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Global patterns of management and governance of small-scale fisheries: contributions towards the implementation of the SSF Guidelines. In: FAO, Duke University & WorldFish. 2023. Illuminating Hidden Harvests: the contributions of small-scale fisheries to sustainable development. Rome, FAO; Durham, USA, Duke University; Penang, Malaysia, WorldFish. pp203-210

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► **To cite this version:**

Basurto X., Siegelman B., Navarro M., Mancha-Cisneros M, Burgos A, et al.. Global patterns of management and governance of small-scale fisheries: contributions towards the implementation of the SSF Guidelines. In: FAO, Duke University & WorldFish. 2023. Illuminating Hidden Harvests: the contributions of small-scale fisheries to sustainable development. Rome, FAO; Durham, USA, Duke University; Penang, Malaysia, WorldFish. pp203-210. FAO. 2023. hal-04071592

HAL Id: hal-04071592

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Submitted on 21 Apr 2023

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8.

Global patterns of management and governance of small-scale fisheries: contributions towards the implementation of the SSF Guidelines

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8.1 Key findings and messages

The management of small-scale fisheries and governance of tenure

- The analysis of small-scale fisheries in this chapter showed that management rights are formally granted to fishers in nearly 75 percent of countries included in the study,³³ governing more than one-third of the marine (35 percent) and inland catch (39 percent) reported for these countries.
- Co-management policies and the amount of catch governed by them were analysed for 55 percent of the estimated global small-scale fisheries catch. Results show that at the national level, 40 percent of the catch comes from fisheries with formal co-management provisions, but according to experts' perceptions, only half of these involve a high level of fisher participation in co-management arrangements. Co-management is more common at the local level but, nevertheless, while 90 percent of the catch comes from fisheries with local co-management provisions that are formal, only 40 percent are perceived to involve a high level of fisher participation.
- In order to further strengthen the role of fishers in decision-making processes, more effort is needed to create local enabling conditions for them to be able to exercise their tenure rights. This can be accomplished through local supporting institutions, such as civil society organizations (CSOs) and decentralized fisheries agencies with clear roles and responsibilities.
- Combining management rights with the rights of exclusion and transferability can also increase fishers' empowerment to manage their fisheries, as long as processes and the outcomes for exclusion and transfers respect the principles of fairness and equity in line with the Voluntary Guidelines for Securing Sustainable Small-Scale Fisheries in the Context of Food Security and Poverty Eradication (SSF Guidelines). This fuller form of devolved rights is currently very limited in formal small-scale fisheries laws and regulations, governing less than 5 percent of catch.
- For most fishers, there is often a lack of clear mechanisms for participation in national decision-making processes. The majority of formal small-scale fisheries policies that grant management rights to fishers only have jurisdiction in small geographic areas, not throughout the entire country. As a consequence, fishers' ability to

³³ Similar results were found by an independent survey conducted by FAO in 2020, where 81 percent of FAO Member Nations (n = 92) reported involvement of fishers in fisheries management (FAO, 2021g).

participate in and influence national-level decision-making processes is likely to be limited. Developing national-level spaces for the participation of fishers, their organizations and their supporters could help to address current limitations.

- State policies have often failed to protect indigenous fishers' tenure rights, who have as a result experienced loss of rights to access, harvest and manage resources, thus threatening the survival of their culture and way of life. Attempts to correct colonial legacies have prompted some states to take measures distinguishing indigenous fishers from non-indigenous small-scale fisheries, and to legally recognize indigenous rights to land and water. Although six countries in the Illuminating Hidden Harvests (IHH) dataset reported fisheries laws that acknowledge distinct rights for indigenous fishers, these laws are rarely implemented; yet their existence creates leverage for indigenous fishers.

Factors influencing governance and management effectiveness

- Social and cultural identity plays a vital role in the viability and day-to-day organization of small-scale fisheries, determining who is part of a group and who is not. This influences how management and governance is locally received, shaped or resisted, and ultimately how effective it is. Incorporating social and cultural identity into small-scale fisheries policy research requires complementing quantitative and technical research with qualitative and interpretative studies of how small-scale fisheries work in practice, as well as acknowledging fishers and fishing communities themselves for the valuable insights they can give.

Civil society organizations

- The analysis of the goals of more than 424 producer organizations shows that there is high alignment between the goals of fishers and the goals of the SSF Guidelines, indicating fishers are active contributors to SSF Guidelines implementation and not passive recipients of state action.
- The analysis also shows that most fishers' organizations see high compatibility between

sustainable fisheries management and human well-being, as practically all of them expressed goals related to harvesting and sustainable fisheries management, with about 60 percent also expressing goals related to human well-being, labour rights, food security, or to human and environmental health.

Contributions to the Sustainable Development Goals (SDGs), in particular Target 14.b

- An analysis of coastal preferential access areas for small-scale fisheries showed they are a commonly used spatial tool in all regions of the world for marine fisheries. In a sample of 52 countries the median coverage of such areas was 3 percent of the exclusive economic zone (EEZ). While coverage varies between countries, this median shows that preferential access for small-scale fisheries globally is very low. As small-scale fisheries are likely to be the largest employer in the ocean economy, greater attention to securing access to resources for small-scale fisheries through preferential access areas could also be an important mechanism towards achieving SDG 1 (No poverty).
- Licensing is the most commonly used tool in legislation for regulating access to resources for small-scale fishers. While licensing regulations govern about 70 percent of marine and inland small-scale fisheries catch, only about 45 percent of the catch they govern is paired with devolved rights. Licensing on its own is least likely to empower fishers and fishworkers, and thus their ability to participate in decision-making processes concerning their fisheries is limited. With some less commonly used access strategies such as place of residence or history of use, tenure rights are devolved in more than 95 percent of cases, thereby making them better suited to contribute to SDG Target 14.b ("Provide access for small-scale artisanal fishers to marine resources and markets"). Yet, currently these alternative management approaches govern less than 30 percent of marine and inland small-scale fisheries catch.

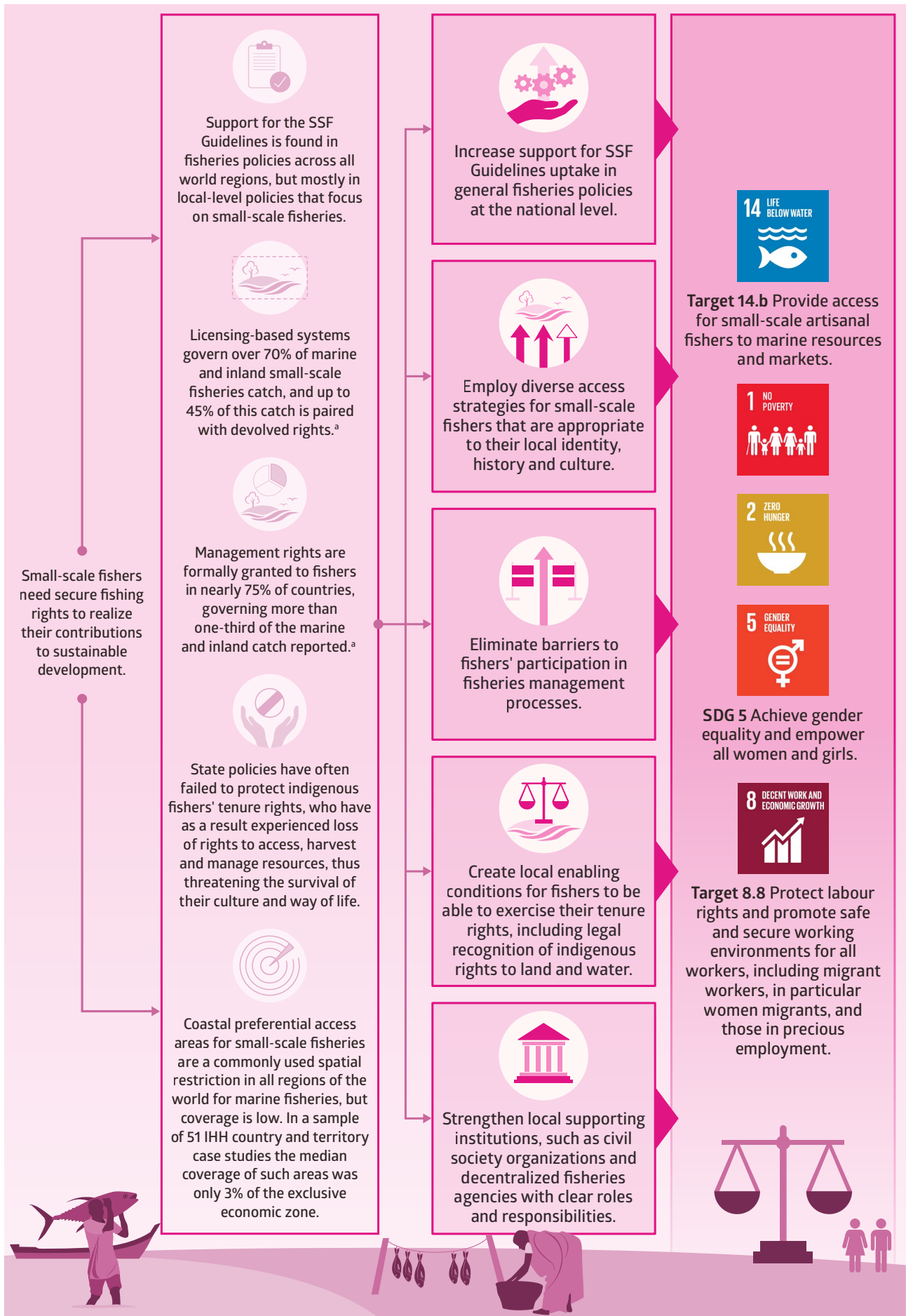
Figure 8.1 describes the ways in which small-scale fishers can secure fishing rights, ultimately supporting their contributions to sustainable development.

8.2 Introduction

Governance has been a fundamental component of societies since the beginning of human civilization, but in recent decades the concept of governance has been discussed more and more frequently as the world grapples with the many challenges of sustainable development at local, national and global levels. The importance of good governance cannot be overestimated: it has been described by the United Nations as being "perhaps the single most important factor in eradicating poverty and promoting development" (UN, 1998).

From these discussions, many definitions of governance have been put forward by organizations and individuals, including FAO (FAO, 2021f), the World Bank (Ringold *et al.*, 2012) and the United Nations Economic and Social Commission for Asia and the Pacific (UNESCAP, 2008), among others. The definition used for the purposes of this chapter can be summarized as, "the formal policies in place to manage small-scale fisheries through interaction between governments and the public in particular regarding access to and use of fishing resources..."

Figure 8.1 Key pathways through which securing rights to fishing resources for small-scale fishers can contribute to sustainable development



Note: ^a Based on 52 IHH country and territory case studies.

In essence, governance involves the means and processes by which decisions are made and put into practice. Good governance therefore requires the existence of effective and efficient institutions to facilitate those processes. Depending on several factors (e.g. the scope of the governance), the institutions may be formal, legislated entities, or informal systems based on social relationships. Critically, they should be accepted by society as being legitimate; in turn, society should participate in and be empowered by them. From this starting point, good governance can be broken down into eight primary elements. It should be participatory; adhere to the use of legal frameworks that are fair and just; be transparent in making and implementing decisions; be responsive to stakeholders; involve mediation between different groups and consensus-building; be equitable and inclusive; function effectively and efficiently; and be accountable to its stakeholders and the public (UNESCAP, 2008).

These eight elements are encompassed in the Guiding Principles (Chapter 3) of the SSF Guidelines, which go into greater detail on what is required for governance, with an emphasis on vulnerable and marginalized groups. Thus, for example, the principles reference the need to respect human rights and dignity, ensure gender equality and promote justice, alongside the importance of consultation, social responsibility and the rule of law.

The considerations embodied by the modern ideas of governance are a result of a transition that occurred during the later decades of the twentieth century, away from the more limited conceptualization of conventional fisheries management towards this broader, holistic understanding of governance. The earlier approaches to fisheries management were strongly influenced by natural scientists and managers, and thus they tended to focus on biological sustainability. Social and economic considerations were typically taken into account separately, usually through top-down or informal processes (Garcia and Cochrane, 2009; Berkes, 2015). The failings of these approaches are well known (e.g. Hardin, 1968; FAO, 2003), and have prompted a growing awareness of the importance of all the elements of good governance for securing sustainable development (Ostrom, 1990).

This chapter explores the characteristics and scope of governance in small-scale fisheries, and also how this differs between countries and fishery units. In particular, the chapter considers three distinct but interacting components of fisheries governance (Figure 8.2): i) the policy framework and management of small-scale fisheries in relation to environmental, social and economic objectives; ii) the status of tenure rights in fisheries, including the role of customary or informal governance arrangements, especially community-based management; and iii) factors influencing governance and management

effectiveness. In this way, the chapter addresses the following key research questions: What does the policy framework governing small-scale fisheries look like, and how well aligned is it with the SSF Guidelines? What are the main management tools used to govern small-scale fisheries, and how much catch is governed through them? How is access governed in small-scale fisheries? What formal rights do fishers have to manage small-scale fisheries, and how much catch is governed through the devolution of rights to fishers?

The chapter is organized to provide the reader with assessments of the different components of governance from case studies that, in combination, represent about 55 percent of the reported global small-scale fisheries catch. The assessments are based on policies that have been formalized in writing, not (unless explicitly noted) on evaluations of whether and how the diverse governance arrangements are implemented. After a brief description in Section 8.3 of the methods employed in the chapter, Section 8.4 describes the prevalent policy frameworks in small-scale fisheries. Section 8.5 then analyses the management of the subsector, focusing on the most frequently used strategies to grant access to small-scale fisheries and the most common harvesting management measures in place. It also examines which measures are empirically associated with more devolution of rights to fishers, and which are associated with less. Section 8.6 focuses on governance of tenure for both formally and customarily governed small-scale fisheries. The issue of devolution of rights is further explored here, as well as how scale of operation and income of fisheries affect the nature of governance. Section 8.7 summarizes important factors *influencing* governance and management effectiveness, including the participation of fishers in co-management.

Figure 8.2 The three components of small-scale fisheries governance



Section 8.8 brings to light the usually overlooked but key role of CSOs in small-scale fisheries governance, providing some initial snapshots of global patterns of CSO alignment with the SSF Guidelines and SDGs. Last, Section 8.9 ties together the main findings from the chapter with the contributions that small-scale fisheries governance systems can make to the SDGs, in particular Target 14.b in regard to securing access to fishing areas.

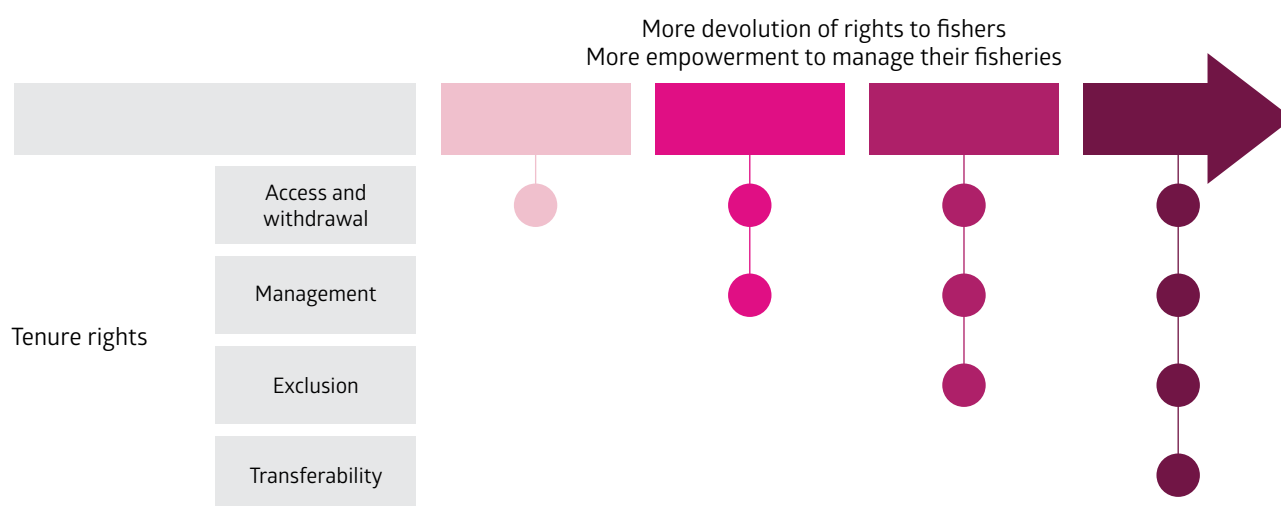
The nature, status and impacts of tenure rights in the different fishery units considered in the Illuminating Hidden Harvests (IHH) study form a central theme in this chapter. It is generally accepted that long-term sustainability will not be secured under open-access regimes (Berkes, 2015), and hence small-scale fishers and fishing communities require secure access to resources. However, at present, access to many small-scale fisheries remains unregulated (Arthur, 2020; FAO, 2020b). Tenure rights (sometimes referred to as property rights) limit access by authorizing who can use resources and the conditions under which those resources can be used (Figure 8.3). They can also include rights concerning management of resources, typically through some form of co-management with the government, as well as the rights of exclusion and transferability (FAO, 2015; Schlager and Ostrom, 1992; World Bank, 2012). Tenure rights are therefore at the heart of governance. There have been both successes and failures with different systems of rights, and the details of the approaches need to be tailored to each fisheries context. Still, the available evidence indicates that a suitable system of tenure rights that provides users with adequate control in

decision-making through devolution and decentralization of authority and management, as well as the enforcement of regulations, also provides the incentives to strive for responsible management and sustainable use of resources (Agrawal and Ostrom, 2001; Berkes, 2015; Ostrom, 2009; Schlager and Ostrom, 1992).

In order to be effective, devolution and decentralization measures require the capacity, at the devolved level, to fulfil the necessary obligations and functions of authority and management. This is often a challenge for fisheries of all types, typically requiring support from government fisheries authorities to supplement and complement stakeholder capacity as required. These authorities are often relatively well equipped and experienced in providing support to national, commercial fisheries through systems of co-management, but less so when it comes to small-scale fisheries, which are typically more diverse in the species they target and gear types they use. Insufficient and inappropriate management, made worse in some cases by disruption of customary practices in tenure, have failed to address the ecological, social and economic crises that confront so many small-scale fishers.

As this management problem has been increasingly recognized, there has also been growth in the use of co-management³⁴ approaches in small-scale fisheries worldwide. This is not a guarantee of success, but research has demonstrated that where important attributes are present, such as suitable institutional frameworks, strong leadership and social cohesion, co-management can lead to improved ecological, social and institutional

Figure 8.3 Different types of tenure rights often granted to fishers



Source: Modified from Schlager, E. & Ostrom, E. 1992. Property-rights regimes and natural resources: a conceptual analysis. *Land Economics*, 68(3): 249–262.

³⁴ Co-management constitutes a partnership arrangement in which government, the community of local resource users (fishers), external agents (non-governmental organizations, research organizations), and sometimes other fisheries and coastal resource stakeholders (boat owners, fish traders, credit agencies or money lenders, tourism industry, etc.) share the responsibility and authority for decision-making over the management of a fishery. See full definition and references in the glossary.

Box 8.1

Devolution rights index

The devolution rights index considers three levels of devolution based on rights of management, exclusion and transferability: **partially devolved**, when any one of these rights is devolved to fishers; **mostly devolved**, when any two are devolved; and **fully devolved**, when all three rights are devolved at the same time in a fishery.

outcomes (Cinner *et al.*, 2012b; d'Armengol *et al.*, 2018; Gutiérrez, Hilborn and Defeo, 2011). The relationship between rights-based natural resources management and the devolution and decentralization of authority, as well as the factors influencing governance and management effectiveness, are therefore also addressed in this chapter.

Providing fishers with tenure rights of access and withdrawal (e.g. the right to access fishing areas and the right to harvest fish from them) constitutes the basis for just and effective small-scale fisheries management. But when fishers are also devolved the rights of management, exclusion and transferability,³⁵ coupled with supportive institutional structures, they become significantly more empowered to manage their fisheries. To synthesize and summarize the large diversity of tenure rights found in small-scale fisheries around the world, the tenure rights classification system (Figure 8.3) of Schlager and Ostrom (1992) has proven useful. By paying attention to five different broad types of tenure rights (i.e. access, withdrawal, management, exclusion and transferability) granted by governments through legislation or through national, subnational or local policy, it has been possible to measure the devolution of rights across the thousands of fisheries included in this report. To that end, a simple “devolution rights index” is used throughout the analysis in this chapter (Box 8.1).

