

2022

THE INTERNATIONAL YEAR  
OF  
ARTISANAL FISHERIES  
AND AQUACULTURE



## **Scoping paper on small-scale fisheries and aquaculture**

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**in support of the  
International Year of  
Artisanal Fisheries and  
Aquaculture in 2022  
(IYAFA 2022)**

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# Preparation of this document

This report was commissioned by the Food and Agriculture Organization of the United Nations and was prepared by Macfadyen, G., Huntington, T., Cappell, R. of Poseidon Aquatic Resources Management Ltd. This is a draft working document not for further circulation.

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# Acronyms

CCRF	Code of Conduct for Responsible Fisheries
COFI	Committee on Fisheries (of FAO)
FAO	Food and Agriculture Organization of the United Nations
GAA	Global Aquaculture Alliance
GDP	Gross Domestic Product
ICSF	International Collective in Support of Fishworkers
ILO	International Labour Organization
IYAFA-ISC	International Steering Committee (of IYAFA 2022)
IFAD	International Fund for Agricultural Development
IUU	Illegal, Unreported and Unregulated (fishing)
IYAFA 2022	International Year of Artisanal Fisheries and Aquaculture 2022
RFMO	Regional Fisheries Management Organisation
SDG	Sustainable Development Goal
SSA	Small-scale aquaculture
SSF	Small-scale fisheries
TURFs	Territorial Use Rights in Fisheries
UN	United Nations
UNDF	United Nations Decade of Family Farming

# 1. Background and purpose of this paper

## 1.1 Background

The 72<sup>nd</sup> session of the United Nations General Assembly declared 2022 the International Year of Artisanal Fisheries and Aquaculture (IYAFA 2022). The Food and Agriculture Organization of the United Nations (FAO) is leading the preparations and celebration of IYAFA 2022, in collaboration with other UN entities and other partners.

Based on the content of the United Nations General Assembly Resolution 72/72 (paragraphs 31, 32 and 33) and COFI/2016/Inf. 25, the overall goal of IYAFA 2022 is to promote the sustainable development of small-scale fisheries and aquaculture food systems to enhance the wellbeing of producers as well as consumers.

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The main objectives are to:

- enhance global awareness about, understanding of, and action to support the contribution of small-scale fisheries and aquaculture to sustainable development, and more specifically in relation to food security and nutrition, poverty eradication and use of natural resources; and to
- promote dialogue and collaboration between and among small-scale fishers, fish farmers, fish workers, governments and other key partners along the value chain, as well as to further strengthen their capacity to enhance sustainability in fisheries and aquaculture.

As IYAFA 2022 falls within the UN Decade of Family Farming (UNDF 2019-2028), the two celebrations will complement one another and provide greater visibility to small-scale producers in global food systems, and in particular the role of women.

## 1.2 Purpose and scope of this paper

The purpose of this paper is to inform communication around and inspire activity planning for IYAFA 2022.

The paper has been prepared principally for those involved in the development of communication around IYAFA 2022, and those responsible for planning IYAFA 2022-related activities and products, namely:

- The International Steering Committee of IYAFA 2022 (IYAFA-ISC), composed of government representatives of the seven FAO regions, other UN organisations, and a number of non-state actors.
- The IYAFA 2022 Task Force in FAO that has been established with members from the Fisheries and Aquaculture Division, the Office of Corporate Communication, and the Partnership Division.

Additionally, the contents of the paper may serve to inform related future work activities and focus of FAO's Fisheries and Aquaculture Department.

The terms of reference provided to guide the development of the paper requested that '**Key messages**' be identified under a number of themes to inform and inspire the planning for IYAFA 2022. With the main purpose of the paper in mind, text in Section 2 first provides some description of the role and importance of small-scale fisheries (SSF) and small-scale

aquaculture (SSA). The following sections of the paper (Sections 3-6) then consider themes as reflected in the section headings. The key messages presented in each section are not provided in any order of priority related to their importance.

The paper recognises that SSF and SSA are different food production systems. However, IYAFSA 2022 is intended to support both sub-sectors and many of the key messages apply to both sub-sectors, so where appropriate, SSF and SSA are considered together. In other cases, the specificities of SSF and SSA are recognised in the phrasing of the key messages and the supporting text, and the focus on one sub-sector or the other.

A full list of references used is provided in Appendix A.

