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SMALL-SCALE FISHERIES MANAGEMENT: CHALLENGES AND OPPORTUNITIES

Executive Summary

This paper provides additional information on the challenges and opportunities in small-scale fisheries complementing the document COFI:FM/I/2024/2 “Current fisheries management practices with special considerations for small-scale fisheries”. It includes more details on the governance frameworks and other considerations needed for effective small-scale fisheries management. The document covers both inland and marine small-scale fisheries but inland fisheries are further discussed in the document COFI:FM/I/2024/INF/7. Session Background document COFI:FM/2024/SBD/1 provides additional complementary information.

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I. INTRODUCTION

1. Marine and inland small-scale fishing communities depend on aquatic resources for their livelihoods, often with limited other options for economic activities than those related to fisheries. Hence, sustainable resource utilization is fundamental to their current and future well-being. However, they face a variety of threats including illegal fishing and overexploitation of resources, and degraded habitats and ecosystems. Appropriate and effective fisheries management is key for sustainable fisheries but is not always achieved due to challenges related to the characteristics of small-scale fisheries and often weak human, financial and technical capacities.

2. Small-scale fisheries (SSF) are characterized by a high level of diversity and context specificity, e.g., in terms of gear types, fishing techniques, multi-species targeting and seasonality. There is no global definition of small-scale fisheries, but characteristics often include relatively short fishing trips and owner operated vessels, and they tend to be nested in the broader social, cultural and economic environment of fishing communities as an integral part of livelihoods and traditional values, in particular for Indigenous Peoples. Small-scale fishery activities are often informal and dispersed, and there is a general lack of data on the sector, in particular in least developed countries (LDCs)¹.

3. The Sustainable Development Goal (SDG) Target 14.b calls for providing small-scale fisheries access to resources and markets and is closely linked to the Voluntary Guidelines for Securing Sustainable Small-Scale Fisheries in the Context of Food Security and Poverty Eradication (SSF Guidelines²). The SSF Guidelines, endorsed by the FAO Committee on Fisheries (COFI) in 2014 – and hence celebrating their 10th anniversary in 2024 – acknowledge that small-scale fisheries management needs to take the complexity of livelihoods into account. Hence, small-scale fisheries management should be framed within a governance system based on a human rights-based approach, integrating all dimensions of sustainability.

4. The 35th Session of COFI in 2022 “encouraged increased work on small-scale fisheries sustainable use and management, in particular co-management” (page 4³), referring to the role of this new sub-committee. The committee also “called upon all countries to enable fishers and fish workers in small-scale fisheries to participate in the process of decision-making concerning fisheries management” (page 5), including women, youth and Indigenous Peoples as well as local communities.

5. Accordingly, the purpose of this Information Paper is to give an overview of small-scale fisheries management and related governance aspects that are important for sustainable small-scale fisheries and their contributions to food and nutrition security and poverty eradication. It complements the document COFI:FM/I/2024/2 “Current fisheries management practices with special considerations for small-scale fisheries”. The document covers both inland and marine small-scale fisheries but inland fisheries are further discussed in the document COFI:FM/I/2024/INF/7.

II. SMALL-SCALE FISHERIES MANAGEMENT AND GOVERNANCE

6. Fisheries management can be defined as the “integrated process of information gathering, analysis, planning, decision-making, allocation of resources and formulation and enforcement of fishery regulations”⁴. Management is embedded in a broader governance framework, encompassing the

¹ www.nature.com/articles/s43016-021-00363-0; www.fao.org/documents/card/en/c/I4356EN;
www.fao.org/documents/card/en/c/cc4576en

² www.fao.org/documents/card/en/c/I4356EN

³ www.fao.org/3/cc6471en/cc6471en.pdf

⁴ www.fao.org/3/y3427e/y3427e0a.pdf

arrangements, processes, and institutions for how resources or an environment are utilized and includes the formulation and application of principles guiding related interactions⁵.

7. Management measures need to take into account explicitly the environmental, economic and social dimensions of a fishery and be seen in the wider context of governance and policies, which may differ according to national or local social and economic conditions. In most cases, management measures are likely to include a combination of input or output controls, such as effort controls, gear regulations and closed areas and seasons, being in principle similar to those for other fishery types and scales. However, the unique characteristics of small-scale fisheries and the related high level of uncertainty due to data limitations call for tailored management measures that suit the specific capacities of individual small-scale fisheries in terms of data, technical and enforcement capacities, among others. These measures need to be set within precautionary and adaptive management systems and a governance framework that includes effective stakeholder participation and secured tenure rights.