In the analysis, it was assumed that the more different types of rights are devolved, the more empowered fishers are to manage their fisheries.³⁶ Fishers are then more likely to contribute to social and ecological objectives, because of the range of control they have over the fishery process (Ostrom, 2005). Linking the devolution of rights to management also provided a proxy to evaluate the potential contributions of a fishery unit to the SDGs. In particular, in this chapter

attention is paid to progress towards Target 14.b: “Provide access for small-scale artisanal fishers to marine resources and markets.” This target is also addressed in the economic and gender chapters (Chapters 5 and 6), given the important role women play in the value chain.³⁷

The nature and role of policy frameworks in the governance of small-scale fisheries is another aspect explored here. The SSF Guidelines call for policies and management measures compatible with a human rights framework to be developed through consultation with small-scale fishers (FAO, 2015), which implies the need for local-level policies that reflect the realities and context of these fishers and their communities (Allison and Ellis, 2001), including differences between marine and inland fisheries. How well these needs are being met is examined by considering the impacts of different types of policies on small-scale fisheries governance and, particularly, differences between policies that address the fisheries sector as a whole and those aimed specifically at small-scale fisheries. Other factors likely to impact on governance are also examined, including the scale of operation of fisheries and national income level.

Policies, laws and regulations are important for fisheries governance, but social relationships – especially in small-scale fisheries – also play an important part. Well-connected networks, trust and cohesive communities have been found to be key factors contributing to effective co-management (Gutiérrez, Hilborn and Defeo, 2011). The role of social relationships in governance, and the importance of taking these relationships into account in developing and implementing formal governance systems and arrangements, is therefore also an important component of this chapter.

³⁵ As per Schlager and Ostrom (1992), management is the right to regulate internal use patterns and transform the resource by making improvements. Exclusion is the right to determine who will have an access right, and how that right may be transferred. Transferability (or alienation) is the right to sell or lease either or both of the above collective choice rights.

³⁶ It is always possible that one right (e.g. management) could allow for most or all control over a fishery, and therefore the addition of other rights (e.g. exclusion and transferability) would have little or no additional effect. However, in general, because these rights have different functions, the more different types of rights are devolved to fishers, the more in control they will be of their fisheries.

³⁷ The focus of this chapter is on the access to marine resources component of SDG Target 14.b. Access to markets is addressed in Chapter 5.

8.3 Methods

The analyses provided in this chapter were mostly based on three independent sources of data. The first source was the IHH governance dataset, consisting of 976 formal policies from the IHH case studies of 52 countries and territories,³⁸ plus the associated catch (in tonnes) and other metadata related to these policies. All of these policies influence the management of the 2 169 fishery units around the world covered in this study. The IHH approach has made it possible, for the first time, to link policies to small-scale fisheries catch as a way to estimate the relative importance of different policy types.³⁹ A detailed description of country and territory case study (CCS) selection criteria and the general IHH methodology is provided in Annex A (with specific caveats and methodological nuances described in footnotes throughout this chapter, as relevant). Altogether, the policies analysed formally govern about 83 percent of the reported small-scale fisheries catch, representing 55 percent of estimated global catch. The second data source for this chapter was the FAOLEX fisheries legislation database.

The database was consulted throughout 2019 and 2020, mostly to verify and complement the policy information obtained through the CCS (for example, 38 of the CCS were missing policies). This review also resulted in the addition of inland countries to the analysis, which is noted in the text where relevant. To build confidence that the most complete dataset on small-scale fisheries policies was being analysed, the entire body of fisheries policies found in FAOLEX was coded for the 19 top producing countries (in terms of catch).⁴⁰ The third data source was a global database of 717 fisheries CSOs compiled by Duke University, consisting of CSO characteristics (type of organization, location, main goals, membership, etc.) captured through an online survey. The survey was deployed in English, French and Spanish through a network of Duke and FAO contacts, using a “snowball” sampling approach. In addition to these data sources, thematic studies on social and cultural identity in small-scale fisheries and on indigenous small-scale fisheries were undertaken by experts in these fields.

8.4 Small-scale fisheries policy framework

The small-scale fisheries policy framework refers to the laws, regulations, policies, plans or strategies (hereafter referred to as “policies”) governing small-scale fisheries: i.e. concerning what, where, when and how to fish. The diversity and complexity of these policies cannot be overstated. Different national, subnational and local fisheries policies can have jurisdiction over the same fishery at any given time, sometimes regulating different components or sometimes governing the same activity. The issue can be confounded when multiple authorities have jurisdiction over the same areas of fishing activity, as it can be with energy generation, shipping or protected areas (for inland fisheries cases, see Song *et al.*, eds., 2017).

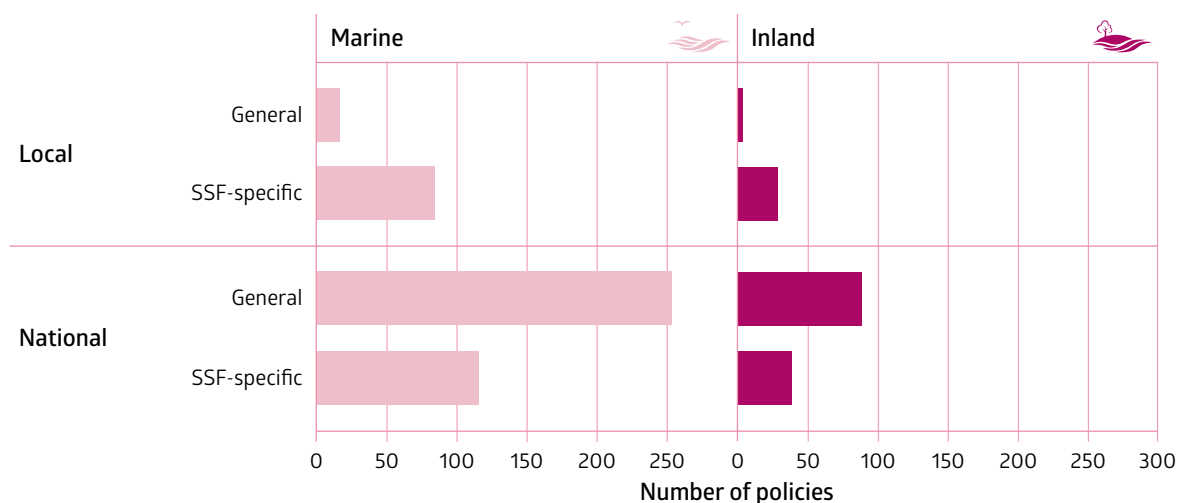
While it was not possible to attend to all the complexity surrounding the governance of small-scale fisheries, this section contributes to the development of an initial, basic understanding of the characteristics of marine and inland small-scale fisheries frameworks by identifying three major characteristics of policies affecting governance: (i) policy focus – whether policies apply to all fisheries or only to small-scale fisheries; (ii) policy level – whether policies apply to all national waters or only to local jurisdictions; and (iii) policy integration – whether policies focus only on production or incorporate other considerations that affect fishers’ livelihoods, in line with the aims of the SSF Guidelines (e.g. social, environmental and economic sustainability, or participation in management). Finally, the amount of

³⁸ Six countries did not provide governance data. However, including the 58 IHH countries and territories was appropriate for certain analysis. The number of countries included in each analysis is indicated where appropriate.

³⁹ Important caveats: It was assumed that the entirety of a fishery unit was governed by an arrangement. As such, an arrangement was assumed to apply to the full spectrum of particular attributes of the fishery unit (its catch, the species included, etc.) that it governed. Given that countries define fishery units in different ways, it is likely that some governance arrangements in the study did not apply to entire fishery units: for example, when the arrangement covered an area smaller than the fishery unit, or when the arrangement was restricted to only some species caught or to certain types of gear used in that unit. In these cases, the analyses possibly led to the overestimation of the catch governed by certain arrangements. It is also important to note that not all fishery units had available catch data. Therefore, all results that took catch into consideration should be understood in terms of reported catch. In addition, for 17 percent of this global reported catch there was no information on governance arrangements. However, this catch was still included as the denominator of calculations for “percent of total catch”. For this reason, the amount of governed catch is likely an underestimation. Given the sources of overestimation and underestimation, no artificial weights were implemented in the estimations of governed catch to account for these issues.

⁴⁰ FAOLEX is a natural resources policies database maintained by FAO for all Member Nations. It is the most comprehensive depository of fisheries legislation to date. While it cannot be guaranteed to contain the most up-to-date legislation for all Member Nations, it is to our knowledge the best source available to complement the governance arrangements provided by the CCS.

Figure 8.4 .Distribution of marine and inland small-scale fisheries (SSF) policies (in absolute numbers) by policy level and focus, based on 625 policies from 44 countries and territories



catch governed by each type of policy was used as a measure of the relative importance countries give to these policies.

Policy focus was determined using two categories: general fisheries policies, and those specific to small-scale fisheries (for brevity, referred to as “SSF-specific”). General fisheries policies are those that refer to fisheries without explicitly distinguishing between small-scale and large-scale fisheries. SSF-specific policies are those that make explicit reference to only small-scale fisheries in the description of the policy provided by the CCS authors or coded from the FAOLEX database. When policies explicitly refer to both, they have been categorized as general fisheries policies.

Figure 8.4 provides a first look at the distribution of small-scale fisheries policies based on their different characteristics. It shows that at the national level, there is a larger number of general fisheries policies than policies that focus solely on small-scale fisheries, while at the local level the opposite is true. These general patterns apply to both marine and inland fisheries.

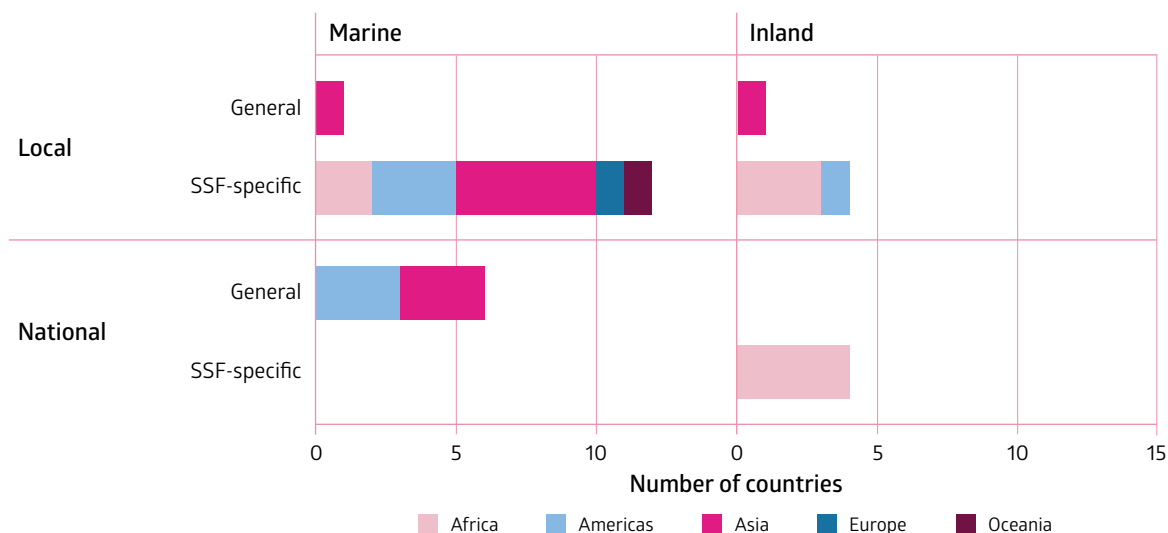
In the analysis, it was encouraging to find that most countries around the world have developed national and local policies that specifically target small-scale fisheries. This finding is supported by recent national-level analyses in Kerezi *et al.*, eds. (2020) on a number of selected countries, as well as a recent FAO 2020 Code of Conduct questionnaire indicating that about 70 percent of Member Nations have small-scale fisheries policies in place.⁴¹ Yet, the existence of SSF-specific policies cannot necessarily be taken as an indication they are well suited to support the responsible use of fisheries resources and the sustainable socioeconomic development of small-scale fishers and fishworkers (FAO, 2015). Even more concerning are the general fisheries policies based on

revenue-generation and commercialization models – inspired by large-scale fisheries and “classical” natural resource harvesting paradigms – which, although they do not have the non-production functions, needs and characteristics of small-scale fisheries in their purview (e.g. food security and nutrition), are still used to govern small-scale fisheries (e.g. Twongo, Reynolds and Mwene-Beyanga, 1991; Berkes *et al.*, 2001; Bavington, 2002; Malasha, 2003; Hortle, Lieng and Valbo-Jorgensen, 2004; Bavinck, 2005; Opondo, 2011; Kolding, Béné and Bavinck, 2014; Tezzo *et al.*, 2018; Smith and Basurto, 2019). Inland fisheries experts have also described instances where colonial authorities have conceptualized fisheries only as revenue extraction activities that focus on species of economic value rather than also considering their value for local food security and livelihoods (Kolding and van Zwieten, 2011; Singh and Gupta, 2017; Kolding *et al.*, 2019). Experts argue that this tendency has persisted in those larger inland fisheries that can be operated along commercial lines, with the management approach often borrowing heavily from marine stock management models (Hickling, 1953; Kolding and van Zwieten, 2011; Kolding *et al.*, 2019).

As an initial approach to assess the degree to which general and SSF-specific fisheries policies might promote the contribution of small-scale fisheries to responsible fisheries management and sustainable development (Part 2 of the SSF Guidelines) and ensure an enabling environment and supporting implementation (Part 3 of the SSF Guidelines), the analysis in this chapter counted the number of countries whose policies included mentions of themes from Part 2 and Part 3 of the SSF Guidelines. For example, themes included the responsible governance of tenure; sustainable resource management; social development, employment and decent work; gender equality; and disaster risks and

⁴¹ Table 77 of the 2020 FAO questionnaire asked respondents to state yes or no to the existence of laws, regulations, policies, plans or strategies that specifically target or address the small-scale fisheries subsector. See FAO, 2021g.

Figure 8.5 Distribution of countries by world region that have fisheries policies which mention topics in support of the SSF Guidelines. Based on an analysis of 52 countries and territories, with 30 found to have such policies (5 in the Americas, 14 in Africa, 8 in Asia, 1 in Europe and 1 in Oceania)



Note: Policies are organized based on two main characteristics: political jurisdiction (national or local) and fisheries focus (general or specific to small-scale fisheries [SSF]).

climate change.⁴² The results (Figure 8.5) show that topics in support of the SSF Guidelines are mentioned more often in local-level SSF-specific fisheries policies than in national-level general fisheries policies, and more regions of the world are represented in marine than in inland fisheries.

The above findings do not account for the possibility that the social, economic, environmental, gender and governance dimensions of small-scale fisheries might be addressed through policies outside of the fishing sector, as investigating non-fisheries policies was outside of the scope of this chapter. These findings suggest the need for better alignment between national, general fisheries policy frameworks and the SSF Guidelines. See also Kerezi *et al.*, eds. (2020) for some country-level examples.

Finally, the importance of fisheries policies was quantified in terms of the percentage of catch they govern. Figure 8.6 shows catch governed by general fisheries policies, SSF-specific fisheries policies, or both. While in marine small-scale fisheries 68 percent of catch is governed by both general and SSF-specific fisheries policies, in inland systems this proportion is only 32 percent, with the highest proportion of catch (43 percent) governed by general fisheries policies only. This difference is important, given that it was found that general fisheries policies are the least likely to incorporate SSF Guidelines objectives (see Figure 8.5), while SSF-specific policies are the most likely. Therefore, catch governed simultaneously

by general and SSF-specific fisheries policies could provide the opportunity for SSF-specific policies to inform general fisheries frameworks. This opportunity for feedback between the two policy types in a way that is coherent with the aims of the SSF Guidelines is much higher for marine fisheries than for inland fisheries, evidencing the need for further local policy development that is specific to the needs and characteristics of inland fisheries.

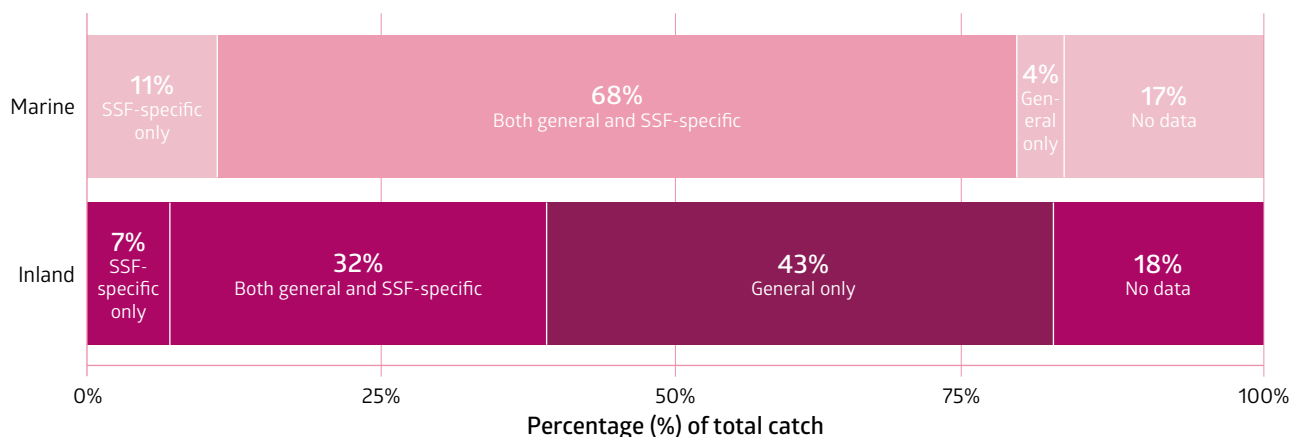
The amount of catch governed by policies operating at different jurisdictional levels was also estimated, disaggregated by management type (with or without co-management). Findings show that most estimated global catch is governed through national-level policies without co-management arrangements (Figure 8.7). In contrast, less than half of marine and inland catch falls within the mandate of local policies that are predominantly characterized by co-management arrangements and are therefore likely to be better aligned with the aims of the SSF Guidelines. The percentage of co-management is particularly low for subnational policies, which mostly include those with state or provincial political jurisdictional levels or biophysically defined regions (management plans for river basins, a watershed, a coastal region, etc.) in the dataset of this analysis. In some of these instances, this might be due to subnational policies being subsumed under national-level policies in their authority to devolve rights to fishers (e.g. those that represent river basins, watersheds or other large biophysical regions).

⁴² Examples of keywords coded as representative of Part 2 and Part 3 of the SSF Guidelines include: "participation" and "co-management", coded as examples of Chapter 5a (Responsible governance of tenure); "sustainable use of resources" and "conservation", coded as examples of Chapter 5b (Sustainable resource management); and "human rights", "livelihood sustainability" and "equality", coded as examples of Chapter 6 (Social development, employment and decent work). "Food security" was also coded as a cross-cutting theme for the Guidelines and not particularly associated to one particular section in the document. For an in-depth analysis refer to Koehn *et al.* (2021).

In any case, these findings suggest that local governance and policies disproportionately contribute to the devolution of management rights to small-scale fisheries. Examples of local policies include those governing fisheries closures of bays, estuaries or reefs where often local fishers are involved in their monitoring and enforcement, and whose jurisdiction is limited to these particular closures and waterbodies.

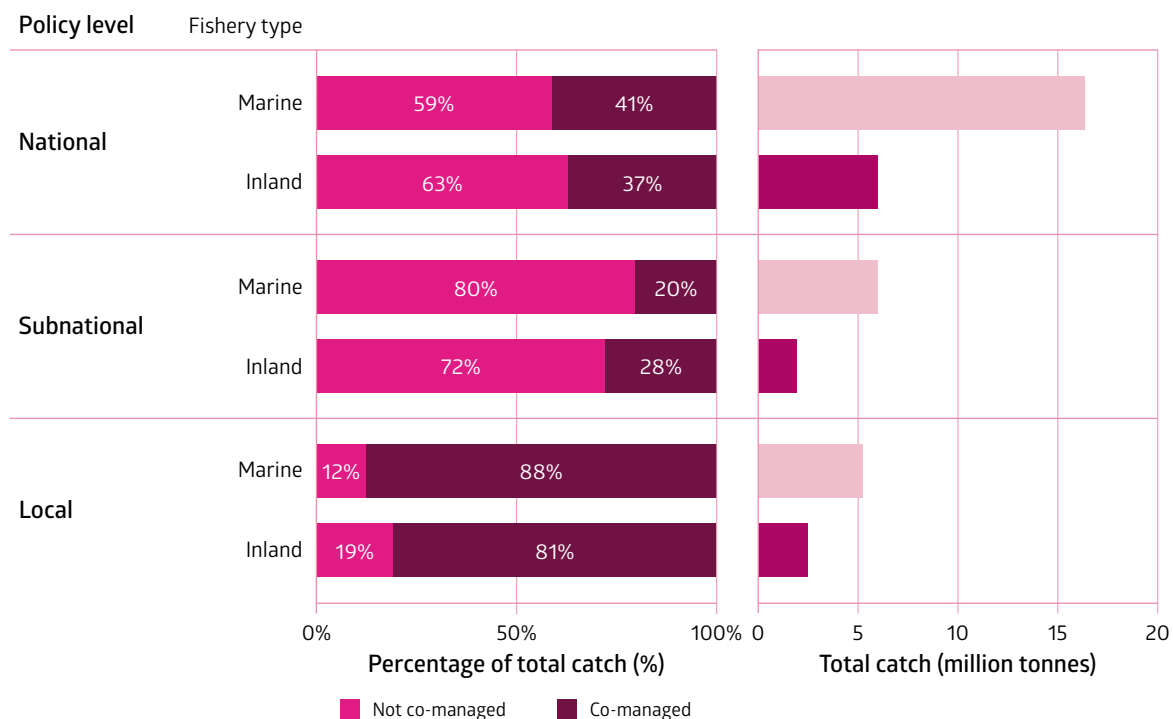
Local-level policies, while governing less catch, are most important for the devolution of management rights to fishers because when catch is governed with input from these policies, it is much more likely to involve devolved management rights (Figure 8.7). In fact, over 80 percent of both marine and inland catch governed by local arrangements involves devolved management rights.

