to more permanent roles in fish trading businesses.
- Support efforts by government regarding provision of safety equipment and training for small-scale fishers.

A handline fisher heads home in his fishing vessel after a day in the market. Gizo, Western Province, Solomon Islands. Photo Reuben Sulu



## Case study: Solomon Islands

### Noro purse seine/pole-and-line skipjack fishery

#### Key wellbeing contributions

- The industrial tuna sector based in Noro currently provides approximately 2,400 jobs across formal fishing and processing sectors. This makes the domestic tuna sector the largest private-sector employer in the country, stimulating the local and regional economy and providing a pathway into the cash economy for migrant workers from all parts of Solomon Islands.
- Entry-level jobs contribute to increasing employment and participation in the cash economy for people without tertiary education, without increasing population pressures in Honiara, the main urban centre and focus of labour migration.
- The domestic sector generates livelihoods in informal chains supplying local markets in Noro and Honiara, and ~500 farmers supplying fresh vegetables to the cannery.
- The industrial sector provides food to both urban and rural communities across the Solomon Islands, in the form of 13,000 tonnes per year of canned product, and 500 tonnes per year of bycatch entering informal markets in Noro and Honiara.
- Supports national government revenues through resource access fees under the Vessel Day Scheme and taxes, and the provincial government via rental of housing for workers.

#### Factors influencing wellbeing contributions

The various contributions industrial tuna fishing and processing at Noro make to community wellbeing, and the longevity of the domestic sector in the Solomon Islands, have been enabled and influenced by a complex suite of factors over time. These are:

##### Government influences on wellbeing

- **Regional co-operation**  
Co-operation between national governments within regional organisations protecting tuna resources from overfishing.
- **National government policy and management**  
Government policies in Solomon Islands and in destination market states influence wellbeing benefits by explicitly supporting domestic fisheries development, and by developing the capacity for well-managed industrial tuna fisheries.

- **Provincial government involvement in infrastructure and service provision**

The Western Province government provides some housing and basic infrastructure in Noro, and derives revenue from taxation and housing provision. However under-investment in basic services detracts from the wellbeing of the community in Noro.

### **Non-government influences on wellbeing**

- **Geographical and historical factors**

The availability of land and basic infrastructure for industry development has enabled expansion of the domestic sector in Noro, in ways that are not readily replicable elsewhere in the Solomon Islands or the wider Pacific.

- **Private-sector investment**

Private-sector investment and support for domestic development in low-income countries provide capital investment and market connections in the context of a high-cost and highly competitive global tuna market.

- **Market preferences and requirements**

Buyer requirements and certification standards influence wellbeing by driving changes in working conditions, traceability and food and safety standards.

### **Influences on the distribution of benefits**

- **Labour migration**

Tuna fishing and processing at Noro provide a substantial employment opportunity open to people from all over the country at all strata of society. This includes people from across Solomon Islands diverse linguistic and cultural communities, and the poorest members of communities. While the ability to migrate for work is a factor associated with economic advancement, at the same time, opportunities associated with migration to Noro are sometimes perceived as causing negative social impacts, particularly in the context of social norms that economic opportunities in a place belong to local groups. Keeping this opportunity open while managing the social acceptability of labour migration is an ongoing task for company managers and community leaders in Noro.

- **Gendered division of labour**

The fishery and its value chain delivers important employment opportunities for women at all levels from manual labour to technical to management roles. In the context of women having access to fewer economic opportunities and positions of influence in Solomon Islands society, and particularly in rural communities, the high level of employment of women in Noro represents a substantial contribution to the wellbeing of women, and the families they support through this work.

## Gizo handline fishery

### Key wellbeing contributions

- This fishery supports the livelihoods of 20 fishing families in two villages, as well as approximately 100 fish and chip vendors in the town of Gizo.
- This fishery provides 200 tonnes of fresh fish into Gizo Market each year, roughly twice the volume of reef fish that passes through the market.
- This has been an important economic opportunity for socially marginalised ethnic Gilbertese (iKiribati) communities who have historically had few other options.

### Factors influencing wellbeing contributions

#### Government influences on wellbeing

##### - Resource management

Currently tuna stocks are not overfished, as indicated by high level monitoring of stocks at national scale reported through the Western and Central Pacific Fisheries Commission (WCPFC).

##### - Government support for fishing businesses

Government support for small-scale fishing businesses in Gizo has been limited and with little positive impact thus far.

#### Non-government influences on wellbeing

##### - Working conditions of offshore fishing

The offshore setting of this fishery and the small, basic vessels with outboard motors used by fishers make this an extremely hazardous fishery to operate in. This threatens the basic wellbeing and security of fishers and fishing families.

##### - Community-based effort management

Voluntary effort management arrangement by the two main tuna fishing villagers has had the greatest impact on wellbeing benefits in recent times. This has limited access to the fishery and supply to the market, in the process increasing and stabilising returns for fishers. This has transformed the wellbeing benefits from the fishery, with fishers able to invest returns in education, housing and supplementary village-based incomes which can support wider family networks.