The final section of this paper contains some thoughts for the IYAFSA-ISC and the IYAFSA 2022 Task Force in FAO about IYAFSA 2022 communication and activities.

## 2. Role and importance of SSF and SSA

**Actions in support of SSF and SSA can contribute to achieving many of the SDGs.** SSF and SSA can play a contributory role in supporting many SDGs through their role in: i) generating income especially in least developed countries (contributing to SDG 1 'No Poverty'); ii) providing fish for human consumption (SDG 2 'Zero Hunger'); iii) creating employment for women especially in downstream processing and trading activities (SDG 5 'Gender Equality'); and iv) contributing to Gross Domestic Product (SDG 8 'Decent Work and Economic Growth').<sup>1</sup> The goal of SDG 14 is to 'conserve and sustainably use the oceans, seas and marine resources for sustainable development', and SDG 14 (Life Below Water) also has a target (14.B) specifically focused on small-scale fisheries ('provide access for small-scale artisanal fishers to marine resources and markets'). This target reflects, through the associated indicator, the importance of applying a legal/regulatory/policy/institutional framework which recognises and protects access rights for small-scale fisheries.

**SSF and SSA operations are of global significance and are found in all regions and aquatic environments of the world.** SSF and SSA can be found in a wide spectrum of ecosystems and habitats including the sea, brackish waters, lakes, rivers and flood plains, and even in agriculture areas (e.g. rice fields used for rice-fish production). In global terms,<sup>2</sup> SSF are concentrated in Asia and Africa, and SSA in Asia, with around 90 percent of those employed in small-scale production being in Asia.<sup>3</sup> However, SSF and SSA are not just a developing country phenomenon – they also make up an important part of the fisheries sector in developed economies, such as those in Europe and North America.<sup>4</sup>

**SSF and SSA production generates significant upstream and downstream income and employment multiplier benefits in small-scale value chains.** SSF and SSA need to be thought of in terms of the whole value chain, not just those catching/producing fish. Inputs to fishing and fish farming operations provided by other small-scale producers in the upstream sub-sector can include items such as fishing gear, fishing boats, outboard engines, and fingerlings/fry. Fish caught/produced by small-scale fisheries and fish farmers may then pass through a series of small-scale traders, processors and marketers before being sold to consumers. Activities both upstream of fishers and fish farmers, and then downstream post-production, thus generate employment and income for many other small-scale operators. While good data on these multiplier effects are not systematically available, studies and estimates typically suggest combined upstream and downstream employment being 1-3 times that in production.<sup>5</sup>

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<sup>1</sup> SSF and SSA may also contribute to SDG 12 'Ensure sustainable consumption and production patterns' and SDG 15 'Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss'

<sup>2</sup> Numbers involved and volumes of production

<sup>3</sup> <http://www.fao.org/fishery/ssf/world/en>

<sup>4</sup> In 2016 for example, the EU fishing fleet numbered 65 400 active vessels of which 75 percent were classed as small-scale coastal vessels (STECF 2018), while in the USA landings in 2018 of fish caught 0-3 miles from the shore (and thus likely to be from SSF) totalled more than 1 million tonnes representing more than 30 percent of US catches in US waters (NOAA 2020)

<sup>5</sup> i) FAO (<http://www.fao.org/fishery/ssf/world/en>) estimate that with around 37 million employed in small-scale fishing and aquaculture, an additional 100 million people find employment in associated activities; ii) Béné *et al.* (2007) assume a 1:3 ratio for employment in direct upstream and downstream activities; iii) Employment in the downstream trading and retail sector alone (and not including upstream input providers) in the small scale Egyptian farmed tilapia sector where almost no processing taking place, is around 70% of that employed on fish farms (Macfadyen *et al.* 2011)

**In terms of the numbers of people involved, SSF and SSA are of far greater importance globally than larger-scale fisheries and aquaculture and make significant contributions to employment.** Around 90 percent of the 120 million persons recorded globally as fishers and fish workers work in the small-scale sub-sector.<sup>6</sup> SSF and SSA generate more employment per tonne of fish landed/produced than larger-scale operations as the lower levels of mechanisation and capital inputs typically require greater levels of human input.