Figure 8.6 Percentage of marine and inland small-scale fisheries (SSF) catch governed by general and SSF-specific fisheries policies, based on marine catch data from 51 countries and territories and inland catch data from 42 countries and territories



Note: For 17 percent of marine catch data and 18 percent of inland catch data, no governance data were provided by country and territory case study authors, or they could not be reliably associated to governance and therefore were not included.

Figure 8.7 Governance of marine and inland small-scale fisheries catch, by policy level and type (with or without co-management), based on analysis of policies from 43 marine and 38 inland countries and territories



Note: The calculation of total catch involves double-counting because the same fishery can be concurrently governed by policies at different levels.



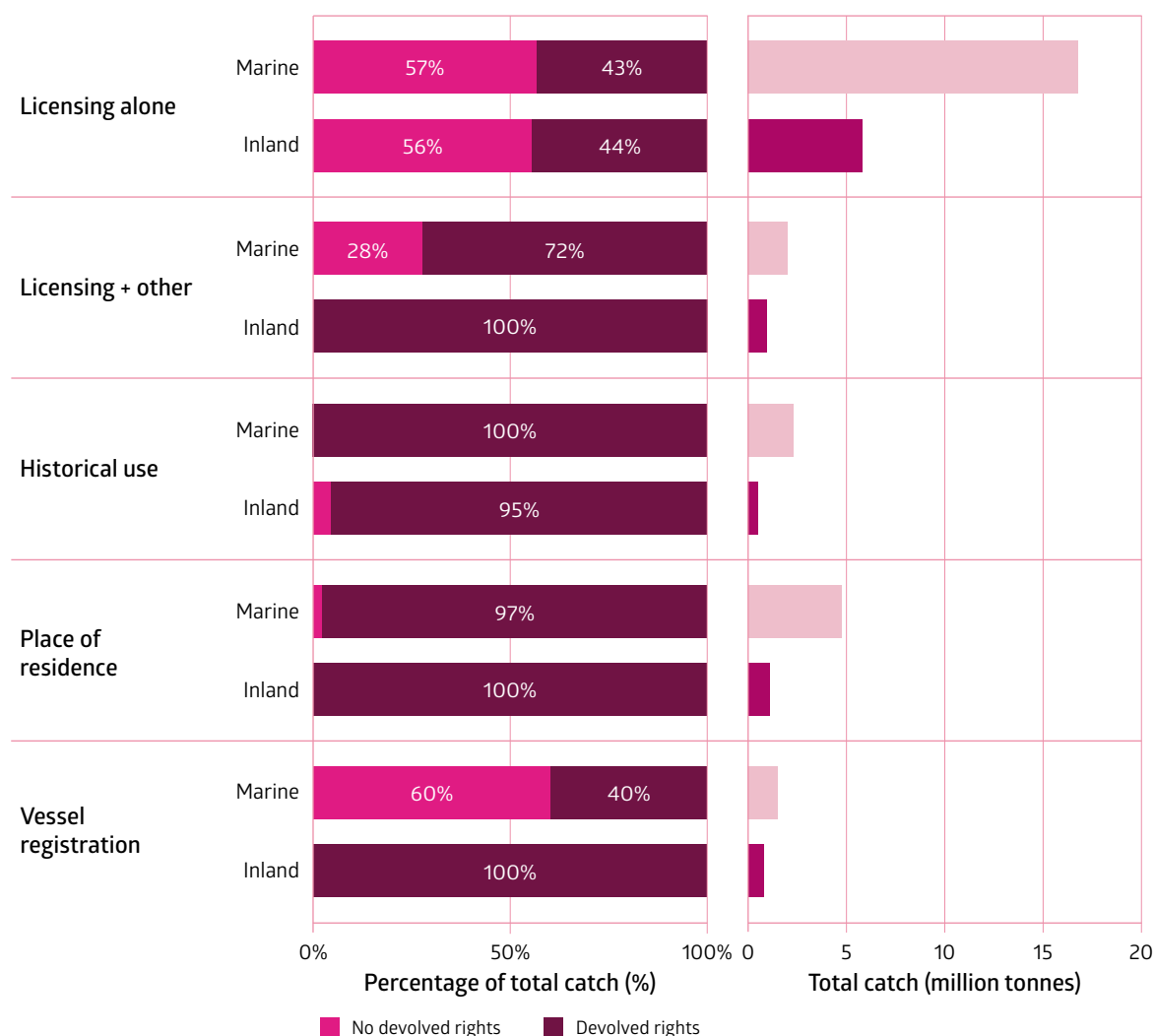
8.5 Access and harvesting management in small-scale fisheries

Many fishers, fishworkers and their communities, including vulnerable and marginalized groups, are directly dependent on access to fisheries resources (FAO, 2015). The importance of this access to sustain small-scale fisheries livelihoods has also been recognized in SDG Target 14.b. The diverse ways in which small-scale fishers access resources, as well as the challenges they face, have been amply documented in the literature (e.g. Jentoft and Chuenpagdee, eds., 2015). Yet, providing a global estimate of the main access strategies used remains elusive, due in part to the informality of the subsector. It is possible, however, to provide a global snapshot of the formal or de jure policies on access that countries have put in place.⁴³ This section provides such a snapshot as a first step towards improving understanding of how access is managed in small-scale fisheries. The importance of different access strategies is quantified using the amount of catch (in tonnes) governed under each strategy. In addition, the percentage of devolved rights associated with each access strategy is also reported, providing an indicator of the involvement fishers can have in the management of access recognized by the state.

Achieving adequate access to small-scale fisheries constitutes an important aim of the SSF Guidelines. Of the countries and territories analysed, 85 percent acknowledged not having formal access controls in place for all their small-scale fisheries. For those that are formally managed, it was assumed that the four main categories or criteria used around the world to manage access are licensing, vessel registration, place of residence and historical use. Figure 8.8 (right panel) shows licensing is the most important formal strategy for controlling access in small-scale fisheries in terms of the amount of catch governed. This is not particularly surprising; it is significant, however, that less than half of these licences involve the devolution of rights to fishers. This means that most of the time, fishers have no say in decision-making concerning various characteristics of access covered by the licences, such as type of species, areas of operation, and when harvesting can take place. In contrast, other criteria such as “place of residence” and “historical use” are associated with a much higher proportion of devolved rights (> 95 percent of catch). Yet, these access criteria govern a significantly smaller portion of the total marine and inland small-scale fisheries catch (Figure 8.8, right panel).

⁴³ The analysis in this section does not distinguish between access granted to specific areas or territories and that granted to resources, or between access granted to communities/organizations and that granted to individuals, because these different dimensions are not independent.

Figure 8.8 Main criteria for granting access to small-scale fisheries and the extent of devolved rights associated with each access strategy, based on analysis of policies from 43 marine and 38 inland countries and territories

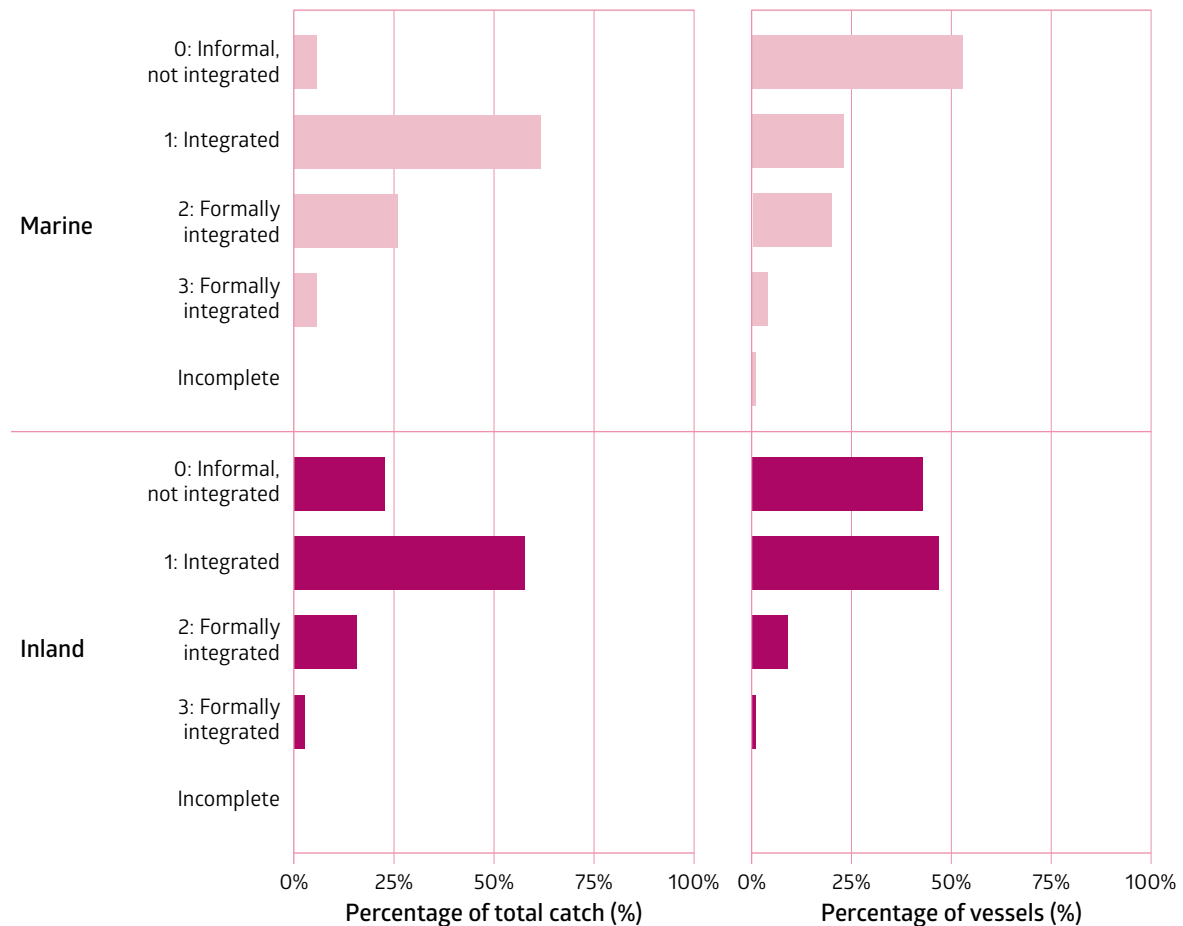


Notes: Given the importance of licensing in managing access to small-scale fisheries, a comparison of licensing used alone and in combination with other strategies is included. Most catch for inland “vessel registration” is associated with the African Great Lakes region (e.g. Malawi, United Republic of Tanzania, and Zambia). Note there is double-counting in the calculation of total catch because the same fishery can be concurrently governed by different access strategies.

Licences around the world differ in their aims and functions, but in Figure 8.8 they are bundled into a single category for the purpose of comparison with other access strategies. Licensing is also often used in combination with certain strategies. For instance, some fisheries in Indonesia and Maldives combine licensing and place of residence by issuing licences through provincial officers, an increasingly common practice in decentralized fisheries management regimes. In other cases, national licensing systems may provide access to fisheries resources while local management councils grant access rights based only on residence. Interestingly, data in Figure 8.8 (coloured panel) show that when licensing is combined with other access criteria it is much more likely to involve devolved rights than when it is used alone, highlighting the importance of combining different access strategies according to the local social, cultural and environmental context.

Finally, an analysis using the characterization matrix described in Chapter 3 provides insight as to the degree to which fishing resources are accessed through informal mechanisms. This analysis shows that a significant proportion of inland small-scale fishery vessels (43 percent) are informally integrated into management and taxation systems, but their catch comprises only 23 percent of the total (Figure 8.9). A slightly larger proportion (47 percent) are registered (i.e. integrated) and account for 58 percent of the total inland catch. Formally integrated inland fishing with landing fees or licensing and taxation accounts for only 10 percent of vessels and 19 percent of the total catch. In marine small-scale fisheries, the catch is predominantly (~93 percent) from fisheries that are formally integrated into management and regulatory frameworks (this includes the three different degrees of integration), but this represents only 47 percent of the vessels. The remaining vessels (53 percent) operate in the informal setting, but their aggregate

Figure 8.9 Degree of integration of small-scale fisheries into fisheries management and taxation systems, based on data for 58 countries and territories



Notes: 0 = informal, not integrated (occasional, no fees required); 1 = integrated (registered/recognized fisher, untaxed); 2 = formally integrated (licensed fisher, landing fees and/or personal taxes paid); 3 = formally integrated (registered, licensed, taxed as a commercial concern); Incomplete = invalid or incomplete information.

catch is remarkably low and estimated at less than 6 percent. This suggests that either the informal sector catches relatively little fish, or that at least some catch remains hidden, presumably a result of the limited amount of management and monitoring dedicated to this group. These results indicate a need to develop new management methods that enable documentation of catch not associated to a licence or to a vessel, such as those used to study household socioeconomic well-being (for an example see Chapter 5).

In addition to access management, the analysis for this chapter also identified the most common harvesting management measures formally in place around the world and measured their relative importance in terms of the amount of catch each harvesting restriction regulates. Findings show most reported catch is governed by gear and spatial restrictions (Figure 8.10). Restrictions on gear are often associated with particular places and seasons: different types of gear will have different impacts depending on where and when they are used, among other associated conditions. Certain net types (e.g. beach seines), mesh sizes and hook sizes are permitted or forbidden depending on habitat conditions, biology and species

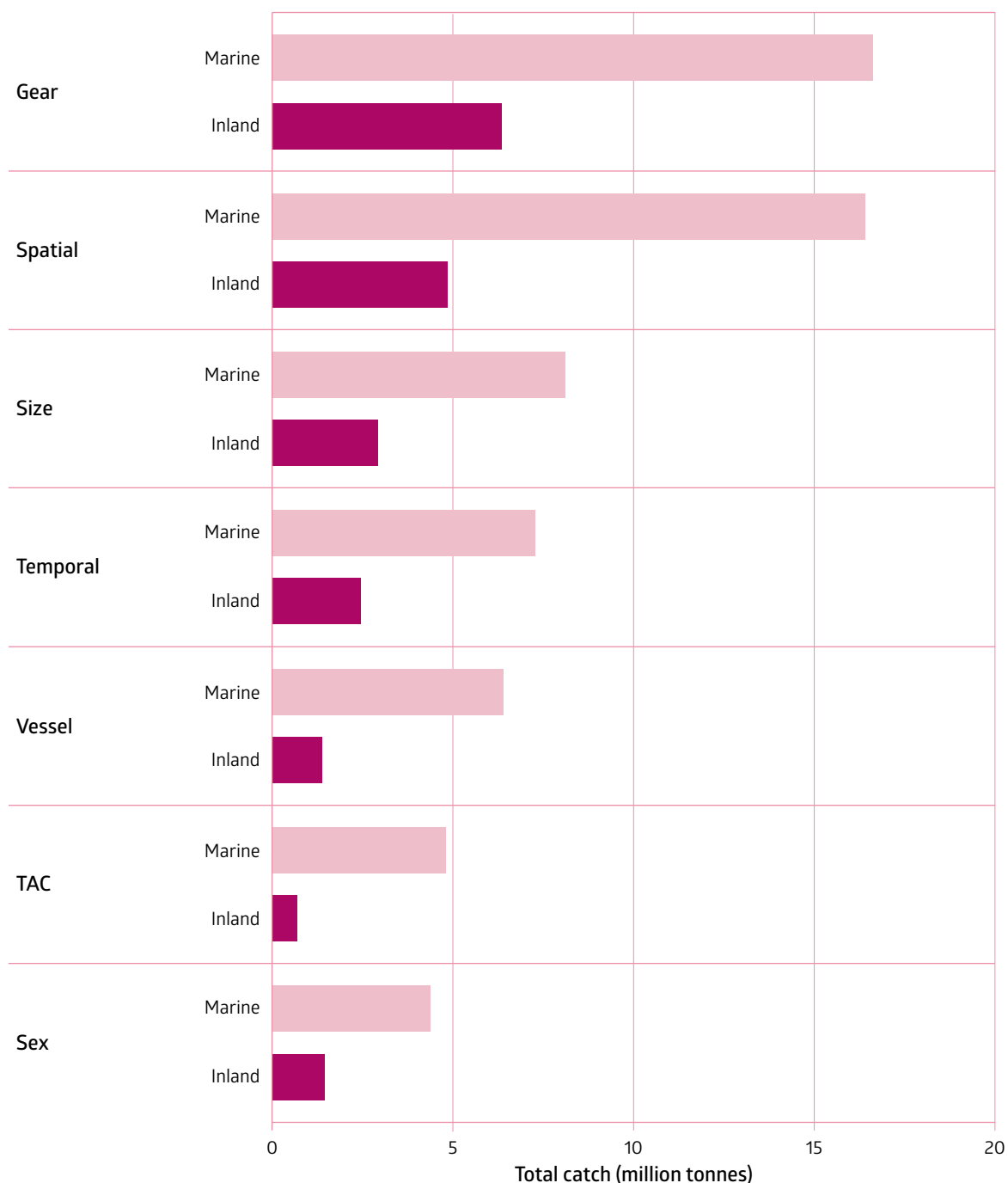
targeted. Trolling might be forbidden in shallow areas unless the net size, motor size or trolling procedure meets certain requirements, and the location of fixed nets may be forbidden in nursery or migratory sites at particular times of the year. In general, the use of particularly destructive methods is forbidden, such as dynamite or certain poisons. As for spatial restrictions, preferential access areas are an important example of this measure, and are discussed later in this section.

Other common harvesting management measures are also presented in Figure 8.10. Total allowable catch (TAC) is usually associated with large-scale fisheries because of its high costs of implementation, due to the significant technical assistance and close monitoring of landings required. In this chapter analysis, 20 developed and developing countries or areas reported having fisheries with TAC management measures. Some of those measures are likely part of a given country's quota within regional fisheries management organization (RFMO) agreements. Such TAC systems are established by RFMOs and not at the level of the local small-scale fisheries. This is the case for some of the small-scale fisheries catch reported to be under TAC systems for Indonesia and

the Philippines, which are part of the Indian Ocean Tuna Commission (IOTC) and the Western and Central Pacific Fisheries Commission (WCPFC), respectively. These two countries, together with Chile and Sri Lanka, accounted for 73 percent of overall catch by small-scale fisheries under TAC systems reported here. The rest was distributed among 16 countries from all world regions. The diversity of harvesting management measures used, including TAC systems, illustrates the complexity of governance arrangements involved in the management of small-scale fisheries, and the need to better understand differences between small-scale fisheries at various scales of operation (see Chapter 3).

In general, it is likely that the more frequent use of gear and spatial restrictions compared to other harvesting management measures is related to how well they align with livelihood issues (e.g. while temporal closures such as closed seasons are common management measures in large-scale fisheries, they might be less common among small-scale fisheries because of the subsistence role these fisheries play) or to their lower costs of implementation (compared to TAC systems, for instance). The low monitoring and enforcement costs of implementing gear and spatial restrictions relative to other options makes these restrictions a common feature of customary self-

Figure 8.10 Small-scale fisheries catch categorized by type of harvesting management measure applied, based on analysis of policies from 43 marine and 38 inland countries and territories



Notes: "Size" and "Sex" refer to restrictions on the size or sex of harvested species, respectively; "TAC" refers to total allowable catch.

governed systems in a diversity of geographies and cultural contexts (Cinner *et al.*, 2006, 2012b; Johannes, 1978, 2002). Indeed, low implementation costs are an important enabling condition of self-governance systems according to Ostrom (1990).