8. The ecosystem approach to fisheries (EAF), adopted by COFI in 2003 as the overarching framework for fisheries management and recognized by the SSF Guidelines, promotes participatory and inclusive approaches and explicitly covers the ecological, social and economic dimensions of fisheries⁵. Still, the contributions of small-scale fisheries to food security, human health, equitable access of women to resources and benefits, and respecting and protecting the sociocultural values of small-scale fisheries are not always systematically included in management-related decision making⁶.

9. Small-scale fisheries are often threatened by climate change and the loss of biodiversity, adding to the need for holistic cross-sectoral solutions. The new Kunming-Montreal Global Biodiversity Framework (GBF) calls for better integration of biodiversity and sustainable use considerations. The recommendations from the International Year of Artisanal Fisheries and Aquaculture (IYAFA 2022) also mention the need to enable the active participation of small-scale actors in management and stewardship, recognizing traditional and Indigenous Peoples' knowledge (FAO, 2023b) (see also the document COFI:FM/I/2024/4).

III. TENURE RIGHTS

10. "Tenure rights refer to rules and norms that determine who can use which resources, for how long, and under what conditions. These systems may be based on written policies and laws, as well as on unwritten customs and practices. They determine how people, communities and others are able to acquire rights and associated duties to use and control fisheries"⁶. The use of the term tenure in fisheries is relatively new compared to land tenure. While the more commonly used terminology in fisheries are property, access, fishing or management rights, tenure is a useful term because it signifies a broader system of rights⁷.

11. Secure tenure rights to resources as also outlined in the Voluntary Guidelines on the Responsible Governance of Tenure of Land, Fisheries and Forests in the Context of National Food Security (VGGT)⁸ play a particularly important role in securing sustainable small-scale fisheries. When there is a tenure arrangement in place that "provides users with adequate control in decision-making through devolution and decentralization of authority and management, as well as the enforcement of regulations, [it] provides the incentives to strive for responsible management and sustainable use of resources"⁶. Conversely, weak tenure arrangements can be impediments to successful fisheries management and resource sustainability and hinder equitable distribution of benefits from the fishery resources⁹.

⁵ www.fao.org/publications/card/en/c/6de19f1f-6abb-5c87-a091-3cc6e89c3a88/;
www.taylorfrancis.com/books/mono/10.4324/9781315771038/coasts-people-fikret-berkes

⁶ www.fao.org/documents/card/en/c/cc4576en

⁷ www.fao.org/3/i3420e/i3420e00.htm

⁸ <https://doi.org/10.4060/i2801e>.

⁹ www.fao.org/3/i3420e/i3420e.pdf

12. The establishment of preferential access areas for small-scale fisheries is promoted by the Code of Conduct for Responsible Fisheries (CCRF - Art. 6.18) and the SSF Guidelines (paragraph 5.7) and echoed in a Call to Action launched by small-scale fishers at the United Nations Oceans Conference (UNOC) in 2022¹⁰. However, less than five percent of countries' Exclusive Economic Zones (EEZs) are dedicated to small-scale fisheries through preferential access arrangements¹¹.

13. Spatially defined user rights, e.g. Territorial Use Rights in Fisheries (TURFs) are often used in small-scale fisheries management, with varying levels of effectiveness and hence merit further investigation¹². Having spatially defined user rights is less appropriate for small-scale fisheries targeting stocks that are highly mobile or migratory and/or resources are shared across a large area. In such cases, conflicts may occur with outside fishers and resource users. Different participatory arrangements may be required in these cases, linked under a wider framework. Participatory arrangements can also exist at a broader regional or national level with consultations or shared decision-making regarding principles and policies.

14. It is noteworthy that some regional fisheries bodies have established dedicated working groups for small-scale fisheries, such as the Fishery Committee for the Eastern Central Atlantic (CECAF) and the General Fisheries Commission for the Mediterranean (GFCM), and the Commission for Small-Scale, Artisanal Fisheries and Aquaculture of Latin America and the Caribbean (COPPEAALC) changed its mandate to more explicitly focus on small-scale fisheries.

15. Indigenous Peoples tend to have a strong relationship to nature and to their fisheries activities and have established rules guiding the use of their aquatic resources. International and national legislation can support their rights to these resources, at times providing them with a stronger position than other small-scale fishing communities, but in many cases their rights are at least as vulnerable as local fishing communities¹¹.