**SSF and SSA have significant and positive impacts for the empowerment of women, who play a critical role in SSF and SSA value chains, which is often under-valued.**

Women are often involved in SSA production activities and sometimes in SSF production (for example in the collection/harvesting of products such as molluscs and seaweed in inter-tidal areas). Women in SSF and SSA are typically centrally involved in the processing and marketing of products. Both sub-sectors thus play an important role in providing both employment and income-generating activities for women. In developing countries as well as in small-scale fisheries specifically, women make up an estimated 46-47 percent of workers in fisheries value chains, accounting for around 56 million jobs along the fisheries supply chain.<sup>7 8</sup> However, gender-disaggregated statistics for the sector<sup>9</sup> are often poor, and the true role of women in value-chains is often overlooked and undervalued.<sup>10</sup> Women often play a critical role in domestic work, as well as in pre-harvest work (tasks such as collecting and preparing bait, mending nets, preparing food for fishing trips, and maintaining books and accounts) and post-harvest work in domestic settings (such as cleaning, sorting or processing fish).<sup>11 12</sup>

**SSF and SSA play a critical role both in providing food for the poor and in meeting the world's rising demand for food.**

Millions of the world's poor in rural, peri-urban and urban areas depend on fish, much of it from SSF and SSA, for food security. While production volumes from SSF have been largely static in recent years, SSA production is increasing (although data specifically on small-scale production as distinct from overall production levels is lacking).<sup>13</sup> Production from both sub-sectors contributes to 'direct' food security through the supply of fish at individual, household and national levels. Small-scale fisheries contribute around half of global fish catches in developing countries, and 90 to 95 percent of small-scale landings are destined for local human consumption.<sup>14</sup> In least developed countries (where SSF and SSA are most prevalent) annual per capita fish consumption is 12.6 kg (with actual values likely to be higher due to the under-recorded contribution of subsistence fisheries and some small-scale fisheries).<sup>15</sup> Given rising levels of economic development and purchasing power in regions such as Asia and Africa where SSF and SSA production is significant, coupled with increases in production in these regions (primarily from aquaculture), SSF and SSA are likely to play a critical role in meeting the world's rising demand for food – fish for human consumption has been predicted to rise by more than 30 percent over the period 2006

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<sup>6</sup> The World Bank 2012

<sup>7</sup> The World Bank 2012, FAO 2017

<sup>8</sup> estimates from nine major fish producing countries (WorldFish Centre 2018)

<sup>9</sup> <https://womeninseafood.org/lets-acknowledge-invisible-ignored-and-unrecognised-iiu-women-in-the-seafood-industry/>

<sup>10</sup> FAO 2017

<sup>11</sup> FAO 2017

<sup>12</sup> See Fangoudes and Gerrard (2018) for a good overview of references on women in fisheries and aquaculture, highlighting also insufficient appreciation of women's roles

<sup>13</sup> FAO 2018

<sup>14</sup> <http://www.fao.org/voluntary-guidelines-small-scale-fisheries/ihh/en/>

<sup>15</sup> FAO 2018



to 2030.<sup>16</sup> The role of fish in providing micro-nutrients is increasingly recognised (with fish being rich in vitamin A, calcium, iron and zinc), especially for young children and during pregnancy, along with the more widely-recognised benefits of fish as a source of protein.<sup>17</sup> SSF and SSA also contribute to 'indirect' food security through the revenues generated from production and related processing and marketing activities, which can be used by those involved to in small-scale value chains to purchase food.<sup>18</sup>

**SSF and SSA make significant contributions to national economies.** Despite being small-scale on an individual level, the accumulated benefits of SSF and SSA are not just felt at a household level, and impacts add up, to generate important national level contributions in the form of Gross Domestic Product (GDP), tax revenues, and foreign exchange. Income generation in SSF and SSA can make significant contributions to GDP, especially in less developed countries where the fisheries sector is relatively important and where it is mostly small-scale in nature. In countries with important fisheries-sector dependencies, the contribution of fisheries can typically be between 2-10 percent of GDP.<sup>19</sup> SSF and SSA can also make national-level contributions through various taxes, for example in the form of income tax, landings fees, vessel registration and licensing fees, etc., (although income tax collection from small-scale fisheries is often not well-enforced due to the difficulties related to tax collection and the inability or reluctance of small-scale operators to keep sufficient records on the basis of which tax levels can be calculated or estimated).<sup>20</sup> SSF and SSA can also contribute significantly to exports and foreign exchange in some countries. Fish is the most highly traded food commodities in the world, and exports of product from small-scale value chains are significant.<sup>21</sup>