A type of spatial restriction that may be particularly important for small-scale fisheries, as indicated by the extent it is used within national jurisdictions, is that of preferential access areas for marine small-scale fisheries, where, for instance, activities from large-scale fisheries or certain types of gear (such as trawls) are prohibited. An analysis of formal legislation and expert consultations in 52 countries and territories showed that preferential access areas of this type are common in coastal waters in all regions around the world. These access areas are identified in formal national, regional or local legislation either by designating areas of the sea that are restricted (or that give preference) to small-scale fisheries, or through regulations that implicitly or explicitly favour small-scale fisheries by mandating moratoriums on the operation of large-scale vessels in those areas. Areas of the sea that are de facto exclusive to small-scale fisheries, by nature of the absence of large-scale fleets, are also included.

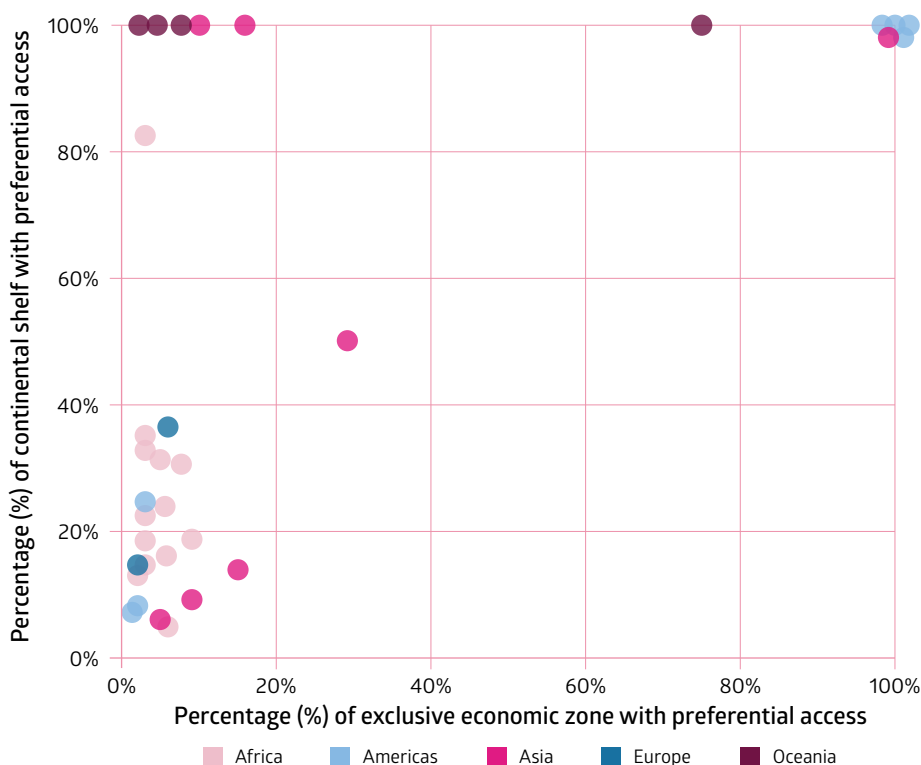
On average, countries have designated a median of 3 percent of their EEZs as preferential access areas for small-scale fisheries (average is 17 percent). Assuming the median holds for the world's EEZs, and these are the areas most used by small-scale fisheries, it would be possible to conclude that less than 5 percent of the

worlds' EEZs overall are reserved by law to support most of the direct employment and income in the ocean, and therefore make the highest contributions toward SDG 1 (No poverty). This assumption is based on findings from this report (see Chapter 5 for details) suggesting that small-scale fisheries are likely to provide most of the direct employment and income as compared to other employers of the ocean (large-scale fishing, shipping, and oil and gas), which are likely to occupy or occur in larger areas of EEZs.

Given that most small-scale fishers fish close to shore on the continental shelf (see characterization matrix in Chapter 3), assessing the amount of continental shelf with preferential access provides a rough, but useful, metric of the potential size of preferential access areas for small-scale fisheries. The median proportion of continental shelf with preferential access designation for small-scale fisheries worldwide is 18 percent. This suggests that the area that could potentially be reserved for small-scale fishers is considerably larger than that currently designated as preferential access areas. However, the feasibility of exploitation by small-scale fishers typically declines as depth increases, at least for some fisheries (e.g. demersal), which is an important consideration that affects competition among fishers with diverse types of gear.

Figure 8.11 shows that most countries and territories in this chapter analysis, particularly those in the African continent (soft pink dots in lower-left quadrant in figure), have a low percentage of preferential access areas in relation to the size of their continental shelf,

Figure 8.11 Distribution of 33 countries and territories by world region, by percentage of exclusive economic zone with preferential access for small-scale fisheries plotted against percentage of continental shelf with preferential access



indicating that if these areas were increased they could potentially benefit small-scale fisheries by reducing competition with large-scale fisheries. The other two clusters of countries shown in the figure have designated their entire continental shelf area as preferential access for small-scale fisheries, but differ in how much it represents of their EEZ. The cluster of Small Island Developing States (SIDS) mostly from the Oceania region (upper-left quadrant in Figure 8.11) have small continental shelves; therefore small-scale fishers cannot use the rest of the EEZ under current technology (because of its depth), so this portion is used by large-scale fishing fleets. The cluster of several SIDS mostly from the Americas (upper-right quadrant in Figure 8.11) have large, shallow continental shelves, which is reflected in their provision of preferential access to small-scale fisheries in 100

percent of the ocean in their national jurisdiction. These countries seem to have no or very limited large-scale fishing fleets.

One of the challenges to fulfilling the potential that preferential access areas offer to small-scale fisheries is the lack of adequate management of access. A study of 33 African maritime countries and territories bordering the Atlantic and Indian Oceans (but not the Mediterranean) cited enforcement as a particular governance challenge. Using satellite technology to predict fishing operations by large-scale fleets, it found these fleets spent 3–6 percent of their fishing time within preferential access areas during 2012–2016 (Belhabib *et al.*, 2020). Even without competition from large-scale fleets, without adequate management these preferential access areas can suffer from overexploitation from small-scale fishers themselves.

8.6 Governance of tenure in small-scale fisheries

The SSF Guidelines advocate the empowering of men and women in small-scale fishing communities to participate in decision-making processes and to assume responsibilities for sustainable use of fisheries resources (FAO, 2015). Over the past 50 years, the devolution of tenure rights (i.e. management, exclusion and transferability)⁴⁴ has been central to policy reforms shifting fisheries governance away from command-and-control approaches and toward co-management or community-based management of the use of natural resources (d'Armengol *et al.*, 2018; Evans, Cherrett and Pemsler, 2011; Sen and Nielsen, 1996). This section provides an initial global overview of the devolution of formal rights, followed by a comparison between formal and customary governance systems and analyses of the effects of income and scale of operation. It also includes a subsection on customary governance and management in indigenous fisheries.

8.6.1 Devolution of formal rights

The analysis of small-scale fisheries in this chapter showed that management rights are formally granted to fishers in nearly 75 percent of countries,⁴⁵ governing more than one-third of the marine (35 percent) and inland (39 percent) catch reported for these countries (Figure 8.12). For the portion of catch that has devolved rights, most of it involves “mostly devolved” rights (meaning that fishers have been granted two out of the three types of tenure rights), accounting for 19 percent of marine and 22 percent of inland catch (Figure 8.13).

Fishers enjoying fully devolved rights have been granted all management, exclusion and transferability rights over the catch. This implies that they are involved in management, but not necessarily in full control of it. In some settings, transferability rights (i.e. the right to transfer management, exclusion and transferability rights to someone else) constitute the defining element for private property. This does not usually apply to small-scale fisheries, and while a more nuanced analysis of how transferability rights operate in these fisheries is beyond the scope of this chapter, findings reveal that these rights have a very limited application in the subsector, as most of the marine (9 percent) and inland (8 percent) small-scale fisheries catch comes from only six countries (Figure 8.12).

8.6.2 Customary governance systems

The SSF Guidelines call on states and all other parties, in accordance with their legislation, to respect and protect all forms of legitimate tenure rights, taking into account (where appropriate) customary rights to aquatic resources, land and fishing areas (FAO, 2015). When fishers and their communities have tenure rights, the various harvesting management restrictions (i.e. spatial, temporal, gear, species and access) they implement are often designed to manage conflict, improve equity of access, or prevent the most environmentally egregious forms of fishing, among others (Berkes, ed., 1989; Cinner and Aswani, 2007; Johannes, 1978, 2002; McCay and Acheson, 1987; Ruddle, 1994). These multifaceted management objectives are more closely aligned with the aims of the Guidelines, in contrast with management objectives that are focused almost exclusively on production and rent extraction (see Figure 8.5).

⁴⁴ Enforcement and enforcement rights fell outside the scope of this chapter.

⁴⁵ Similar results were found by an independent survey conducted by FAO in 2020, where 81 percent of FAO Member Nations (n = 92) reported involvement of fishers in fisheries management (FAO, 2021g).

Figure 8.12 Percentage of marine and inland small-scale fisheries catch for which fishers are granted management, exclusion and transferability tenure rights, based on analysis of policies from 43 marine and 38 inland countries and territories

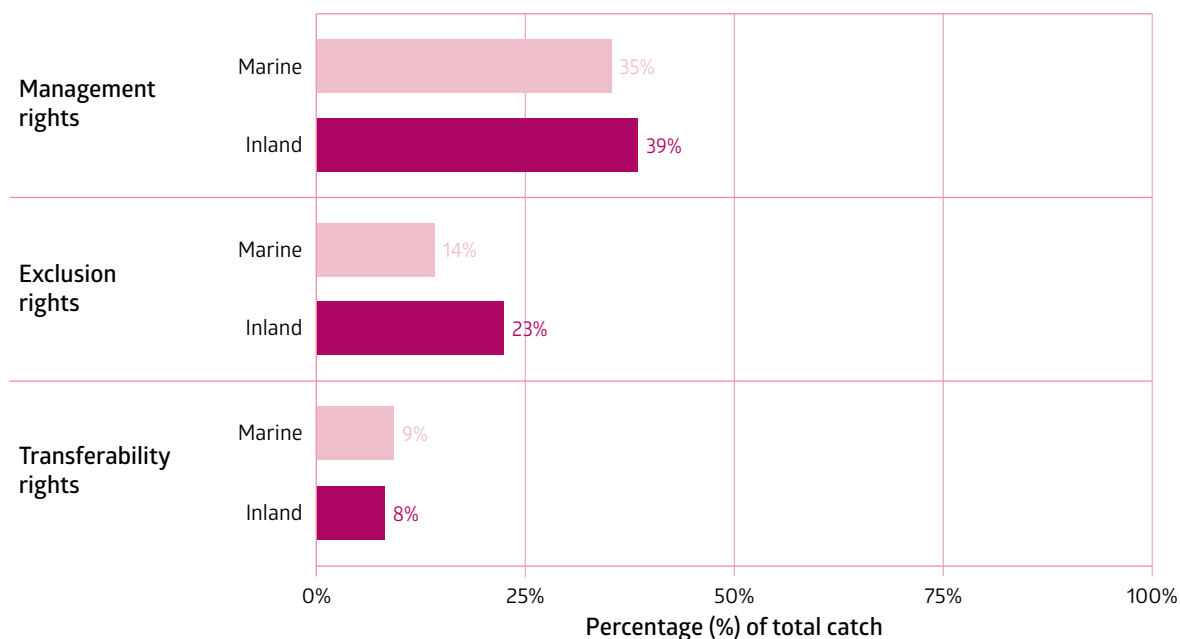
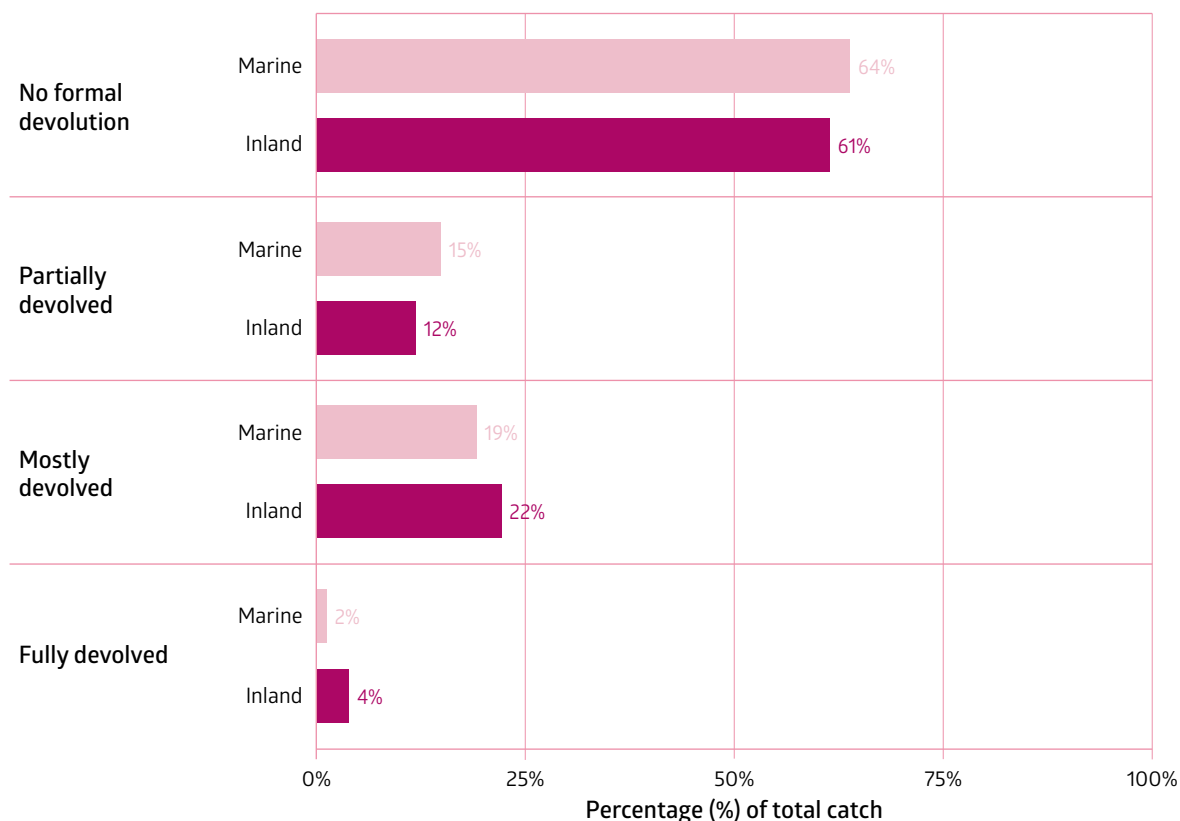


Figure 8.13 Percentage of marine and inland catch with different levels of rights devolution in formally governed small-scale fisheries, based on analysis of policies from 43 marine and 38 inland countries and territories



Notes: Partially devolved = when any single right is devolved to fishers; mostly devolved = when any two rights are devolved; fully devolved = when all three rights are devolved at the same time. This analysis only included devolved rights formally recognized in laws, regulations, policies, plans or strategies. It did not include governance regimes with informally devolved rights, which are recognized to be important around the world but for which data and analysis are not currently available or feasible at a global scale.



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The legalization and formalization of customary governance systems is an important challenge for small-scale fisheries, but there is a risk of oversimplifying management strategies such that they become rigid institutional structures, which would threaten small-scale fishers' adaptive capacity (Cinner and Aswani, 2007). When formalization processes do not take into account the interaction of legal and customary rules or build the necessary linking institutions, they can result in reduced governability and associated social losses (Carlisle and Gruby, 2019; Lau *et al.*, 2020; Rohe *et al.*, 2019). Approaching these issues will require the following: (i) aligning "legal pluralism" through proper inclusion of customary knowledge holders, (ii) carefully defining roles, (iii) developing a shared understanding of the process and desired outcomes, and (iv) addressing conflicts early on, among other important considerations (Jentoft and Bavinck, 2014; Kolding, Béné and Bavinck, 2014).

It is important to deepen the understanding of how customarily governed small-scale fisheries can develop productive interactions with fisheries authorities. For instance, from this chapter analysis it was learned that in countries such as Chile, India, Peru and Sierra Leone, fishers have organized under different co-management systems to establish and

enforce gear restrictions, sometimes informally collaborating with government institutions to monitor fishing efforts. In Sierra Leone these organizations are called co-management associations. In cases like these, customarily governed small-scale fisheries may devolve management and exclusion rights to formally organized groups of fishers such as cooperatives, *cofradias*, syndicates and other types of associations, rather than to individual fishers. In these instances, groups of fishers make collective decisions and determine fisheries access and harvesting rules through membership.

8.6.3 Comparing formal and customary governance systems

This subsection provides a limited comparison between formal and customary governance systems in relation to how access is granted and tenure rights are devolved. Comprehensive data about either system at a global level were not available. Yet, as part of this chapter analysis a small database was assembled consisting of 37 customarily governed small-scale fisheries from 12 countries in Asia, Africa and South America (a subset of the entire IHH database).⁴⁶ Despite the potential limitations on the external validity of the comparison, it was deemed

⁴⁶ The 12 countries were Bangladesh, Brazil, Chile, Congo, Ghana, India, Indonesia, Madagascar, Nigeria, Peru, Sierra Leone and Sri Lanka. The subset does not constitute an exhaustive list of customarily governed small-scale fisheries, only those the CCS authors considered to be most important or for which they had information from their countries. See Annex A for a more detailed description of case selection criteria and the general methodological approach to this chapter.

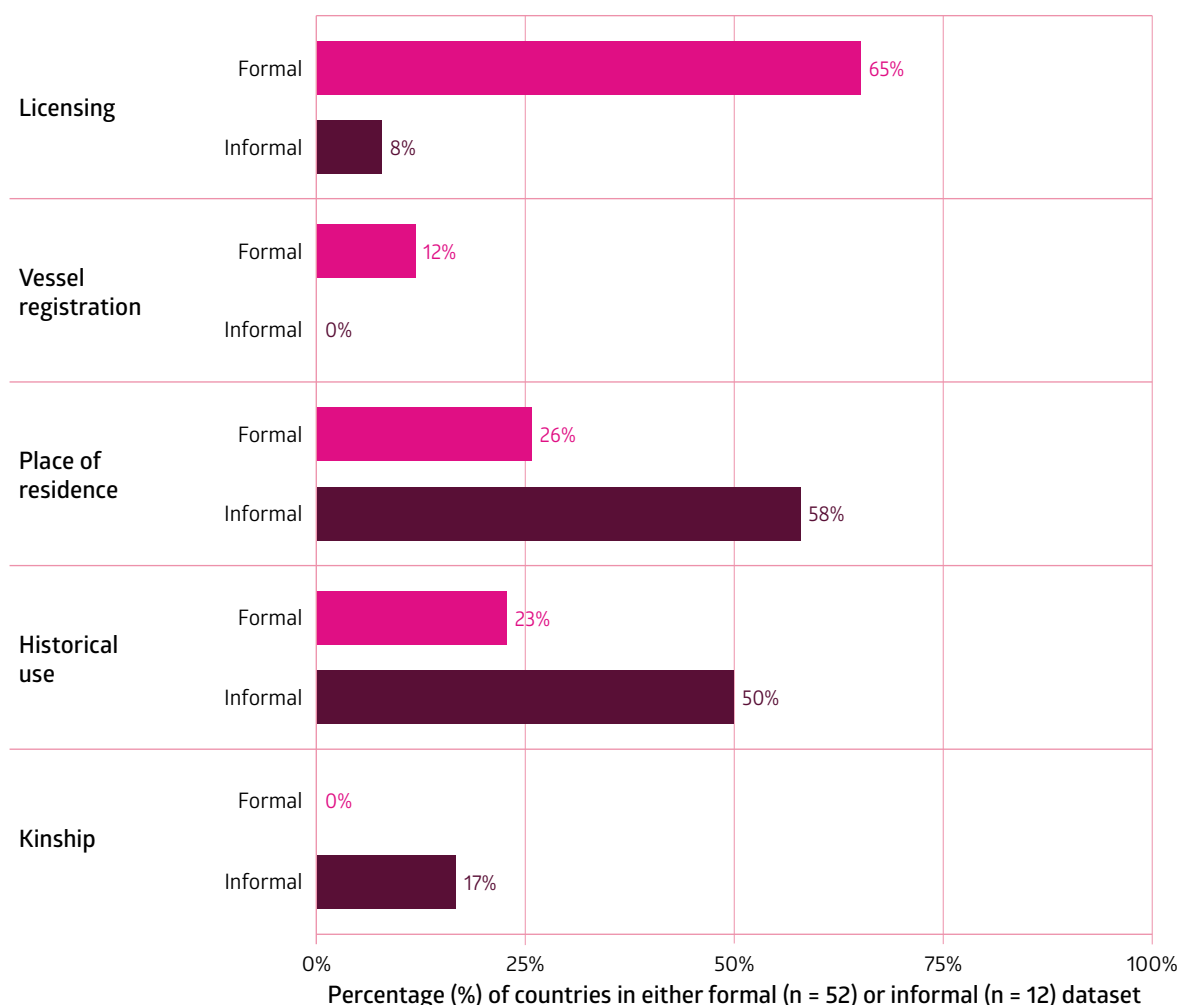
useful to show similarities and differences between both governance regimes regarding access and devolution of rights. Figure 8.14 shows that formal and customary governance systems grant access to fishers very differently. In customary regimes, place of residence and historical use are the most common criteria for granting access. Licensing is also used in customary regimes as a criterion but does not feature as prominently as in legislation of formally governed small-scale fisheries. Findings from the 12 countries analysed here suggest that when local fishers are involved in governance, they overwhelmingly choose place of residence or historical use over licensing.