IV. PARTICIPATORY MANAGEMENT

16. Participatory fisheries management, and in particular co-management, has been increasingly recognized as good practice for fisheries governance, especially for small-scale fisheries. Already in 1995, the CCRF made reference to consultations and effective participation of stakeholders in fisheries management decision-making and to the need to protect the rights of fishers and fishworkers. These are also fundamental principle of the SSF Guidelines, stressing that rights come together with responsibilities.

17. Co-management is a broad concept and there is no single international definition, but it is based on a partnership arrangement between resource users – fishers and fish workers – the government, external agents (NGOs, research organizations), and sometimes other fisheries and coastal resource stakeholders¹³.

18. The SSF Guidelines specifically mention the equal participation of women in participatory management systems. Typically, existing co-management arrangements involve fishers, who tend to be men, but not other value chain actors. There is increasing recognition that those who sell and process fish, in many cases women, or support pre-harvesting activities, should be included in resource management arrangements¹⁴.

¹⁰ www.cffacape.org/ssf-call-to-action

¹¹ www.fao.org/documents/card/en/c/cc4576en

¹² <https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0286739>

¹³ www.fao.org/documents/card/es?details=CC2228EN

¹⁴ <https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0231575>

19. While success factors vary between different co-management arrangements, strong leadership and social cohesion tend to generate positive outcomes¹⁵. It is also essential that fishing communities are empowered and have the capacity to engage in resource management. Other factors for successful co-management include the presence of supportive legislation, formal tenure rights, clearly defined co-management membership and responsibilities, conflict management mechanisms, defined boundaries of the co-management system, adequate financial resources, agreed and clear co-management objectives, and inclusive decision-making and implementation processes¹⁶.

20. In the 2022 UNOC Call to Action, mentioned above, small-scale fisheries organizations demanded that 100 percent of all coastal areas should be under co-management systems. Specific legal and customary frameworks should be put in place “that clearly define the roles and responsibilities of the authorities and fishers and by providing the appropriate support for fishers to engage (including for participatory surveillance, closed fishing seasons, etc.)”.

21. Marginalized and vulnerable fishing communities may face many challenges beyond fisheries, e.g., disease, high crime rates, poor access to public services, etc, which influence their capacity to engage in fisheries management. In such situations, fisheries co-management efforts may need to be combined with support addressing broader livelihood issues to be successful. This may include diversification of livelihoods and social protection, which can help reduce risks and increase the resilience of fishing communities allowing them to engage in responsible practices. The often informal character of the small-scale fisheries sector is an impediment to social protection coverage and also constitutes a challenge for informed fisheries management decision-making^{17, 18}.

V. DATA AND KNOWLEDGE

22. The study *Illuminating Hidden Harvests: The contributions of small-scale fisheries to sustainable development*¹⁹ provides new evidence, mainly at an aggregated level, on how small-scale fisheries contribute to sustainable development, including food and nutrition security and livelihoods.

23. However, there is often insufficient data at the fishery level to allow for informed fisheries management decisions, especially when moving towards multidimensional management objectives. EAF requires a broader set of data than conventional fisheries management. To include dimensions such as nutrition potential and optimizing contributions to food security as part of management objectives requires important shifts in what data is collected, managed and analyzed and how different information systems and sources are integrated and inter-operable.

24. Many small-scale fisheries are so called data and capacity limited fisheries meaning that the available data and technical capacity are insufficient for fitting conventional fish stock assessment and management models. Hence, in these fisheries, it is particularly important to apply participatory approaches and tools and capitalize on traditional and local knowledge. The EAF web-based toolbox²⁰, last updated in 2013, contains a selection of tools applicable to different fisheries and the capacity of those involved. It includes data-poor assessment methods, guidance for knowledge co-production processes and digital tools²¹. Further development of the EAF toolbox could benefit small-scale fisheries management.

25. The importance of participatory approaches in data collection, knowledge production and the need to recognize small-scale fishing communities as holders, providers and receivers of knowledge is stated

¹⁵ www.nature.com/articles/nature09689

¹⁶ www.fao.org/documents/card/es?details=CC2228EN

¹⁷ www.iied.org/sites/default/files/pdfs/2022-06/20986IIED.pdf

¹⁸ <https://doi.org/10.4060/cc2411en>

¹⁹ www.fao.org/documents/card/en/c/cc4576en

²⁰ www.fao.org/fishery/en/eaf-net

²¹ <https://doi.org/10.1016/j.ocecoaman.2013.12.014>

in the SSF Guidelines. However, power imbalances and cultural differences between local communities and holders of modern/scientific knowledge may need to be addressed for successful knowledge co-production²².