**SSF and SSA make important contributions at individual/household level to poverty reduction and diverse livelihood strategies.** While many SSF and SSA operators are full-time, relying on the sector as their principle source of income, many fisheries-related activities involved in SSF and SSA value chains are often not full-time, but part of broader livelihood strategies either at an individual or household level. SSF can be an 'activity of last resort' and safety net for individuals and/or be seasonal/part-time/occasional in nature allowing those not solely dependent on the sector to obtain food or income when other livelihood opportunities are limited. Diversified livelihoods are a feature of household strategies for those involved in SSF and SSA, with households often involved in different economic sectors to smooth out the effects of resource variations, and with household strategies characterised by flexibility,

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<sup>16</sup> The World Bank 2013

<sup>17</sup> Fish represents 16 percent of all animal protein consumed globally, and this proportion of the world's food basket is likely to increase as consumers with rising incomes seek higher value seafood and as aquaculture steps up to meet increasing demand (The World Bank 2013)

<sup>18</sup> Béné *et al.* 2007, Kawarazuka *et al.* 2010

<sup>19</sup> In Cambodia for example the fisheries and aquaculture sector, mostly small-scale, represents around 8% of GDP (Government of Cambodia 2015), while in the Maldives the fisheries sector, also dominated by small-scale operators in the catching sector accounts for around 5% of GDP (Government of the Maldives, 2019)

<sup>20</sup> Béné *et al.* 2007

<sup>21</sup> Some notable examples of exports from small-scale capture fisheries include those from Senegal with exports serving an ever-increasing demand for high-quality demersal fish in the EU, the Maldives which exports both skipjack tuna from its artisanal pole and line fishery for canning, and yellowfin from its small-scale handline fishery for fresh/frozen sashimi markets, and Tanzania/Kenya/Uganda bordering Lake Victoria which are involved with the export of Nile Perch caught exclusively by small-scale fishermen. While in Asia, significant amounts of production from SSA of species such as tilapia and *pangasius* (catfish) in countries such as China and Vietnam is aggregated for processing and subsequently export to developed country markets in the EU, USA, and Japan.

adaptation, and diversification.<sup>22</sup> As a result, and either through full-time reliance on SSF and SSA, or as part of more diverse livelihood strategies, SSF and SSA make important contributions to poverty reduction in the form of both poverty *prevention* (reducing the risks and increasing safety net functions in a general context of vulnerability) and *reduction* (income/wealth generation).

**SSF and SSA are culturally important for many individuals and communities living around aquatic ecosystems.** While, as suggested above, in some cases, SSF and SSA can be an activity of last resort, it is also true that artisanal activities are often a matter of tradition and culture. The sense within communities of being ‘fishing communities’ can be very strong, especially for those with a strong reliance on fisheries-related activities given the local presence of fisheries resources and a dearth of other possible economic activities. This sense of a fishing culture can be especially strong in coastal indigenous peoples. There are over 370 million self-identified indigenous people in more than 90 countries of the world, many of whom rely heavily on small-scale fisheries. For example, it is estimated that over 30 million coastal indigenous peoples live in the Arctic and the South Pacific, and small-scale fisheries play an important role as part of indigenous peoples’ culture, heritage and way of life.<sup>23</sup>

**SSF and SSA can have lower adverse environmental impacts than many types of larger-scale industrial fishing and aquaculture operations.** Generally speaking SSF and SSA have lower adverse environmental impacts than larger-scale operations, as in both SSF and SSA the lower levels of capital investments and less advanced technology result in less intensive forms of resource exploitation.<sup>24</sup> In addition, and specifically in capture fisheries, small-scale fishers often use more ‘passive’ fishing gears such as fixed nets and traps with lower catch rates, rather than more ‘active’ gears such as trawls often used by larger-scale semi-industrial or industrial operators. However, SSF can certainly result in overexploitation of stocks when large numbers of small-scale operators are involved and fisheries management regimes are weak, and through the use of some especially destructive forms of fishing (such as the use of dynamite or cyanide).<sup>25</sup> SSA may also have adverse environmental impacts, for example when there is poor control of pesticides and antibiotics or indiscriminate and improper collection of wild seed material. And it should be noted that large-scale fishing operations are not synonymous with being ‘unsustainable’.<sup>26</sup>