Place of residence or historical use can serve in some cases as a basis to develop tenure rights linked to geographic areas in coastal environments, also known as territorial use rights in fisheries (TURFs) (Christy, 1982). TURFs are often informally held, yet management regimes can emerge in these areas (Orensanz *et al.*, 2013). For instance, customarily governed small-scale fisheries in Peru and India have set restrictions banning gear types associated with stock decline or habitat destruction in specific

shallow-water areas. TURFs can also allow informally governed fisheries to adapt to changing conditions based on local knowledge, as has happened in Brazil where clam harvesters use weather patterns to determine seasonal and temporal restrictions. The existence of low-mobility aquatic foods such as benthic crustaceans or molluscs facilitates the accumulation of knowledge among fishers and the predictability of future resource availability by the simple fact of them being more easily and frequently observable (Ostrom, Gardner and Walker, 1994), expediting adaptation to socioecological change (Castilla and Defeo, 2001; Gelcich *et al.*, 2010).

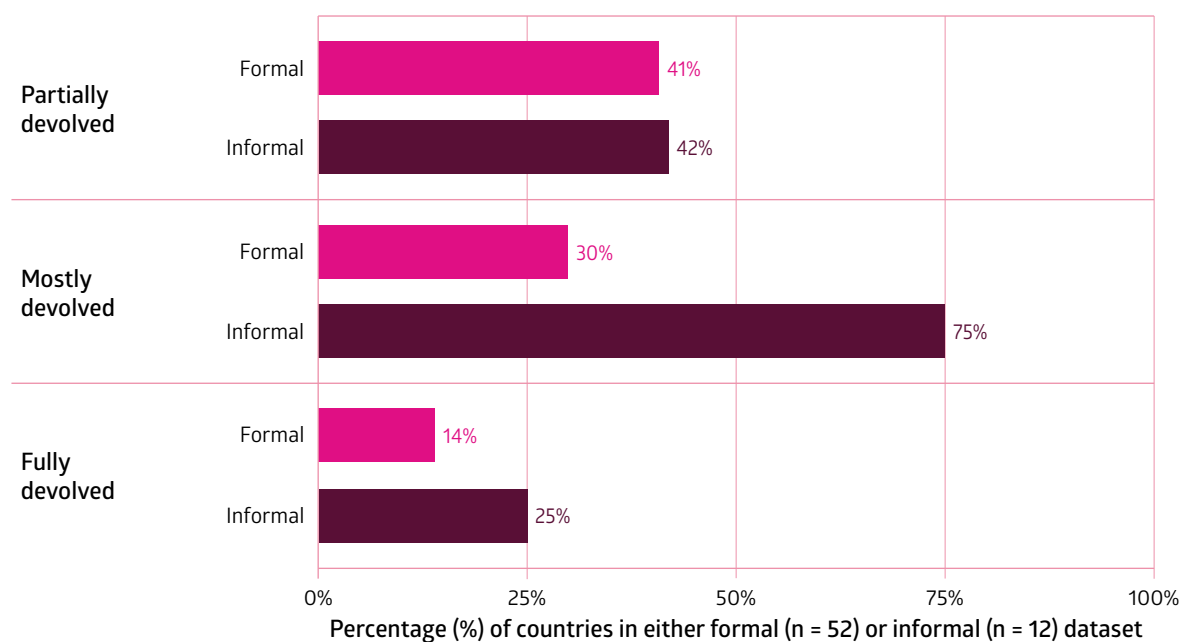
While a large number of customary governance arrangements in the IHH dataset were tied to benthic or sedentary species, examples have also been documented for non-benthic species. In the north of New Caledonia, some migratory species have been associated with the exclusive harvesting of particular clans among the Nemea people. Harvesting historically took place at precise times of the year based on known migratory routes, and the species considered sacred were not harvested

Figure 8.14 Comparison of main access strategies between customarily governed and formally governed small-scale fisheries, by percentage of countries and territories using each type of access strategy



Notes: For each country, strategies were included if at least one fishery in the country used them. More than one access strategy could apply to each country, which is reflected in the percentages not adding up to 100.

Figure 8.15 Percentage of formally and customarily governed small-scale fisheries with different levels of rights devolution



Notes: Partially devolved = when any single right is devolved to fishers; mostly devolved = when any two rights are devolved; fully devolved = when all three rights are devolved at the same time. Devolved rights were included if at least one fishery in the country used them. More than one level of devolved right could apply to each country, which is reflected in the percentages not adding up to 100.

for commercialization. The use of poisoning and other particularly destructive harvesting techniques required the authorization of the chief, who gave it only rarely, such as during times of famine (Teulières, 1992). In inland fisheries, the use of customary norms and taboos to protect fish spawning areas or deep pools used during fish migration is well documented for the Lower Mekong Basin (Baird and Flaherty, 2005). These pools serve as fishing refuges during the dry season. Many have been formalized into fishery conservation zones, and under the right conditions can benefit highly migratory species (Baird, 2006).

Around the world, customary governance regimes exhibit a rich diversity of measures combining access criteria and harvesting management (Johannes, 1978; Ruddle, 1994). One way in which they combine is through TURFs. For the analysis in this chapter, 29 countries reported almost 1 500 instances of formal and informal TURFs, including arrangements such as the Indonesian *adat*, which establishes gear and spatial restrictions, or the Malagasy *dina*, which combines customary harvesting restrictions with exclusion rights that act as informal TURFs. Ghana, India, Sierra Leone and Sri Lanka (among other countries) use temporal restrictions tied to customary days of rest, celebration or mourning. In many countries, such rules are arbitrated and enforced by traditional authority figures or institutions that tie fisheries governance to larger social and political institutions extending into broader community affairs. Other examples of formally established TURFs include 28 federal and provincial Marine Extractive Reserves in Brazil and more than 700 marine areas of Chile's National Benthic Resources TURF Program.

Many more unrecorded traditional TURFs can be found in inland waters around the world, such as in the Lake Chad Basin. In these environments TURFs are often temporary, based on seasonal flooding and the rainy season, such as in the land-tenured Congolese floodplains, among other areas.

Looking at the level of devolution of rights, there are some differences between the two types of governance regimes in small-scale fisheries. Not surprisingly, fewer tenure rights are devolved to fishers in formally governed fisheries than in customarily governed fisheries (Figure 8.15). Interestingly, both are relatively similar at the level of devolving only one tenure right ("partially devolved"), usually the right of management (a prevalence of 42 percent and 41 percent, respectively). Yet, formally governed small-scale fisheries fall behind on the devolution of two or more rights: "mostly devolved" tenure rights are found in 75 percent of countries with customarily governed small-scale fisheries, as opposed to 30 percent of countries with formally governed small-scale fisheries.

Continued movement towards more participatory governance approaches will require looking beyond the devolution of management rights and improving understanding of what enabling conditions are needed for local fishers to be able to act effectively on their devolved rights. Also, when multiple rights are devolved to fishers as is common in customary systems, the likelihood increases that fisheries governance will take broader community contexts and values into consideration (Fabinyi, Foale and Macintyre, 2015; see also Chapter 6 on gender). For instance, equity and resource distribution are common concerns in

Box 8.2

Institutional Diversity in Small-scale fisheries

Small-scale fisheries display considerable diversity in their characteristics, with some stark differences between regions. In Europe, for instance, 92 percent of marine small-scale fisheries are formally integrated into the economy, whereas in Asia the figure is only 3 percent. And in inland fisheries, more than 50 percent of fishery units are engaged in seasonal employment, compared to less than 17 percent

among marine fishery units. However, there are also some remarkable similarities between marine small-scale fisheries in developing and developed countries or areas, namely in the proportion of owner/operators (58 percent and 61 percent, respectively), the typical one-day length of fishing trips (70 percent and 73 percent), and the proportion of non-motorized vessels (18 percent and 19 percent).

reports on customary small-scale fisheries governance arrangements in the IHH dataset. In Peru, some fishers' associations have established a "last call" on catch, ensuring members sell their fish simultaneously and therefore receive fair and uniform prices. In Sri Lanka, the informal *raula kapanawa* practice sets norms for the redistribution of catch at shore, ensuring fishers who have a bad day do not go home empty-handed. And in Congo, as in many other places, informal rules delineate financial responsibilities for fishing trips and equitable income distribution among fishers.

It is important to note that, according to the literature, not all customary governance regimes are fair. Community leaders often keep the best fishing areas for their kin, or require "informal tariffs" from members of the community or outsiders in exchange for granting access to communal fishing areas. The processes that emerge from the negotiation and handling of these inequities can lead to either resource overexploitation or long-term sustainable use, depending on the particularities of communal social relations and local values (Basurto and Garcia Lozano, 2021). A fuller treatment of the role of values and identity in small-scale fisheries is provided in Section 8.7.1.

8.6.4 The effects of scale of operation and income

The SSF Guidelines recognize the great diversity of small-scale fisheries (see Box 8.2), and thus do not prescribe a standard definition for the subsector, nor do they prescribe how they should be applied in a national context. The Guidelines also recognize that to assure transparency and accountability in their application, it is important to ascertain which activities and operators are considered small-scale. In light of this, the characterization matrix presented

in Chapter 3 was developed in order to better disentangle different scales of operation within small-scale fisheries and harness their diversity (Short *et al.*, 2021). This subsection illustrates what can be learned from disaggregating data by scale of operation and income level. Findings show that for small-scale fisheries in general, the larger the scale of operation⁴⁷ or the higher the country income level, the greater the diversity of management approaches used (i.e. access strategies and harvesting management measures).

Figure 8.16 shows that the larger the scale of operation of a fishery, the greater the diversity of harvesting restrictions used to govern it. When the data are looked at in aggregate, spatial and gear harvesting restrictions dominate globally (Figure 8.10). Yet, when the data are disaggregated into the four scales of operation, the dominance of spatial and gear harvesting restrictions becomes less evident. For the largest marine and inland small-scale fisheries (Category 4 scale of operation), no particular harvesting management measure dominates. Marine fisheries at this scale of operation use six harvesting measures to govern at least 70 percent of marine catch, with similar heterogeneity for inland fisheries. At smaller scales of operation, the management measures in inland fisheries are much more homogeneous, with the most noticeable contrast seen between marine and inland "smallest" (Category 1) fisheries. In this category, while marine fisheries use all seven harvesting management measures to govern their catch, inland fisheries almost exclusively use gear, spatial and size restrictions to govern their fisheries.

The above interpretations need to be considered together with an understanding of which countries dominate the catch in each category, as this may have a disproportionate effect on the overall results. In Category 1, 82 percent of marine reported catch

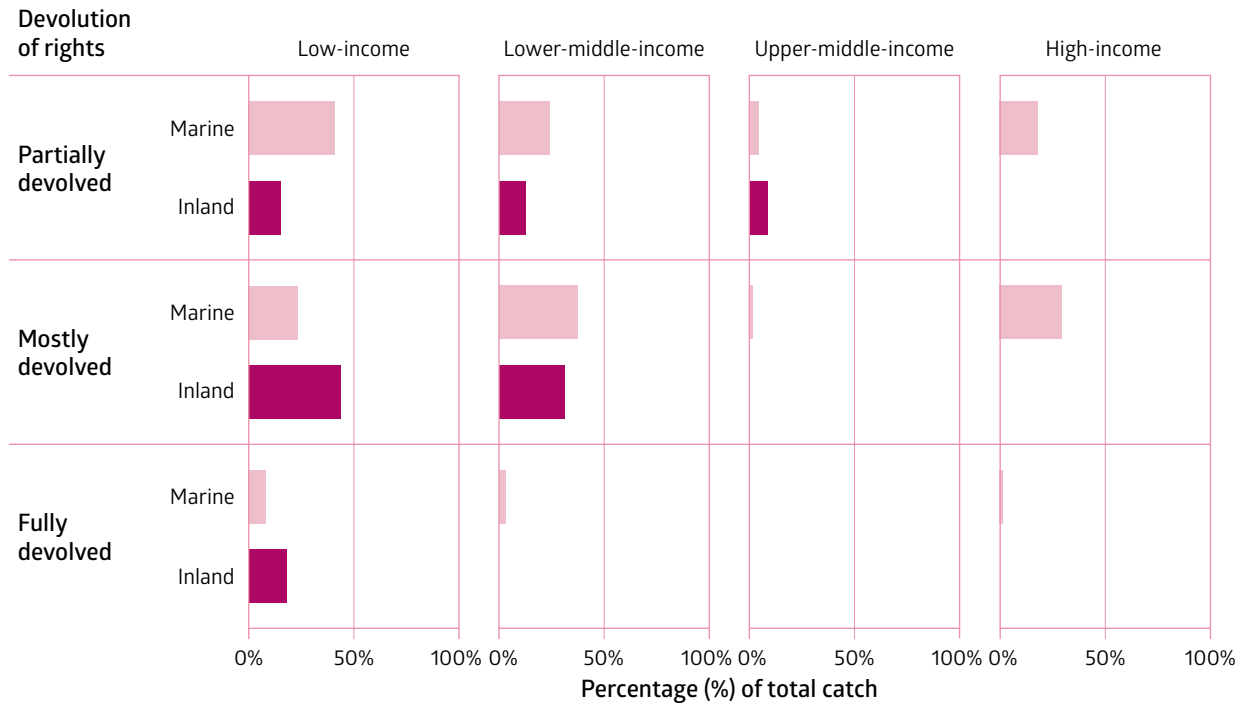
⁴⁷ Determination of scale of operation is based on the characterization matrix described in Chapter 3. Fisheries with low characterization scores indicate a small scale of operation; their scores increase as the scale of operation increases. For this analysis, catch was categorized into four scales of operation based on the fishery characterization scores, from smallest (Category 1) to largest (Category 4). Category 1, for example, includes fisheries that employ gleaning and most artisanal and non-motorized methods, while Category 4 includes fisheries with highly motorized boats and the capacity for multi-day trips, making these fisheries border on the large scale.

Figure 8.16 Relationship between type of harvesting management measure employed and scale of operation in marine and inland small-scale fisheries, by proportion of total catch, based on analysis of policies from 43 marine and 38 inland countries and territories



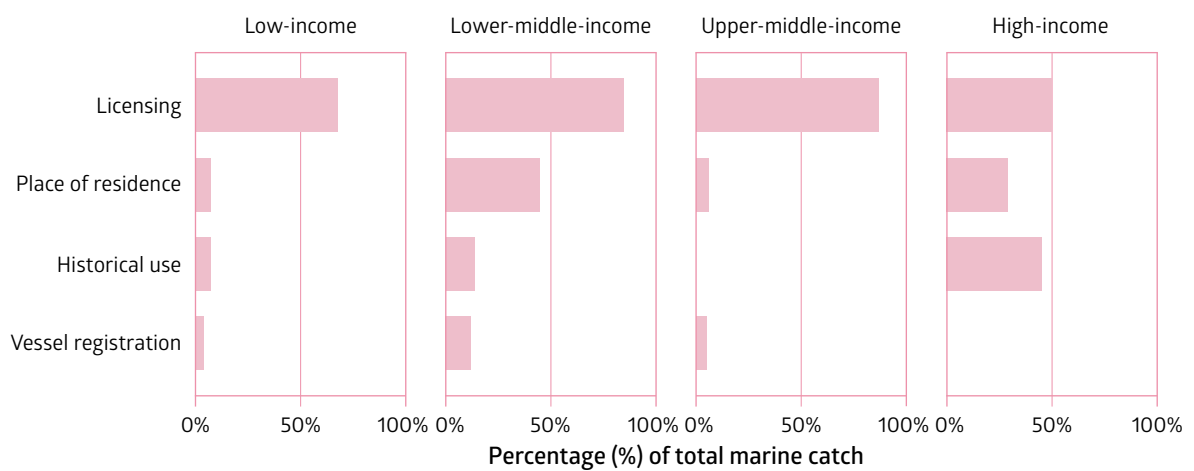
Notes: "Size" and "sex" refer to restrictions on the size or sex of harvested species, respectively; "TAC" refers to total allowable catch.

Figure 8.17 Relationship between the level of devolution of rights and country income group in marine and inland small-scale fisheries, by proportion of total catch, based on analysis of policies from 43 marine and 38 inland countries and territories



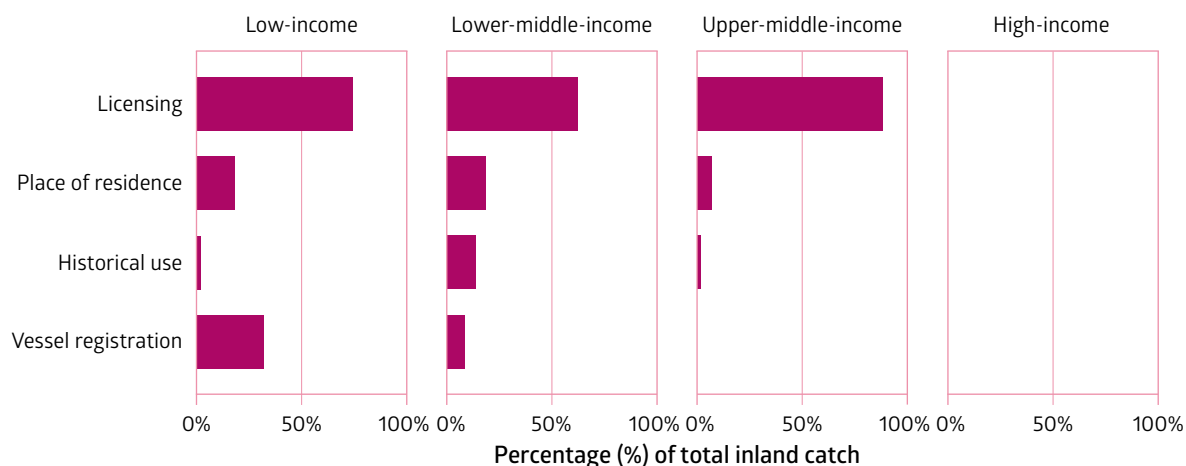
Note: World Bank income group classification is used.

Figure 8.18 Relationship between access strategy and country income group, as a percentage of total catch in marine small-scale fisheries, based on analysis of policies from 43 countries and territories



Note: World Bank income group classification is used.

Figure 8.19 Relationship between access strategy and country income group, as a percentage of total catch in inland small-scale fisheries, based on analysis of policies from 38 countries and territories



Note: World Bank income group classification is used.

comes from the Philippines and India, with the rest coming from 16 countries from all world regions. For inland reported catch, 89 percent comes from Bangladesh and China and the rest from 14 countries from all regions except Europe. Category 2 includes 35 countries for marine and 31 for inland. For this category, 69 percent of marine and 44 percent of inland reported catch comes from China, with the rest distributed among countries in all regions of the world. Category 3 includes fisheries from 39 countries. For the marine reported catch, 28 percent comes from Chile, Indonesia and Viet Nam, with the rest distributed among all regions of the world. For the inland reported catch, 62 percent comes from the Democratic Republic of the Congo, Malawi, Uganda and the United Republic of Tanzania, with the rest distributed among 14 countries in Africa, the Americas and Asia. In Category 4, marine catch is only represented by seven countries; 62 percent comes from Indonesia and the rest from six countries in Europe, Africa, the Americas and Asia. Inland catch is represented by five countries, with 93 percent of the reported catch coming from the United Republic of Tanzania, and the rest from four countries in Africa and the Americas.