26. Advances in information and communications technology (ICT) increasingly provide opportunities for improving data collection, management processes in an inclusive way. “For example, in fisheries monitoring systems, co-generated and co-owned data foster transparency and accountability, and they enable small-scale fisheries actors to have an active role in decisions in resource governance.”²³ (page 134). However, solutions need to be co-developed and ideally locally led, considering the needs of end users, marginalized groups and being mindful of the often unequal access to information by men and women.

VI. CAPACITY DEVELOPMENT

27. Capacity development for small-scale fisheries actors, their organizations, related government institutions and other supporters is of fundamental importance to achieving sustainable small-scale fisheries, including in relation to the aspects treated in the previous section of this paper, as well as in all other Working documents of the session of the sub-committee. This is in fact strongly called for in Chapter 12 of the SSF Guidelines, which emphasizes the importance of decentralized and local government structures directly involved in governance and development processes together with small-scale fishing communities, including the area of research, in this context.

28. Institutionalizing knowledge, tools, methods and processes among all actors, from small-scale fishing communities to government agencies is required to ensure the transition to or maintenance of sustainable small-scale fisheries management. FAO and partners are already providing support in this regard and efforts should be upscaled to ensure an inclusive, modular, needs-based approach to capacity development, grounded in the SSF Guidelines.

VII. EXAMPLES OF SSF GOVERNANCE AND CO-MANAGEMENT

29. When co-management based on secure tenure rights is effective and successful, it generates benefits in the form of an increased sense of ownership leading to more responsible fishing and compliance with regulations, reduced conflicts between different user groups, availability of better quality and more comprehensive data for management decision-making and valorization of traditional ecological knowledge, as well as greater sensitivity to local socioeconomic and ecological restraints²⁴.

30. Some examples of successful small-scale fisheries governance and co-management arrangements from around the world include:

- In the South Pacific, and more recently also in other regions, conservation and sustainable use of fishery resources and related ecosystems have been strengthened through locally managed marine areas (LMMAs), based on traditional environmental stewardship. These areas have been established by communities to maintain or improve livelihoods, build on customary tenure, traditional knowledge and community awareness of the need for action. Benefits include increased marine resources within closed areas but clearly defined boundaries of managed areas, culturally appropriate management incentives, and monitoring and enforcement are needed²⁵.
- In 2008, the Jorio region of Solomon Islands initiated adaptive co-management of a multi-species reef fishery. This included resource-use rules, education and monitoring strategies. In 2018, a study found that the catch per unit effort remained stable over ten years within the periodically harvested closures; the communities reacted to social needs and catch/biomass trends through changes in their management plan and rules to sustain co-

²² <https://link.springer.com/article/10.1007/s11625-021-00996-x>

²³ <https://doi.org/10.4060/cc0461en>.

²⁴ <https://lifepatform.eu/wp-content/uploads/2021/02/LIFE-Co-Management-for-SSF-compressed.pdf>

²⁵ <https://doi.org/10.1080/08941920.2017.1315654>

management benefits. However, benefits were reduced by conflicts between two communities and a new logging venture²⁶.