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<sup>22</sup> <http://www.fao.org/fishery/topic/16609/en>

<sup>23</sup> <http://www.fao.org/voluntary-guidelines-small-scale-fisheries/guidelines/indigenous-peoples/en/>

<sup>24</sup> See Lynch *et al.* 2016 for some discussion on the low environmental impact of many inland capture fisheries and aquaculture operations, they can be recognised as relevant to the “green food” movement

<sup>25</sup> Tanzania, Indonesia, Cambodia, and the Philippines are all countries of concern in this regard

<sup>26</sup> <http://blog.msc.org/blog/2016/10/13/large-vs-small-scale-fishing-sustainable/>

### 3. Common characteristics and challenges for SSF and SSA

#### **SSF and SSA are diverse rather than homogenous, and ‘small-scale’ is a relative term.**

This section focuses on common characteristics and challenges for SSF and SSA. It is important to first note that SSF and SSA operations are diverse. In the capture sector they include a huge variety of different types of fishing gears (such as pots, nets, lines, and traps configured in multiple ways) and types of vessels (with different designs and made of different materials such as wood or fiberglass), using different fishing methods (e.g. trawling, seining, lining), and targeting a huge range of species (such as demersal fish, pelagic fish, crustacea, and molluscs).<sup>27</sup> In the small-scale aquaculture sub-sector, production may be land-based (rain-fed or irrigated) or open water-based and utilise many different production methods (such as ponds, cages, tanks, raceways, racks, lines), and like capture fisheries produce a multitude of species (fish, seaweeds, molluscs, crustacea, and other minor invertebrates). In the marketing and processing sector a wide range of processing methods (smoking, drying, salting, etc.) may be used to sell a huge variety of different products. Thus ‘small-scale’ operations in a single country, and within each sub-sector, may include a very wide range of activities, and diversity is a feature of small-scale operations. Furthermore, there is also no single definition of ‘small-scale’ used consistently and globally, and small-scale is thus a relative term defined in individual countries (and often reflected in legislation and different management requirements) in relation to other larger scale operations. Thus, what is defined as being small-scale in one country might be considered medium- or even large-scale in another.

Despite this general diversity, some shared characteristics between different types of SSF and SSA activities, and shared challenges, can be identified as described below.

**SSF and SSA often support and depend on strong social bonds, community-wide efforts, and cultural values.** The previous section noted the strong sense of identity for individuals as fishers and fish farmers in many SSF and SSA communities. This sense of shared identity often fosters strong social bonds, further re-enforced through community-wide management efforts. Because of the need to share and manage natural resources, and often (at least historically) poor levels of engagement by government with small-scale operators, many SSF and SSA engage in collective decision-making practices based on local / traditional / indigenous knowledge, and ties between fishing practices and belief systems. The literature documents traditional or community-based management arrangements<sup>28</sup> in many countries, with a common trend in many countries over more recent years to build on these community-based arrangements as part of co-management arrangements between communities and governments.

**SSF and SSA are characterised by relatively low levels of capital investment and technology.** Individual SSF and SSA operations commonly have low levels of investment in capital assets, and low levels of technology (especially when compared to larger-scale

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<sup>27</sup> See <http://www.fao.org/fishery/capture/en> for typologies of gear, vessels, and techniques

<sup>28</sup> See <http://www.fao.org/fishery/topic/16626/en>, FAORAP 2005, and Macfadyen *et al.* 2005 which provides an overview of community and co-management examples from the Asia-Pacific region, with examples including *padu* and *sangham* arrangements in Kerala in India, fishery cooperative associations in Japan, and the *sasi laut* system in Indonesia

operations).<sup>29</sup> Some SSF, for example, use simple wooden canoes and are powered by paddles alone. Many SSA operations use few purchased inputs and are usually 'extensive' in nature. And small-scale fish processing typically relies on traditional and low-cost methods such as fish salting, smoking and sun-drying. However, with efforts in recent decades to modernise fleets and improve efficiency, the proportion of the world's small-scale fishing fleet that is motorised and using engines (typically outboard, but also inboard) and/or constructed from fiberglass rather than wood has risen significantly,<sup>30</sup> fishing gear technology has improved, and SSF now have access to relatively low cost technology (for example, for communication for improved safety at sea). SSA is also becoming more technologically sophisticated, for example, with the use of formulated feeds and feed delivery systems. Even 'small-scale' processing and marketing operations increasingly utilise technology and investments in chill and cold storage facilities. However, despite these developments, the levels of income/poverty for many of those involved, problems in gaining access to capital, the use of cheap inputs,<sup>31</sup> and the very fact they are small-scale, mean that low levels of capital investment and technology remain a defining and common feature of SSF and SSA.