National income is also associated with how small-scale fisheries are governed, and findings show low-income and lower-middle-income countries feature the highest proportions of catch involving formally devolved rights (Figure 8.17). Marine small-scale fisheries in high-income countries also have catch involving devolved rights, but at lower proportions in the aggregate than low-income and lower-middle-income countries.

When it comes to access strategies, findings for marine fisheries show that the higher a country's income, the more diverse the criteria it uses to grant access to small-scale fisheries. Licensing is normally the dominant criterion used worldwide, but in

high-income countries it only governs 50 percent of marine small-scale catch, while historical use is used to govern 45 percent (Figure 8.18). Notably, place of residence governs almost half of the catch among lower-middle-income countries, including Bangladesh, India, Indonesia, the Philippines and Viet Nam, among others. For inland fisheries, the reverse pattern is found: the higher the income, the lesser the diversity of access strategies used. In upper-middle-income countries licensing dominates, while in low-income and lower-middle-income countries a diversity of access criteria is found (Figure 8.19).

The low-income category used in Figure 8.18 and Figure 8.19 uses small-scale fisheries catch from nine marine countries, of which the Democratic Republic of the Congo, Guinea, Mozambique and Sierra Leone account for 81 percent, with the rest distributed among five other African countries; and ten inland countries, where the Democratic Republic of the Congo, Malawi, Uganda and the United Republic of Tanzania account for 76 percent of overall reported catch, with the rest distributed among six other African countries. The lower-middle-income category is based on catch from 16 marine countries, of which Bangladesh, India, Indonesia, the Philippines, Sri Lanka and Viet Nam account for 75 percent, with the rest distributed among ten countries in Africa and Oceania; for the inland catch in this category, Bangladesh, Egypt, Indonesia, Nigeria and the Philippines account for 74 percent, the rest being distributed among countries mostly in Africa and Asia. The upper-middle-income category uses catch from 18 marine countries, with China and Peru combined representing 80 percent and the rest distributed among 16 countries in all regions of the world. For inland fisheries catch in this category, Brazil and China combined represent 84 percent, the rest being distributed among seven countries in all regions of the world. The high-income category is based on catch from nine

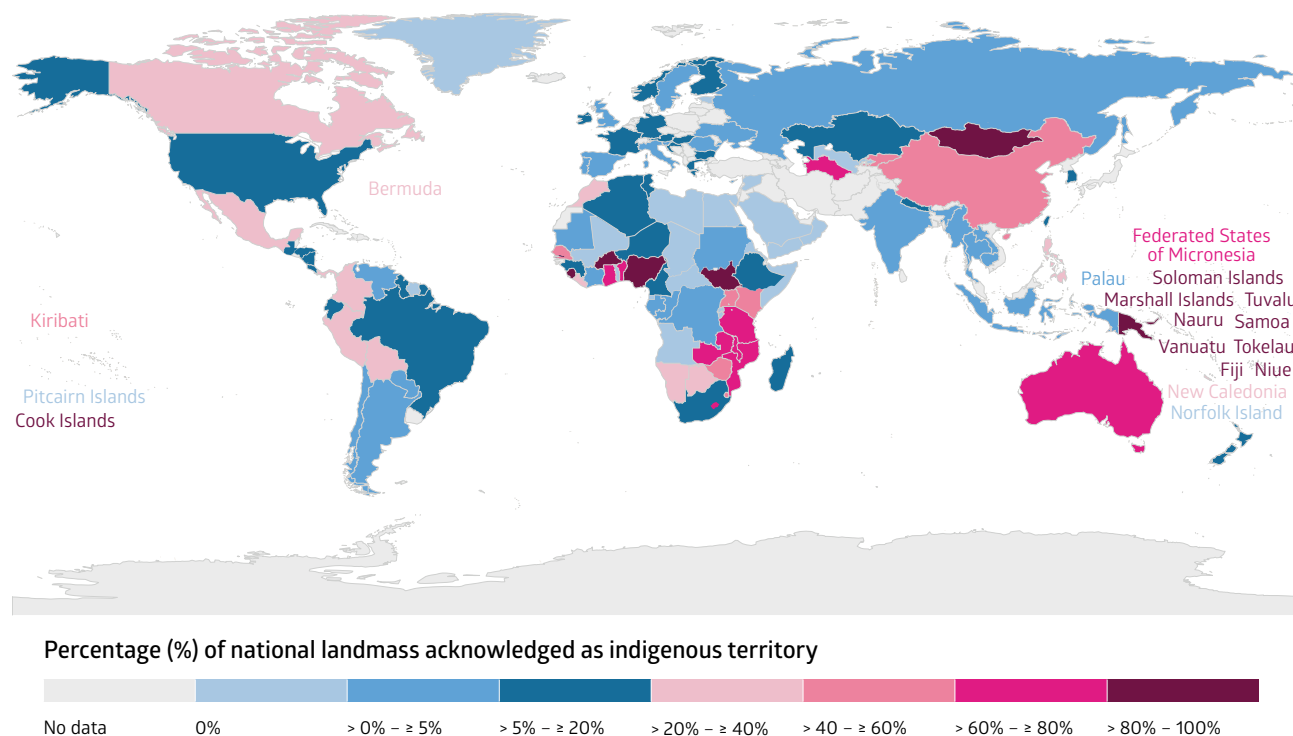
BOX 8.3

Indigenous Peoples in the UN legal framework

- The 1989 Convention of the International Labour Organization (ILO 169)^a and the 2007 UN Declaration on the Rights of Indigenous Peoples (UNDRIP)^b have progressively advanced the recognition of indigenous rights.
- UNDRIP introduced the right of free, prior and informed consent, an essential mechanism for protecting indigenous rights to participation and self-determination.
- The UN Permanent Forum on Indigenous Issues (UNPFII)^c was established in 2000 to engage with indigenous issues related to social and economic development, culture, environment, health, education and human rights.
- The 2014 World Conference on Indigenous Peoples produced an action-oriented document with major commitments to advance indigenous rights.
- The UN 2030 Agenda for Sustainable Development Goals specifically calls for Indigenous Peoples' empowerment, inclusion and access to quality education, as well as their engagement in implementing the Agenda.

Notes: **a** International Labour Organization (ILO), Indigenous and Tribal Peoples Convention, C169, 27 June 1989, C169. **b** UN General Assembly, United Nations Declaration on the Rights of Indigenous Peoples: resolution adopted by the General Assembly, 2 October 2007, A/RES/61/295. **c** UN Permanent Forum on Indigenous Issues (UNPFII), Permanent Forum on Indigenous Issues: report on the 12th session (20–31 May 2013), 31 May 2013, E/2013/43–E/C.19/2013/25.

Figure 8.20 Percentage of national lands under Indigenous Peoples' tenure and acknowledged by the government, according to the LandMark global platform



Dotted line represents approximately the Line of Control in Jammu and Kashmir agreed upon by India and Pakistan. The final status of Jammu and Kashmir has not yet been agreed upon by the parties. Final boundary between the Sudan and South Sudan has not yet been determined.

Source: Adapted from Dubertret, F. & Wily, L.A. 2015. Percent of Indigenous and Community Lands. In: *LandMark – Global Platform of Indigenous and Community Lands*. www.landmarkmap.org/data/

marine countries, with Chile and the United States of America accounting for 81 percent, and the rest distributed among countries in all regions, with the exception of Asia and Oceania. For inland fisheries catch, only Spain is found in this category in the sample of countries and territories analysed, and its reported catch is rounded down to zero.

8.6.5 Customary governance and management in indigenous fisheries

No single culture or language defines Indigenous Peoples, and no common image, gear or species can represent the full variety of indigenous fisheries. Their fishing methods range from hook and line, spears and various traps to mechanized gear. The fishers themselves range from nomadic sea-faring peoples in tropical waters to marine mammal hunters in the Arctic, and from coastal gleaners to inland river and lake fishers.

Aquatic foods are key sources of nutrition for Indigenous Peoples, and are also critical to their food security. Cisneros-Montemayor *et al.* (2016) have found that Indigenous Peoples consume only about 2 percent of the world's marine fisheries catch, but up to 15 times more fish than non-indigenous populations. Other studies reveal similar evidence of indigenous dependence on inland aquatic foods as well, making fisheries a pillar of their food systems (Franz *et al.*, 2015; Bennett *et al.*, 2021; FAO, 2016). But increasing extractive pressures at local and global scales have limited indigenous fishers' access to aquatic foods, as have climatic upheavals and other threats. This weakens the diversity of indigenous food systems and exacerbates economic, political and ecological hardships.

This story is not limited to indigenous fishers,⁴⁸ and these fishers aren't alone in claiming a strong sense of place in relation to their fisheries, or in voicing experiences of marginalization, rights violations and dispossession. Yet indigenous fisheries are unique: they feature a variety of fishing techniques, languages and cultures, embedded in centuries-long histories of localized resource management, all resulting in very particular relationships with nature. However, these factors create especially high stakes for indigenous fishers in seeking recognition of their rights to access and manage resources (see Box 8.3). At the same time, these fishers may have legal recourse or access rights that are unavailable to non-indigenous groups, which may create special opportunities for indigenous sustainability while sometimes creating conflicts with non-indigenous small-scale fishers.

Indigenous fisheries are products of long-developed relationships between people and the environment. Through millennia of interactions with the aquatic

world, Indigenous Peoples have developed an astounding diversity of fishing technologies including vessels, baskets, traps, nets, harpoons, spears, hooks, poisons, and body techniques not requiring tools. These highly specialized technologies reflect lasting bonds between indigenous fishers and their aquatic ecosystems. Despite these strong links between indigenous fishers, their cultural identity and sustainable resource management, disruption has also been a central experience for many of their fisheries, including infringements of rights.

In light of these rights infringements, as well as more general attempts at correcting colonial legacies, some states have taken measures to distinguish indigenous fisheries from non-indigenous small-scale fisheries. A large portion of the world's countries legally recognize indigenous rights to land and water in some capacity (Figure 8.20). In fact, six countries in the IHH dataset reported fisheries laws that acknowledge distinct rights for indigenous fishers. Though these laws are rarely implemented to the full protection of these fishers, their existence gives them leverage. That said, laws distinguishing indigenous fisheries from non-indigenous small-scale fisheries may spark resentment and even conflict among non-indigenous fishers who themselves feel marginalized (Mackey, 2005; Burnett, 1996; Wilmer and Alfred, 1997). It is therefore important to recognize indigenous fishers and non-indigenous small-scale fishers as overlapping groups who share some defining features and common concerns, but who differ in their histories, food system contexts and legal options. For this very reason policy discourse should distinguish between Indigenous Peoples and other local communities, rather than combining them as a single constituency. This distinction acknowledges the interests that separate indigenous fishers and the rights they have fought for at national and international scales (ICC, 2020).

Ancestral ties connect indigenous fishers to their territories and set a foundation for sustainable fishing practices. Many Indigenous Peoples "consider all the earth to be sacred and regard themselves as an integral part of this holistic and living landscape" (Buggey, 1999). This binds fishers to their ecosystems and makes fishing grounds central to indigenous identity, even beyond the harvest (Collignon, 2006; Ingersoll, 2016). The multigenerational relationships between indigenous fishers and their territories have given rise to customary laws that support sustainable fishing (see Box 8.4).

⁴⁸ For the purposes of this chapter, indigenous fishers (or fisheries) are considered to be small-scale.

BOX 8.4

Indigenous customary fisheries management

To maintain ties to their territory, indigenous fishers have often established rules guiding the use of rivers, lakes and coastlines. Cinner (2008)^a found four categories of traditional restrictions, or *fady*, in Madagascar which limit coastal resource exploitation: spatial restrictions, temporal restrictions, gear restrictions and species restrictions. Such management tools are common around the world. In parts of Australia, for example, customary marine tenure divides sea property by island, community, clan and lineage.^b Tenure is backed by collective and individual access rights which allow for adaptive management even amid conflict, and which support the reasoned regulation of stocks.^c The displacement of Indigenous Peoples and erosion of their culture disrupts these protective measures.

The links between indigenous land, identity and fishing practices are perhaps clearest in the relationships between fishers and the aquatic species they harvest. Many Indigenous Peoples develop personal and cultural bonds with particular species. The Baniwa and Enawene of the Amazon rainforest, for example, understand fish as ancestral kin whose artistic, ritual and social life mirrors that of humans.^d These close ties inform fishing prohibitions when sacred species are targeted. In the Congo Basin, the Bakwele apply 25 such restrictions on 46 fish species.^e According to these customs, eating or even touching restricted species can bring sickness or disorder to pregnant women and their families. Prohibitions like these can protect vulnerable species, define tenure, and set the foundation for both food security and equitable resource distribution.^f

Recent research shows that these traditional restrictions contribute to conservation as well.^g When customary sea turtle bans were lifted in Madagascar, for example, turtle populations declined significantly.^h Some conservation programmes have included indigenous values in a bid to strengthen their impact.ⁱ In Eastern Polynesia, the restoration of ancient *rahui* access restrictions has increased the richness and biomass of fish species.^j These examples show how much policymakers and fisheries managers can learn from the practices, beliefs and values that shape indigenous fisheries.

Notes: **a** Cinner, J. 2008. Le rôle des tabous dans la conservation des ressources côtières à Madagascar. *Ressources marines et traditions. Bulletin de la CPS*, 22: 15–23. **b** Lalancette, A. 2017. Creeping in? Neoliberalism, indigenous realities and tropical rock lobster (*kaiar*) management in Torres Strait, Australia. *Marine Policy*, 80: 47–59. **c** Peterson, N. & Rigsby, B., eds. 2014. *Customary marine tenure in Australia*. Sydney, Australia, Sydney University Press; Johannes, R.E. 2002. The renaissance of community-based marine resource management in Oceania. *Annual Review of Ecology and Systematics*, 33(1): 317–340; Vaughan, M.B., Thompson, B. & Ayers, A. 2017. *Pāwehe Ke Kai a'o Hā'ena: creating state law based on customary indigenous norms of coastal management. Society & Natural Resources*, 30(1): 31–46. **d** Garnelo, L. 2007. Cosmologia, ambiente e saúde: mitos e ritos alimentares baniwa. *História, Ciências e Saúde*, 14: 191–212; Mendes dos Santos, G. & Mendes dos Santos, G. 2008. Men, fish and spirits: the fishing ritual of the Enawene-Nawe. *Tellus*, 8: 39–59. **e** Oishi, T. 2016. Ethnoecology and ethnomedicinal use of fish among the Bakwele of southeastern Cameroon. *Revue d'ethnoécologie*, 10. **f** Colding, J. & Folke, C. 2001. Social taboos: "invisible" systems of local resource management and biological conservation. *Ecological applications*, 11(2): 584–600; Coté, C. 2017. *Spirits of our whaling ancestors: revitalizing Makah and Nuu-chah-nulth traditions*. Seattle, USA, University of Washington Press; Leblic, I. 2008. *Vivre de la mer, vivre avec la terre ... en pays kanak. Savoirs et techniques des pêcheurs kanak du sud de la Nouvelle-Calédonie*. Travaux et documents océanistes. Paris, Société des Océanistes. **g** Alexander, L., Agyekumhene, A. & Allman, P. 2017. The role of taboos in the protection and recovery of sea turtles. *Frontiers in Marine Science*, 4: 237; Foale, S., Cohen, P., Januchowski-Hartley, S., Wenger, A. & Macintyre, M. 2011. Tenure and taboos: origins and implications for fisheries in the Pacific. *Fish and fisheries*, 12(4): 357–369; Jones, J.P., Andriamarivololona, M.M. & Hockley, N. 2008. The importance of taboos and social norms to conservation in Madagascar. *Conservation biology*, 22(4): 976–986; Shalli, M.S. 2017. The role of local taboos in the management of marine fisheries resources in Tanzania. *Marine Policy*, 85: 71–78. **h** Cinner, J. 2008. Le rôle des tabous dans la conservation des ressources côtières à Madagascar. *Ressources marines et traditions. Bulletin de la CPS*, 22: 15–23. **i** Evans, K.E. & Klinger, T. 2008. Obstacles to bottom-up implementation of marine ecosystem management. *Conservation Biology*, 22(5): 1135–1143; Kaplan, I.M. & McCay, B.J. 2004. Cooperative research, co-management and the social dimension of fisheries science and management. *Marine Policy*, 28(3): 257–258. **j** Bambridge, T. 2017. Le «rahui» polynésien au secours de l'environnement. In: *The Conversation*. Cited 9 March 2017. <https://theconversation.com/le-rahui-polynesien-au-secours-de-lenvironnement-73382>



8.7 Factors influencing governance and management effectiveness

Active, free, effective, meaningful and informed participation of fishers, fishworkers and their communities constitutes one of the Guiding Principles of the SSF Guidelines. This section begins with an overview of how social and cultural identity is important to governance, then provides a global overview of the level of participation of fishers in management processes, according to the CCS authors. It then responds to the call in the SSF Guidelines for overcoming barriers to participation by briefly highlighting three examples of these: power imbalances in the value chain, gender inequality, and the privilege afforded to certain forms of knowledge over others. (For a fuller exploration of gender, please refer to Chapter 6.)

8.7.1 Social and cultural identity

Small-scale fisheries play an important role in the formation of social and cultural identities, particularly for Indigenous Peoples (see Box 8.5). Identity formation is a fundamental element of social and cultural practice, as it revolves around how people understand themselves and are seen by others (Béland, 2017). Identity influences what people do, how they interact, and where they feel they

belong. While it is subject to change, identity may nevertheless be perceived as the essence of who one is, and hence be used to sustain collectivity, or rather to emphasize differences instead.

It is in this dynamic of sameness and difference, and of stability and change, that identity plays a vital role in the viability and day-to-day organization of small-scale fisheries. The practice of fishing as well as pre- and post-harvest activities sustain a diversity of specialized skills and knowledge systems connected to coastal, marine and freshwater environments. Hence, the value of small-scale fisheries for both fishers and the broader society extends beyond livelihoods and food security to include heritage and well-being. Moreover, how and where fishers and fishing communities feel they do or do not belong affects how approaches to fisheries governance are locally received or resisted, making identity also relevant for policymaking. In turn, customary governance and management arrangements in these fisheries can also affect and shape identities and cultural practices related to fishing.

Nevertheless, the value of small-scale fisheries in terms of identity and heritage has often remained hidden. It is hardly quantifiable, which is probably a major reason for it not being given due attention. Yet,

BOX 8.5

The unique characteristics of indigenous fisheries

Though no definition can sufficiently encompass the vast diversity of peoples who identify as indigenous, international policy frameworks have established practical and inclusive criteria. Based on these, the FAO Policy on Indigenous and Tribal Peoples^a lists four main attributes of Indigenous Peoples: i) priority in time, with respect to occupation and use of territory; ii) voluntary perpetuation of cultural distinctiveness, including language, social organization, spirituality, modes of production, laws and institutions; iii) self-identification, as well as recognition by other groups or states, as a distinct collectivity; and iv) experience of subjugation, marginalization, dispossession, exclusion or discrimination, whether or not these persist. Indigenous fishers are those who fit these criteria and rely on the harvest of aquatic fauna for some combination of food, livelihood, identity and cultural heritage.

Indigenous fishing practices are often central to larger food systems and cultural identities. For indigenous fishers, fishing is rarely limited to a livelihood or profession. Rather, it is typically understood as part of a biodiverse food system that may include hunting, cultivating and gathering. Often, fishing is also a key component of identities grounded in family, traditions, language and spirituality. The ancestral continuity of many indigenous fishing practices and of the environments they steward is a testament to the links between indigenous fisheries, indigenous identities, and the ecosystems in which Indigenous Peoples live.^b

Notes: a FAO. 2010. *FAO Policy on Indigenous and Tribal Peoples*. Rome. *b* Woodley, E., Crowley, E., Dey de Pryck, J. & Carmen, A. 2006. *Cultural indicators of Indigenous Peoples' food and agro-ecological systems*. Rome, FAO.

identity and heritage must still be taken into account in the design of governance measures to ensure they foster well-being, sustainability and equity in these fisheries (Allison *et al.*, 2020).

Below are three aspects of identity in small-scale fisheries that are factors in governance and management:

- **Diverse communities of practice:** Small-scale fisheries contribute to sociocultural diversity, and there is a significant positive association between their diverse fisheries practices and the resilience and well-being of coastal and inland water communities. At the same time, small-scale fishing communities are also vulnerable to processes of displacement, exclusion and stigmatization. Particularly in locations where there are mixed livelihoods, people may not be recognized as fishing communities even if they engage in fishing activities. What constitutes a “fishing community” is not necessarily geographically or administratively defined. As different cases show, fishers, traders and fish processors often sustain “communities of practice” among people living in different places (Clay and Olsen, 2008).
- **Cultural heritage:** Given humanity’s long history of living with (and off) the sea as well as inland waters, coastal, riparian and maritime societies usually harbour a rich cultural heritage related to fishing, fish trade and seafaring (e.g. King and Robinson, eds., 2019). The translocality (i.e. presence in multiple locations) of these practices

has generated shared identities and a sense of belonging across places, but cultural heritage in small-scale fisheries is also often tied to specific geographical locations. Thus it can have political consequences, but also an important role in structuring community life.