- In Timor-Leste, a customary law called *tara bandu* is the primary source of authority in rural areas. The benefits include community cohesion, conflict resolution mechanisms and equitable use of communal resources. Thus, fisheries co-management arrangements have been codified through *tara bandu* in the Adara LMMA. Co-management has improved livelihoods through eco-tourism in the protected area and the customary institutions' legitimacy by strengthening regulations²⁷.
- In Aceh, Indonesia, youth representatives were included to participate in the co-management arrangements together with the village leaders of the customary fisher organization (Panglima Laot) and the officers of the province and district fisheries administrations. Awareness creation, capacity building training, field action and networking were provided to support the co-management arrangements. This process revived management ownership by the Panglima Laot, which also underwent changes to become more representative of fishing communities²⁸.
- In 2001, the government in Cambodia begun reforming the fisheries sector by redistributing fishing rights from commercial fishing lots to local community fisheries (Cfi) organizations. In addition to the adoption and implementation of an enabling legal, regulatory and policy framework, the enhancement of the capacities of fishing communities has been vital for ensuring sustainable fishing practices²⁹.
- Fishing incomes in the spiny lobster small-scale fishery of Punta Allen, Mexico, which has been co-managed since 1969, have high distributional and intergenerational fairness compared to fisheries globally. This is attributed mainly to equity in the formalized tenure rights allocated to the fishers. In addition, there is a high level of compliance with the co-management regulations³⁰.
- In Brazil, a crucial element of numerous co-management agreements governing coastal and inland fisheries was the introduction of fishing closed seasons. These were temporary bans on fishing in specific areas during critical phases of the species' life cycles. To address the economic challenges faced by fishers during these closed seasons, a key component of the co-management system was the provision of unemployment benefits, known as "Seguro defeso," to fishers as a form of financial support. This unemployment benefit served the dual purpose of safeguarding fishing communities livelihoods and enhancing adherence to the closed seasons, thus contributing to better fisheries management³¹.
- In Uruguay, the *Consejo Local de Pesca* (CLP) (Local Fisheries Council) is the basic unit for co-management and supported by the national fishery law of 2013. In the yellow clam fishery in the area of San Luis, co-management fostered an enabling environment for evidence-based management through collaborative and inclusive data collection, analyses and research, and the participatory development of an EAF management plan. Women increased their participation in the fishery and gained a stronger voice in the decision-making process³².
- In Mozambique, the capacity of the local government and the Community Fishing Councils (CCP) have been strengthened in selected sites through training of local government staff (including fisheries extensionists), small-scale fishers, fishworkers and related coastal communities and organizations, combined with support to the restructuring of the CCP in line

²⁶ <https://doi.org/10.1007/s00338-022-02294-z>

²⁷ www.frontiersin.org/articles/10.3389/fmars.2019.00392/full

²⁸ www.fao.org/3/i2062e/i2062e.pdf

²⁹ www.fao.org/3/i7206e/i7206e.pdf

³⁰ www.researchgate.net/publication/317868366

³¹ www.fao.org/3/cc3611en/cc3611en.pdf

³² www.fao.org/documents/card/fr/c/CA3041EN/

with the current legal framework. This process has been instrumental in supporting effective co-management but capacity building will need to continue to ensure sustainability³³.

- In the central valley of the Senegal River, villages have management rights to floodplain waterbodies (*waalo*) that become isolated from the river as water recedes at the end of the rainy season. Several waterbodies can be managed by a single village but in different ways, and ponds can be ceded to other villages. Addressing potential conflicts and supporting reciprocal benefit sharing are important motivations for the management, which includes authorization of fishing during certain periods in line with the perceived abundance of fish³⁴.
- In Morocco and Tunisia, fishers have been encouraged to register with a social fund as a condition for obtaining fishing licences. This has led to collaboration between the ministries responsible for social welfare and the ministries responsible for fisheries. In Morocco, proof of social fund registration is mandatory for receiving a fishing license (a *carte professionnelle*) and for vessel owners to receive a vessel registration³⁵.

VIII. CONCLUSIONS

31. Small-scale fisheries are diverse and bring multidimensional contributions to sustainable development. The SSF Guidelines provide an agreed policy framework for small-scale fisheries governance and management. Management solutions need to take broader livelihoods, food and nutrition security and gender considerations into account and be developed and implemented in governance frameworks based on participation and secure tenured rights. Fisheries management in general cannot be done in isolation and needs to be reconciled with other human activities and goals. This is particularly true for small-scale fisheries where fishing and related activities are an integrated part of livelihoods and social and cultural systems and beliefs.

32. The 35th Session of COFI called for FAO to support sustainable small-scale fisheries management. Future activities to respond to this request may include (i) review of tenure rights in small-scale fisheries with a view to better understand how these can be strengthened to support sustainable fisheries management outcomes, (ii) further exploration of good practices of co-management and EAF, including appropriate management measures and monitoring, control and surveillance mechanisms for small-scale fisheries and development of guidance for scaling up such practices, (iii) strengthening of cross-sectoral and participatory processes and institutional structures, including small-scale fisheries organizations, for more effective engagement in holistic fisheries management, (iv) capacity development for co-production and use of multidisciplinary data and knowledge on small-scale fisheries to inform effective fisheries management, and (v) continued work to extend social protection to small-scale fishers and fish workers in a context of risk reduction for the benefit of environmental, economic and social sustainability.

³³ www.fao.org/voluntary-guidelines-small-scale-fisheries/implementation/sida-project/en/

³⁴ <https://fishbase.mnhn.fr/References/FBRefSummary.php?ID=27886&database=FB>

³⁵ www.fao.org/3/ca4711en/ca4711en.pdf