##### - Growth of industrial fisheries

The growth of industrial fisheries has led to increased use of FADs by small-scale fishers, as well as increasing interactions between industrial fishing boats and small-scale fishers. This has had some benefits for fishers, and created some conflicts between industrial and small-scale fishers. Small-scale fishers perceive the industrial fishery has reduced the availability of free-schools of tuna, increasing their dependency on FADs.

## **Influences on the distribution of benefits**

### **- Socio-economic status and migration**

This fishery has provided a substantial economic opportunity for Gilbertese people with relatively few other economic options, due largely to their status as migrants. However, community members also feel their marginalised status as migrants prevents them making as much of this opportunity as they could, or from receiving assistance from the wider government system.

### **- Gendered division of labour**

Gilbertese interviewees prioritised their marginalisation as a migrant group as a more pressing issue to address than gender inequality. Nevertheless, there is a gendered division of labour evident in different nodes of the fish chain, which would likely influence the implementation and outcomes of fisheries management or livelihood interventions.



A handline vessel in Babanga Village, Gizo, Western Province, Solomon Islands.  
Photo Reuben Sulu



## Recommendations – Solomon Islands

### Government

#### **Economic and social data collection.**

Noting the existence of national-level reporting on economic contributions via the Forum Fisheries Agency Tuna Fishery Report Card system:

- Implement regular monitoring of social and economic contributions at the sub-national level for the domestic sector, and for handline tuna fisheries in Gizo, Honiara and Auki.
- Support or conduct research utilising existing socio-economic data and further targeted data collection into the long-term social and economic impacts of tuna fisheries development on communities.
- Support or conduct research into the social welfare functions of low-paid tuna jobs, including their interaction with both “push” and “pull” factors leading to labour migration to Noro.
- Support or conduct research into the social and economic benefits to families and coastal communities of women’s participation in the formal economy, and women’s working conditions, using Noro as a case study.

#### **Improving local socio-economic development in fishing communities.**

- Investigate allocating a portion of revenue raised from industrial tuna fisheries license fees to coastal community development projects, via the Fisheries Management and Development Fund. Priority locations could include Noro and areas where local fishers are in conflict with the industrial sector.
- Invest in improved housing facilities for workers in Noro rented by Soltuna, to generate further revenue for the provincial government. Revenue from housing could be used to improve municipal services for Noro.

#### **Food safety standards in saltfish/bycatch chain**

- Investigate low-technology strategies for improving cold chain for bycatch and saltfish in Noro, during storage transportation, and sale.
- Improve conditions for vendors in urban markets, including provision of clean water and sanitation in markets.

#### **Support to improve small-scale fishing businesses**

- The national government, donors and fishing companies revisit inshore FAD projects for handline tuna fishing communities, building on existing trials, with the aim that successful implementation of inshore FADs would be safer, reduce fuel use, and reduce conflicts with industrial vessels.

- Work with fishing families to explore the potential for small-scale smoked-fish businesses selling on a regular basis in Gizo and Honiara.
- Extend financial literacy training to all fishing families in Gizo, and other small-scale commercial tuna fishing communities in Fishing Village Honiara, and Auki.
- Work with fishing families to assess the feasibility of exporting fresh yellowfin tuna from utilising existing infrastructure in Noro or Munda airport and including improving fish handling practices, on-vessel iceboxes and cold storage in Gizo.

### **Safety equipment for small scale fishers**

- Provide 'grab bags' of safety-at-sea equipment to small-scale fishers similar to existing SPC programs.<sup>6</sup>
- Undertake training in the use of inflatable rafts, emergency locator beacons, handheld VHF radio and use of compasses/GPS and thermal blankets to support effective use of grab bags.<sup>7</sup>

### **Marginalisation of Gilbertese communities**

Noting this marginalisation leads to a lack of trust, an inability to address issues of core community concern, and a lack of awareness as to constraints and opportunities for development:

- The Solomon Islands Government could at national and provincial levels more actively support Gilbertese aspirations and advocacy, including consideration of a dedicated Gilbertese member of parliament.

### **Private-sector actors**

Including tuna fishing and processing companies, traders, buyers, certifiers and donors.

#### **Buyer requirements.**

- Investigate low-technology strategies for improving cold chain for bycatch and saltfish in Noro.
- Investigate value-added preserved products for bycatch and saltfish, such as smoked fish.

#### **Improve conditions for lower paid workers.**

- NFD and SolTuna continue to improve conditions for women workers, increase training and mentoring opportunities for women to move into more senior or non-traditional women roles, and support for domestic violence services in Noro.

<sup>6</sup> See <https://www.spc.int/updates/news/2015/11/emergency-grab-bags-to-promote-safety-at-sea-in-niue>

<sup>7</sup> A useful reference document for this may be found in the FAO "Safety at Sea for Small Scale Fishers" manual. <http://www.fao.org/documents/card/en/c/ca5772en>

- NFD and Soltuna investigate ways to replace income from the sale of bycatch for crew with benefit sharing of proceeds from sale through local sales outlets, through use of Fair Trade Premium Funds, credit union or improved wages for crew.

### **Peer learning among tuna fishers re the potential benefits of community-based effort management.**

- Civil Society Organisations with support from fisheries ministry convene peer learning between fishers in Gizo, Honiara and Auki to learn about voluntary effort management, and the opportunities and constraints it may face in other coastal fisheries supplying urban markets.

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