- **Self-definition and self-determination:** There is growing recognition of the value of small-scale fishers’ knowledge and experiences in fisheries management. But to effectively and equitably involve these fishers in governance processes (i.e. co-management), it is important to take seriously not only their worldviews, but also how they identify themselves (both as fishers and as groups in society). Furthermore, this must be done without stereotyping, as this can hinder effective and just governance when the categories and proposed measures in policymaking are at odds with the social realities on the ground or at sea (Steins, 2006; see also Box 8.6).

8.7.2 Fisher participation in fisheries management

CCS authors for the countries and territories involved in the IHH study were asked to provide their expert knowledge about fisher participation in the co-management of their fisheries. Participation was defined to encompass a broad spectrum of involvement: fishers being passive recipients of information shared by the government concerning decisions it plans to make; government and fishers

cooperating as equal partners in decision-making, data collection, and monitoring and surveillance; and fishers making most decisions and advising the government, with said government then endorsing such decisions (Sen and Nielsen, 1996). Responses indicated that more than 60 percent of the small-scale fisheries catch with at least partially devolved rights involves participation from “some” or the “majority” of fishers (Figure 8.21).⁴⁹

These findings are consistent with the positive relationship between co-management and participation found in the literature (Cinner *et al.*, 2012b; Cohen *et al.*, 2021; d’Armengol *et al.*, 2018; Evans, Cherrett and Pemsil, 2011; Gutiérrez, Hilborn

and Defeo, 2011). Looking at co-management and participation disaggregated by region (Figure 8.22), this positive relationship is evident in some regions (especially Oceania), but not so much in others. Africa in particular has a large gap between catch with co-management provisions and catch where co-management is perceived by CCS authors to have a high level of engagement from fishers.

Debate is ongoing about the direction of the causal relationship between co-management and participation, or whether participation is a necessary but nonetheless insufficient condition for co-management effectiveness (Béné and Neiland, 2006; Nunan and Cepić, 2020; Speer, 2012).

BOX 8.6

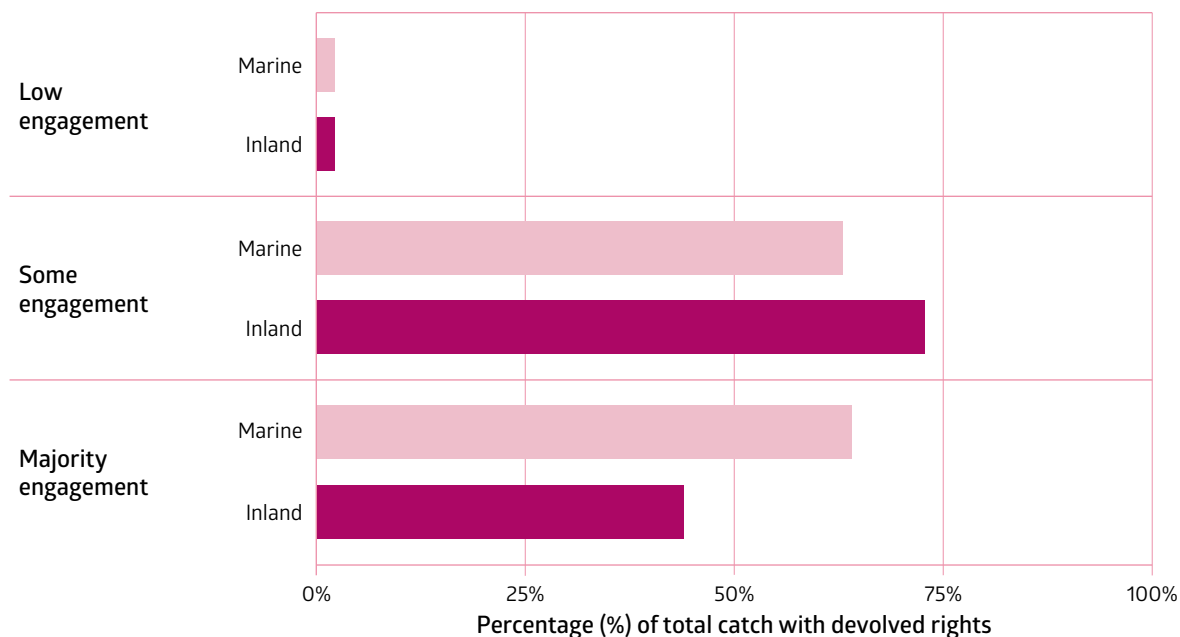
Co-management, self-determination, and participation in decision-making

It is the responsibility of governments to enable the co-management process, ensuring that it is fair and just.^a Cultural differences can be a constraining factor and fuel conflict.^b Identity, however, can be a motivating and enabling factor that supports collectivity and meaningful representation, most clearly demonstrated by the emerging recognition and legal anchoring of Indigenous Peoples’ right to self-determination and to intellectual and cultural property.^c Furthermore, fishers’ ability to participate at different levels is an important prerequisite for effective co-management. This is not just linked to resource availability and individual skills, but also to the ability to organize collective political action.^d Such community organization requires, and sustains, a sense of belonging and moral obligation, and is shaped by specific (local) power dynamics.^e In designing policies and institutional arrangements, state and other authorities need to be responsive to such social realities and emergent forms of organization in fisheries management.^f Due to their community bonds and particular heritage, small-scale fishers have socially distinguishing features, including different understandings, views, values and skills. This makes them different – as individuals or groups – from each other and from other stakeholders, which then affects their engagement in political processes.^g While this distinctiveness of small-scale fishers becomes visible in the process of decision-making, and their particularity is often recognized, the ways in which their identity affects governance processes often remain unaddressed.

Notes: **a** Jentoft, S. 2005. Fisheries co-management as empowerment. *Marine Policy*, 29(1): 1–7. **b** Natcher, D.C., Davis, S. & Hickey, C.G. 2005. Co-management: managing relationships, not resources. *Human Organization*, 64(3): 240; Trimble, M. & Berkes, F. 2015. Towards adaptive co-management of small-scale fisheries in Uruguay and Brazil: lessons from using Ostrom’s design principles. *Maritime Studies*, 14(1): 14. **c** Burri, M. 2019. Cultural heritage and intellectual property. In: F. Francioni & A.F. Vrdoljak, eds. *The Oxford handbook of international cultural heritage law*, pp. 459–482. Oxford, UK, Oxford University Press. **d** Jentoft, S. 2005. Fisheries co-management as empowerment. *Marine Policy*, 29(1): 1–7; Pomeroy, R.S. & Berkes, F. 1997. Two to tango: the role of government in fisheries co-management. *Marine Policy*, 21(5): 465–480. **e** Gehrig, S., Schlüter, A. & Jiddawi, N.S. 2018. Overlapping identities: the role of village and occupational group for small-scale fishers’ perceptions on environment and governance. *Marine Policy*, 96: 100–110; Jentoft, S. 2005. Fisheries co-management as empowerment. *Marine Policy*, 29(1): 1–7; Nightingale, A. 2013. Fishing for nature: the politics of subjectivity and emotion in Scottish inshore fisheries management. *Environment and Planning A: Economy and Space*, 45(10): 2362–2378. **f** Glaser, M., Baitoningsih, W., Ferse, S., Neil, M. & Deswandi, R. 2010. Whose sustainability? Top-down participation and emergent rules in marine protected area management in Indonesia. *Marine Policy*, 34(2010): 1215–1225. **g** Fearon, J.D. 1999. *What is identity (as we now use the word)?* Working paper. Palo Alto, USA, Stanford University. <https://web.stanford.edu/group/fearon-research/cgi-bin/wordpress/wp-content/uploads/2013/10/What-is-Identity-as-we-now-use-the-word-.pdf>; Turnhout, E., Van Bommel, S. & Aarts, N. 2010. How participation creates citizens: participatory governance as performative practice. *Ecology and Society*, 15(4): 26; Bennett, N.J., Whitty, T.S., Finkbeiner, E., Pittman, J., Bassett, H., Gelcich, S. & Allison, E.H. 2018. Environmental stewardship: a conceptual review and analytical framework. *Environmental Management*, 61(4): 597–614.

⁴⁹ The opinions of respondents were based on their own experience of co-management in their countries and that of the rest of their CCS team, which often included one or more staff working in government, academia or CSOs, therefore representing a diversity of perspectives and experiences regarding small-scale fisheries. Average team size was 5 members, with a minimum of 1 and a maximum of 17, for a total of 248 interviewees.

Figure 8.21 Comparison of different levels of fisher participation (as perceived by key respondents) for marine and inland small-scale fisheries catch with at least partially devolved management rights (based on 43 countries reported to have devolved rights)



Notes: Percentages in marine and inland categories exceed 100 percent, given that the same catch can involve different levels of participation when it is under the influence of different policies (i.e. different policies can contribute to different participation levels). The opinions of respondents were based on their own experience of co-management in their countries and that of the rest of their country and territory case study team, which often included one or more staff working in government, academia or civil society organizations, therefore representing a diversity of perspectives and experiences regarding small-scale fisheries.

A number of other enabling conditions are mentioned in the literature as necessary for co-management to be effective. These include the presence of central fisheries agencies capable of developing equitable participatory processes and reliable support for the implementation of devolved fishing rights, as well as commitments to downward accountability, provision of access to information and learning, and culturally appropriate processes of engagement (Armitage *et al.*, 2018; Barratt, Seeley and Allison, 2015; Trimble, de Araujo and Seixas, 2014). Without commitment from the state, as well as enhanced capacity for local organizations that create these enabling conditions for fishers to exercise their devolved rights, devolution typically fails, at times resulting in the reappropriation of indigenous resources, proliferation of management ideas incompatible with communal livelihoods, and the subsequent creation of other undue burdens on small-scale fishers (Carothers and Chambers, 2012; Davis and Ruddle, 2012). Three barriers that reduce fishers' incentives for participation and weaken overall governance and management effectiveness are outlined below.

8.7.3 Power imbalances in the value chain

Fish buyers or traders constitute important actors with significant influence over the effectiveness of small-scale fisheries governance, but they have not

received enough attention in the design of governance and management systems. In many settings, fish buyers form patron–client relationships with fishers that dictate the de facto rules determining how, where and when to harvest, and these can be more influential than formal mandates established by the state. Patrons can accumulate power and influence by gaining control of the means of fishing production, fishing licences and/or commercialization channels, requiring fishers to contract with them in order to engage in fishing activities. Fishers in good standing with these patrons can receive a number of services that they often cannot access in any other way, such as monetary loans, health care access, education and political backing (Pelras, 2000; Wolf, 2004; Ruddle, 2011; Sudarmono and Bakar, 2012; Basurto *et al.*, 2020). While most fishing patrons are men, in Western Africa “fish mummies” constitute an example of women patrons who have gained good financial stature by forming rotating savings/credit and labour organizations. These organizations share labour and profits, regulate market prices for fish inputs, and mobilize protests against activities that might diminish their incomes (Browne, 2001; O’Neill, Asare and Ahato, 2018). Patrons can emerge via leadership roles within fishing communities but may also arise from elsewhere, operating outside formal local institutions or customary leadership roles – and effectively challenging them. In some settings, patrons have consolidated enough power to control the structure of markets and access to global supply chains, as in

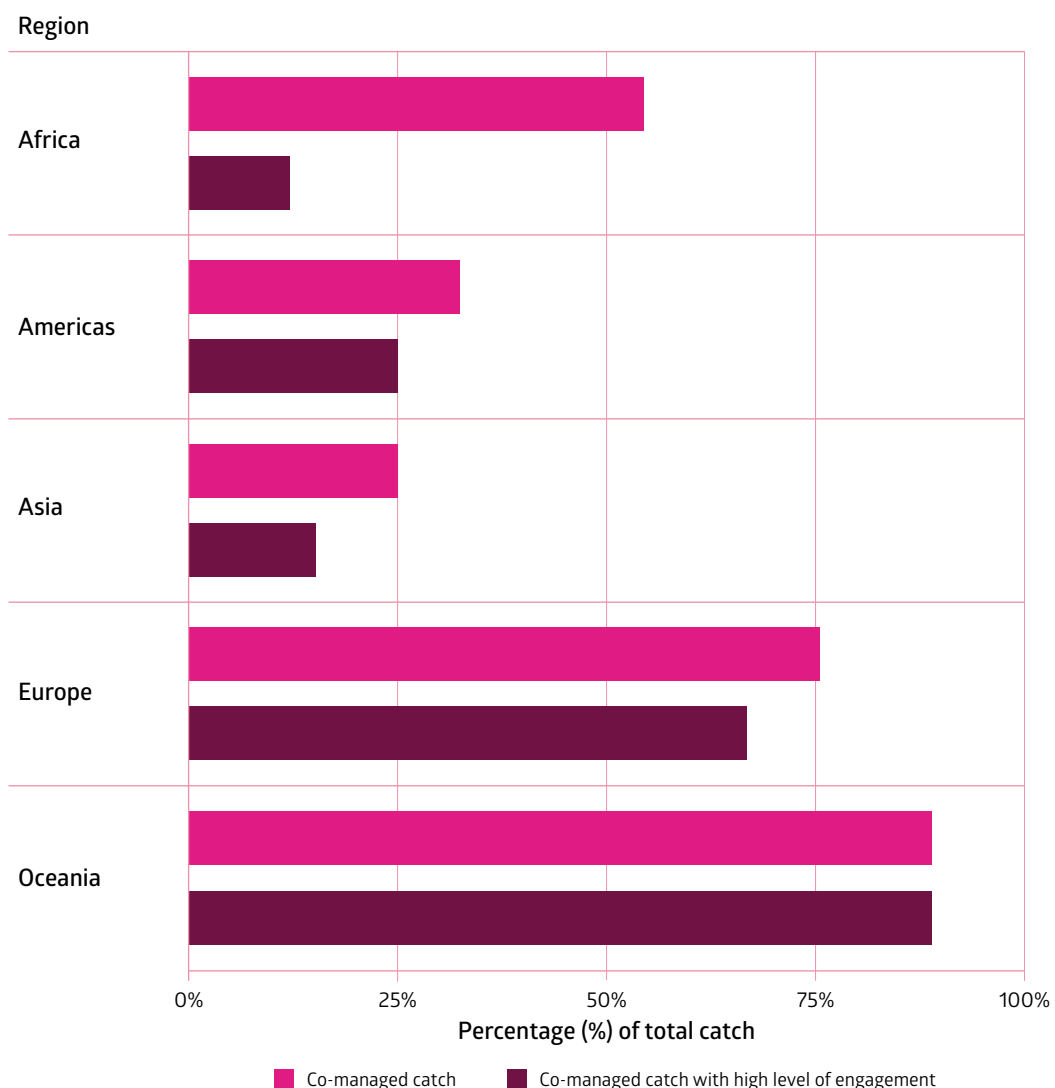
the case of the Mahi artisanal fisheries in Ecuador and Peru. They can also have considerable influence in defining target species, facilitating access to fishing gear, limiting the capacity of fishers to organize, and even subverting formal governance or enforcement institutions (Johnson, 2010; Nurdin and Grydehøj, 2014; Pauwelussen, 2015; Steenbergen *et al.*, 2019).

8.7.4 Gender in decision-making

The role of gender in decision-making has similarly not received enough attention from small-scale fisheries policymakers, despite the fact that gender shapes many aspects of the subsector such as fishing practices, social life, livelihoods, division of labour, resource access and power dynamics (FAO, 2017b). More extensive evaluation of the role of gender in small-scale fisheries is provided in Chapter 6.

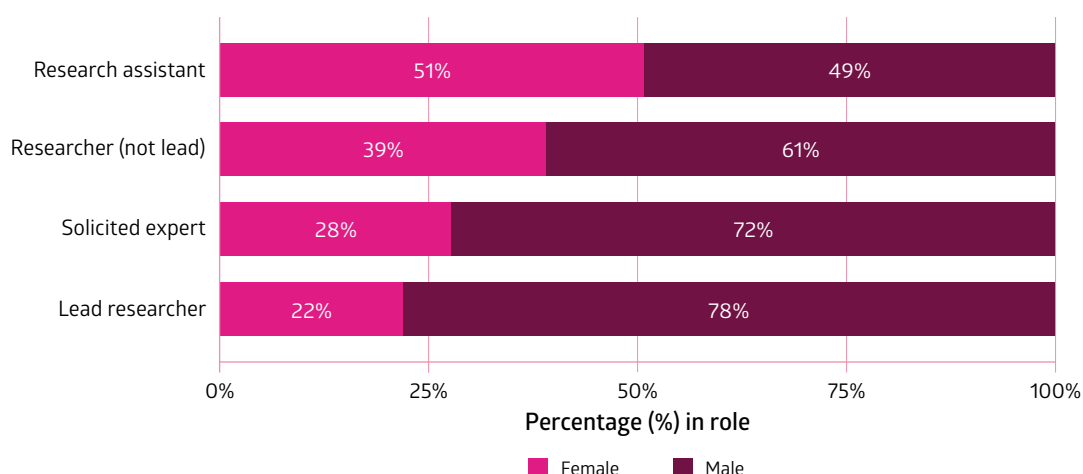
Despite the number of women actually involved in small-scale fisheries value chains – women whose unpaid reproductive, caregiving and domestic labour are the mainstay of small-scale fishing communities – the subsector’s governance systems and policies typically overlook intrahousehold dynamics (Williams, 2008; Kleiber *et al.*, 2017). Male identities dominate the conceptualization of fishing, not only among managers but among fishers themselves, and this affects fishing behaviour. For example, the hypermasculine idea of toughness can encourage illegal and dangerous fishing techniques as “a form of group socialization that celebrates masculine values of courage, independence, and bravery” (Fabinyi, 2007, p. 525). This socialization creates pressure for fishers – especially younger and poorer fishers – to be “manly” and exposes them to ridicule if they turn to other economic endeavours (Turgo, 2014). Lobster or sea cucumber divers in Central America and

Figure 8.22 Regional distribution of small-scale fisheries catch formally governed under co-management, and catch governed under co-management with a high level of fisher engagement (reported for 43 countries: 6 in the Americas, 5 in Africa, 6 in Asia, 2 in Europe, 1 in Oceania)



Note: High level of engagement refers to the perception by country and territory case study experts that the majority of fishers engage or participate in co-management.

Figure 8.23 Research roles by gender within IHH case study teams from 53 countries and territories



Mexico, for instance, choose to risk their lives not only because the fisheries are profitable, but because “that is what men are supposed to do”. Similarly, strong gender stereotypes about what “women are not supposed to do” can result in increases in domestic violence when women diverge from or challenge existing gender norms. Turgo (2015) has documented how increased incomes for women from new market opportunities in fishing is often associated with domestic violence, illustrating the challenges that remain regarding women’s increased participation in commercialized fishing activities within existing gender structures. Other dynamics can also contribute to women’s marginalization in fisheries. For instance, exclusively male access to fisheries that are farther from shore may cause gendered income inequalities, and the hypermasculine norms that encourage risky behaviour can have grave impacts on women in fishing households. Though the topic still warrants more study, masculine norms have been shown to increase environmentally destructive fishing, bolster resistance to conservation efforts, and hinder engagement in fishers’ organizations (Siegelman, Haenn and Basurto, 2019; Fabinyi, 2007).

The influence of gender goes beyond fishers and fishing communities. For instance, male dominance in fisheries research and management institutions has long influenced the type of data available, the factors prioritized in decisions, and the outcomes of fisheries management (Kleiber, Harris and Vincent, 2015; Harper *et al.*, 2020; Fröcklin *et al.*, 2013; Munk-Madsen, 1998). This has too often led to siloed fisheries agencies and institutions that lack the expertise and data to prioritize pressing socioecological concerns through gender-focused programming (Kleiber *et al.*, 2017; Mangubhai and Lawless, 2021). As Figure 8.23 shows, the present IHH report is no exception. Despite making gender a central cross-cutting theme, there was a consistent overrepresentation of men in IHH country-level research, especially in leadership positions. These inequalities are likely to have resulted in data gaps

as research teams lacking gender expertise struggled to find effective strategies for collecting gender-disaggregated data, underscoring the importance of commitments to diversity and inclusion in fisheries agencies and institutions (see Chapter 6).

Fisheries research and policymaking will benefit from further examination of the impact of gender-related factors on small-scale fisheries governance. These include the disadvantages and stigma women face, the stereotyping of women’s roles, gender imbalances in participation in governance, the emphasis on male identities, and exclusionary institutions in fisheries and fisheries management (Cornwall and Rivas, 2015; Siegelman, Haenn and Basurto, 2019).

8.7.5 Privileged forms of knowledge

Fisheries management has tended to prioritize the knowledge and preferences of biologists, conservation scientists and economists. This has weakened the effectiveness of small-scale fisheries governance because often these experts are not sensitive to, or equipped to answer, important questions about socioecological impacts, community interests, gender relations and power dynamics in small-scale fisheries, which are essential considerations for management and governance (Bromley, 2009; Armitage *et al.*, 2009; Fabinyi, Foale and Macintyre, 2015). With these limited perspectives, scientists and policymakers have frequently failed to account for the ways in which fishers self-organize, and how this influences fisheries outcomes (Campbell *et al.*, 2016; Arias-Schreiber *et al.*, 2017). In addition, a lack of attention to gender in fisheries research and management has contributed to data gaps concerning women’s roles in small-scale fisheries, with resulting impacts on the ability to provide gender-responsive interventions (Kleiber, Harris and Vincent, 2015; Leisher *et al.*, 2016; Harper *et al.*, 2020).

This is not to suggest that knowledge of natural science and economics is bad for management of small-scale fisheries; it is indeed necessary, but insufficient

BOX 8.7

Indigenous languages and knowledge

Indigenous languages are important as repositories of memory, knowledge and beliefs that help sustain fisheries. These languages communicate ecological information, fishing techniques and management practices.^a For example, the Marovo in Oceania describe the characteristics of entire groups of animals at a given moment, rather than individual species, using over 400 words for fish and 100 for shells.^b The term used for aquatic creatures depends on collective traits including the shape of the group, its apparent purpose, its movements, and the behaviours of individuals within the group. In this case and others, indigenous language offers information essential to the sustainable harvest of these ecological communities. This knowledge extends beyond target species, and has been recognized as important for an ecosystem approach to fisheries.^c

Mollusc fisheries in South-eastern Asia provide an excellent example of the intricate knowledge embedded in indigenous language. While English is often limited to vague terms like “shellfishing”, “gleaning” and “gathering”, the Mentawai of this region use an array of terms to denote target species and specific harvesting techniques. Their vocabulary is precise enough to describe features of the mangrove environment including tidal influence, water salinity, soil characteristics and forest type.^d Paired with Mentawai toponyms, this lexicon helps fishers locate resources and describe changes in distribution or abundance. In this way, the Mentawai language facilitates communication within the fishery and informs decisions about future fishing grounds and target species.

Though knowledge transmission is important for all fisheries, indigenous oral traditions have been especially susceptible to erosion. For example, South-eastern Asian Mandar fishing songs have traditionally demarcated customary tenure, but district courts have stepped in to override this form of fishery management.^e The songs outline complex customary rights based on gear, target species, geography and historical access, and also communicate Mandar spiritual beliefs and fishing knowledge that guide resource management. The disregard for such traditions is especially regrettable because indigenous knowledge can set a foundation for sustainability. Long-practiced oral traditions and the knowledge they convey offer expert insights into the state of aquatic ecosystems, changes over time, and the proper adaptive responses for sustainable harvesting. These make indigenous fishers’ language and knowledge critical sources of information for understanding climate change, modelling resilience, conserving aquatic resources and upholding collective rights.^f

Notes: a Johannes, R.E., Lasserre, P., Pliya, J., Nixon, S.W. & Ruddle, K., 1983. *Traditional knowledge and management of marine coastal systems: report of the Ad Hoc Steering Group, IABO-UNESCO*. Report No. 4. <http://hdl.handle.net/102.100.100/286080?index=1>; Henderson, J.K. & Nash, D., eds. 2002. *Language in native title*. Canberra, Aboriginal Studies Press; UNESCO. 2019. *Strategic outcome document of the 2019 International Year of Indigenous Languages*. General Conference, 40th session, Paris. https://en.iyil2019.org/wp-content/uploads/2019/11/strategic-outcome-document_iyil2019_eng.pdf. *b* Hviding, E. 1996. *Guardians of Marovo Lagoon: practice, place, and politics in maritime Melanesia*. Honolulu, USA, University of Hawaii Press. *c* Foale, S. 1998. What’s in a name? An analysis of the West Nggela (Solomon Islands) fish taxonomy. *SPC Traditional Marine Resource Management and Knowledge Information Bulletin*, 9: 3–20. Nouméa, Pacific Community; May, D. 2005. Folk taxonomy of reef fish and the value of participatory monitoring in Wakatobi National Park, southeast Sulawesi, Indonesia. *SPC Traditional Marine Resource Management and Knowledge Information Bulletin*, 18: 18–35. Nouméa, Pacific Community; Moesinger, A. 2018. Catching names: folk taxonomy of marine fauna on Takuu Atoll, Papua New Guinea. *SPC Traditional Marine Resource Management and Knowledge Information Bulletin*, 39: 2–14. Nouméa, Pacific Community; Indigenous People Major Group. 2019. *Global report on the situation of lands, territories and resources of Indigenous Peoples*. www.iwgia.org/en/resources/publications/3335-global-report-on-the-situation-of-lands-territories-and-resources-of-indigenous-peoples *d* Burgos, A. 2016. Savoirs naturalistes et stratégies de collecte de *Geloina erosa*, *Geloina expansa* et *Polymesoda bengalensis* dans la mangrove de l’île de Siberut (Indonésie). *Revue d’ethnoécologie*, 9; Burgos, A. & Dillais, P. 2012. Les femmes, les coquillages et la mangrove: collecte d’*Anodontia philippiana* et *Austriella corrugata* à Siberut (Indonésie). *Techniques & Culture*, 59: 326–337. *e* Zerner, C. 2003. Sounding the Makassar Strait: the poetics and politics of an Indonesian marine environment. In: C. Zerner, ed. *Culture and the question of rights: forests, coasts, and seas in Southeast Asia*, pp. 56–108. Durham, USA, Duke University Press. *f* Indigenous People Major Group. 2019. *Global report on the situation of lands, territories and resources of Indigenous Peoples*. www.iwgia.org/en/resources/publications/3335-global-report-on-the-situation-of-lands-territories-and-resources-of-indigenous-peoples

when underlying values and assumptions related to the socioecological systems being considered go unquestioned. While local and traditional knowledge has been understood to include a subjective component, incorporating values, norms and beliefs from the larger social context, this knowledge also consists of important facts and historic understanding (Berkes, 2015). Yet, too often, scientific knowledge is still treated as superior, and sufficient by itself to guide management decisions. This type of knowledge is poorly suited to most fisheries and especially small-scale fisheries, where there tends to be deep and comprehensive ties between the harvesting of resources and local social contexts. As such, meeting the objective of sustainability

requires learning from a diversity of knowledge types and recognizing multiple worldviews (Berkes, 2017; Reid *et al.*, 2021). Scientific knowledge is a key part of the information and insight required, but it may omit important questions and thus provide misleading or incomplete information to managers. Incorporating local knowledge can allow managers to better account for and correct shortcomings. In some instances, researchers have found more effective and equitable management solutions where they have heeded local knowledge, including indigenous knowledge and fishers' customary rule-making processes (Hauzer, Dearden and Murray, 2013b; Allison *et al.*, 2020; Reid *et al.*, 2021; see also Box 8.7).

8.8 Civil society organizations

In this report, CSOs mostly refer to fisher and fish harvester organizations including producers, non-state supporters, hybrid federations or platforms, and private corporations. These organizations have a strong role to play in the development of enabling conditions that will allow fishers to secure and exercise tenure rights, protect their human rights, increase their participation in decision-making processes and, overall, become central actors in the implementation of the SSF Guidelines (Jentoft and Chuenpagdee, eds., 2015). Yet there is little basic systematic knowledge about their characteristics and capabilities available, particularly from a global perspective.

To this end, this report conducted a global survey of 717 CSOs in three languages: English, Spanish and French. Organizations were selected using a “snowball” sampling approach, with FAO as the initial source of information. When large hybrid federations or platforms were identified, such as the African Confederation of Artisanal Fisheries Professional Organizations (CAOPA) or the International Collective in Support of Fishworkers (ICSF), their assistance was requested to survey their members or affiliates. Other surveys were also deployed through networks of non-state supporter contacts, such as the Oak Foundation's network of grantees. The global distribution of the CSOs surveyed (Figure 8.24) indicates that 40 percent are found in Africa, 20 percent in Asia, 19 percent in Europe, 18 percent in Latin America and the Caribbean, 3 percent in Oceania and 0.6 percent in Northern America, with the remaining 0.3 percent consisting of organizations that categorize themselves as global.

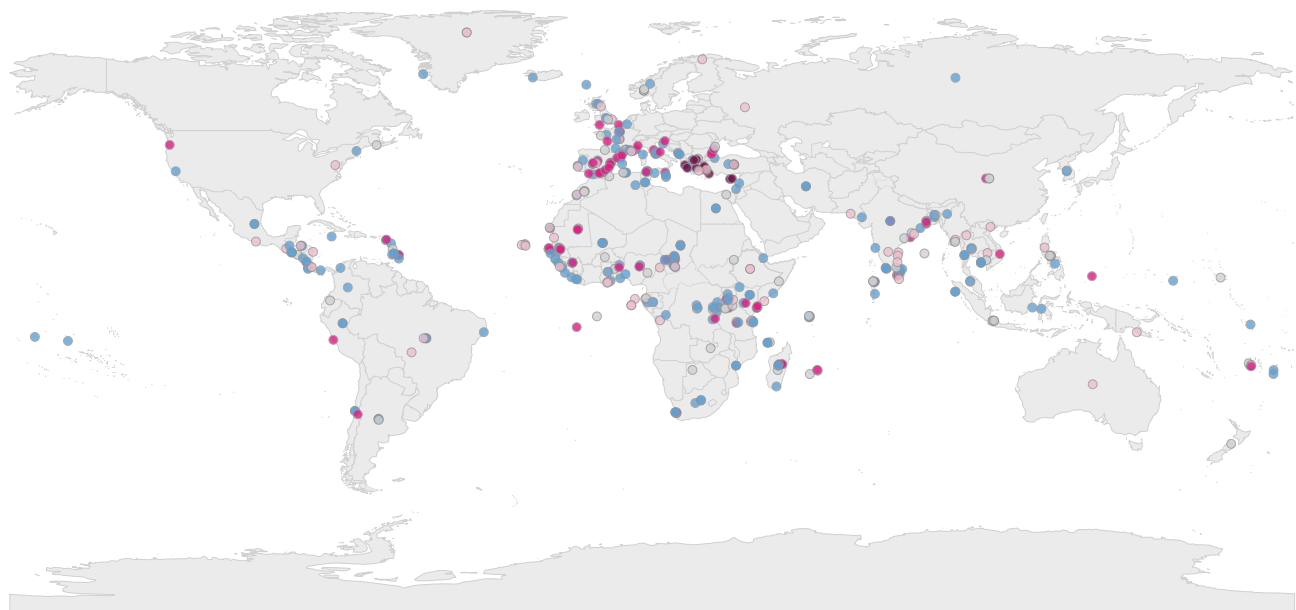
As an initial exploration of the potential role for CSOs in the governance of small-scale fisheries and the implementation of the SSF Guidelines, the stated objectives of producer organizations

were identified and mapped against important SSF Guidelines themes (Table 8.1).⁵⁰ Of the 424 producer organizations surveyed, only 151 provided information about their stated objectives. Overall, findings show that small-scale fishers form producer organizations with varied and multiple objectives, not only for production or fisheries management motivations. Findings cannot be considered representative of the subsector, as some regions such as Africa are likely to be overrepresented, and others like the Americas underrepresented. Often, organizations listed more than one objective; each objective was counted only once per organization and coded under the SSF Guidelines theme considered most applicable. All objectives were assumed to have the same importance within the organization. With these caveats taken into consideration, the findings provide some initial understanding of what issues fishers themselves consider to be important and worth organizing for.

Given that this assessment pertained to producer organizations, it should not be surprising that SSF Guidelines themes most related to harvesting and fisheries management were mentioned by almost all organizations (n = 149). These themes are most closely aligned with SDG Target 14.b, highlighting the priority producer organizations put on having adequate access to fishing resources and markets. SSF Guidelines themes related to various dimensions of well-being were mentioned by fewer organizations (n = 90), but this still helps illustrate that the goals of producer organizations go beyond harvesting and fisheries management. For instance, the theme of “social development, employment and decent work” was mentioned by 73 organizations, ranking third out of all themes mentioned.

⁵⁰ Using a coding book developed with definitions for each theme, three coders independently coded the data with at least 85 percent of intercoder reliability. Table 8.1 findings represent the average results for the three coders.

Figure 8.24 Location of civil society organizations surveyed



Types of fisher and fish harvester organizations

- Producers (n = 424)
- Non-state supporters (n = 94)
- Hybrid federations or platforms (n = 92)
- Private corporations (n = 12)
- Other (or unknown) organizations (n = 95)

Source: United Nations Geospatial. 2020. Map geodata [shapefiles]. New York, USA, United Nations, modified by the authors.

Dotted line represents approximately the Line of Control in Jammu and Kashmir agreed upon by India and Pakistan. The final status of Jammu and Kashmir has not yet been agreed upon by the parties. Final boundary between the Sudan and South Sudan has not yet been determined.

Some specific examples of objectives most related to harvesting and fisheries management, as stated by the producer organizations themselves, include the following:

- “To make the government sufficiently sensitized to the need of a National Policy on Inland Fisheries and also to ensure that the concerns mentioned above are incorporated in it.”
- “To ensure representation and promotion at the regional level of the general interests of professionals engaged in sea fishing.”
- “To defend a localized approach to management.”
- “Policy research and advocacy to support interests of artisanal fishers.”
- “To fight, lobby and advocate for a subsidy to strengthen the local industry.”
- “To promote good fish handling practices in order to produce quality products at their fish market and command premium prices.”
- “Sustainable management of fishing resources.”
- “To provide an open forum for its member cooperatives in which ideas on achieving best practices are discussed and encouraged.”

Objectives related to well-being were expressed in a variety of ways, including:

- “Provides social services, financial assistance, treatment benefits and in-kind loans to vessel owners participating in the association.”
- “To compensate fishers [in case of] loss of life and belongings.”
- “To provide health care facilities for fishing villages.”
- “To promote and organize collective protection actions, including the establishment of mutual societies or supplementary social security and health funds for assisting members.”
- “To improve the living conditions of fishers and their families.”
- “To ensure women take an active role in fisheries management and improve their conditions of work.”

The alignment between producer organizations’ objectives and the SSF Guidelines and the SDGs cannot be attributed to influence from narratives about the Guidelines or the SDGs: 95 percent of the organizations analysed were created before the SSF Guidelines were published in 2014, and the SDGs were publicly presented in 2016.

Table 8.1 SSF Guidelines themes mentioned in the objectives of a global sample of producer organizations (n = 151)

Themes	Number of organizations	Relevant SDGs and targets
SSF Guidelines themes most related to harvesting and fisheries management		
Policy coherence, institutional coordination, and collaboration	99	<ul style="list-style-type: none"> • Access to fishing resources and markets (Target 14.b)
Sustainable resource management (and use)	79	
Value chains, post-harvest and trade	50	
Capacity development	48	
Responsible governance of tenure	45	
Information, research and communication	27	
At least one of these themes was reported in 149 out of 151 producer organizations total (99%)		
SSF Guidelines themes related to well-being		
Social development, employment and decent work	73	<ul style="list-style-type: none"> • Reduce poverty (SDG 1) • Safety at sea (SDG 8.8) • Support the role of women (SDG 5) • Life underwater (SDG 14) • Zero hunger (SDG 2)
Gender equality	16	
Conservation of ecosystems	15	
Food sovereignty and nutrition security	10	
Cultural heritage	10	
Disaster risks and climate change	4	
Implementation support and monitoring	4	
Indigenous rights	4	
At least one of these themes was reported in 90 out of 151 producer organizations total (60%)		

Notes: Findings are organized by SSF Guidelines themes most related to harvesting and fisheries management, and those themes related to various dimensions of well-being. Organizations often mentioned more than one theme. Findings represent the average obtained by three independent coders.

8.9 Contributions of governance systems to the SDGs, in particular Target 14.b

The varied analyses conducted in this chapter shed some light on the contributions that small-scale fisheries governance systems can make in regard to securing access to fishing areas (Target 14.b). To link governance with Target 14.b it is assumed that the more different types of rights are devolved (see Figure 8.3), the more empowered fishers are to govern their fisheries, and hence the more likely they are to ensure rights of access for their fishers.

The first observation is that the current policy frameworks under which small-scale fisheries are governed generally hinder the achievement of the SDGs. The analysis of these frameworks suggests that most small-scale fisheries are governed under general fisheries policies that are not sufficiently tailored to their characteristics. Future policy design for the subsector must have a broad enough national scope and provide the necessary enabling conditions so that subsidiary policies and regulations can be drafted at the local level (or the level appropriate to specific small-scale fisheries) to address the diverse needs and community objectives of particular marine or inland fisheries in relation to important livelihood issues, such as food security and nutrition (SDG 2), poverty alleviation (SDG 1) and life underwater (SDG 14), to name a few.

The analyses of access strategies provide a more direct measure of the contribution of small-scale fisheries governance systems to Target 14.b. They show that licensing is the dominant access strategy governing most of the global catch, yet it is the least likely to involve the devolution of rights to fishers in comparison with access strategies based on place of residence or historical use. The latter two are used to manage access for more than 95 percent of catch with devolved rights, yet overall represent less than half of the overall marine and inland small-scale fisheries catch (Figure 8.8). When conditions for access are associated with the devolution of rights to fishers, it is more likely that local fishers can develop governance arrangements in a way that benefits their livelihoods, while also benefiting the conservation of their fishing resources, and therefore their potential contribution to Target 14.b. A number of ethnographic (Basurto *et al.*, 2012; Johannes, 1978) and wide-scale studies of customary governance regimes support these claims (Cinner *et al.*, 2012b).

Furthermore, there are two drawbacks most likely to be associated with licensing systems (which are mentioned in the literature) that can hinder the contributions of small-scale fisheries to Target 14.b.

The first is that licences (or regulations) can lock fishers into a single gear type, species, or taxonomic group regime. Limiting the ability of these fishers to switch between gear type and target species can limit their adaptive capacity to ecological and socioeconomic changes (Coulthard, 2008; Finkbeiner, 2015; Stoll, Fuller and Crona, 2017). Rather, devolving rights to small-scale fishers gives them greater flexibility, which should increase their adaptive capacity. For example, this allows them to devise socially and ecologically appropriate combinations of gear – i.e. combinations that are not destructive to key habitats, while at the same time are well-tailored to local species assemblages, local weather patterns and culturally appropriate fishing techniques. The second drawback is that payments for licences may not be reinvested in local management. Often, this revenue is centralized and spent elsewhere, instead of being reinvested in the local small-scale fisheries activities that generated it (Silver and Stoll, 2019). When this happens, the geographically dispersed or lower-value small-scale fisheries (especially those that are inland), where such investments are usually most needed, are the most negatively affected.

Similarly, the potential contribution of spatial restrictions, such as preferential access areas, to Target 14.b is currently hindered by the lack of devolved tenure rights, which represent less than half of catch caught under these restrictions. Managers must better understand the enabling conditions required for fishers to be able to exercise devolved rights, as well as the barriers to devolving tenure rights, and when these can generate undesirable outcomes (e.g. Cohen, Cinner and Foale, 2013; Gelcich *et al.*, 2006). When fishers can participate in governance and decision-making, institutional arrangements that might increase the effectiveness of local access restrictions are more likely to emerge. For instance, fishers are often willing to become local monitors of their fishing grounds, because the unauthorized entry of other fishers can have negative effects on their income and overall livelihoods. As it has been well documented, the use of local monitors then has positive effects on the health of common-pool resources due to the local knowledge of these monitors², which allows for the design of monitoring and enforcement schemes that are more effective than those designed by authorities from outside a given fishery (Coleman, 2009).

Required citation for this chapter:

Basurto, X., Siegelman, B., Navarro, M. I., Mancha-Cisneros, M.M., Artaud, H., Burgos, A., Kraan, M., Pauwelussen, A., Toonen, H. 2023. Global patterns of management and governance of small-scale fisheries: contributions towards the implementation of the SSF Guidelines. In: FAO, Duke University & WorldFish. 2023. *Illuminating Hidden Harvests: the contributions of small-scale fisheries to sustainable development*. Rome, FAO; Durham, USA, Duke University; Penang, Malaysia, WorldFish.

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