### **SSF and SSA often have limited security of ownership and/or use rights to resources.**

While territorial user rights in fisheries (TURFs)<sup>32</sup> and community quotas are sometimes given to SSF, in developing countries rights-based management measures are seldom used, limiting long-term security over the rights to fish. While land-based SSA may use land for which operators have legal title, the rights of open water-based SSA operators to use water space for production is typically not legally granted, and even for land-based SSA access to land title may be lacking. SSF and SSA are therefore commonly vulnerable to the removal of rights with limited legal recourse.<sup>33</sup>

### **Production and value from SSF and SSA is often 'lost' after capture/harvest through poor handling and storage.**

Good data on post-harvest losses are not systematically available, but various studies (tending to focus on SSF rather than SSA) have estimated losses of between 5 and 40 percent of landings.<sup>34</sup> These losses are comprised of both 'physical losses' when fish is thrown away (accidentally, voluntarily or as authorised) or eaten by insects, birds or animals, and 'quality losses' associated with changes due to spoilage or physical damage with fish still sold but typically for a lower price and often not for human consumption or with reduced nutritional content. These losses reduce the amount of fish available for food and income for those involved in small-scale value chains and may increase food safety risks. Losses may occur both onboard fishing vessels, but also and more significantly on shore after landing or harvesting, and during the processing, transport and marketing of fish.<sup>35</sup> Both types of losses result from low levels of financial and human capacity, the perishable nature of fish as a product, challenges in establishing a cold chain, and

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<sup>29</sup> Global datasets are not available on the techno-economic characteristics and performance of different fleets and aquaculture operations, but FAO have historically published data supporting this key message (see FAO 2001). STECF 2018 provides data on fixed investments for different sizes of vessels in the EU, based on data provided by all EU Member States are required under the Data Collection Framework, which also show low levels of fixed investments in small-scale coastal vessels than in larger fleets.

<sup>30</sup> Usually non-motorised vessels are a minor component of the total national fleet (see Table 15 in FAO 2018) but can be important in some countries

<sup>31</sup> New outboard engines may only cost US\$1,000 – US\$2,500

<sup>32</sup> Afflerbach *et al.* 2014

<sup>33</sup> This vulnerability can reduce the incentive for investment

<sup>34</sup> Akande *et al.* 2010

<sup>35</sup> Given the important role of women in many post-harvest value chains, this may warrant a specific gender approach to addressing post-harvest losses.

inefficiencies in traditional processing and marketing methods in many small-scale value chains.

**SSF and SSA are often marginalised in policy and management discussions.** SSF and SSA commonly lack good quality and effective representation to lobby for their interests. They can thus have a limited ability to engage with government consultation and decision-making processes, and to influence policy in their favour. SSF and SSA representation may not be engaged by government at all on critical issues, or if it is, scant attention may be paid to the views expressed. The SSF and SSA can feel powerless to act when, for example, they see negative actions by larger operators being left unchecked. Marginalisation due to poor representation is frequently due to the challenges of organising representation for large numbers of producers or processors; low levels of human capacity within the ranks of operators from which to select representatives; and difficulties by operators with low earnings to finance the activities of those involved with their representation. The SSF Guidelines are however a sign that recognition of the importance of SSF and SSA is increasing.

**The actual contribution and role of SSF and SSA is under-estimated and under-reported.** The quality and robustness of data collected on SSF and SSA is commonly poor on a wide range of issues such as: catches/production, employment, economic contributions, contribution to food security and nutrition, their role as social safety nets, community cohesion, cultural diversity, etc. This results in part from the difficulty in physically accessing SSF and SSA communities in remote locations, the large numbers involved, the way national censuses and statistical systems are run, a historical focus by regional fisheries management organisations (RFMOs) on data collection from larger-scale fleets, and the seasonal/part-time/occasional nature of many fishers/fish farmers. SSF<sup>36</sup> and SSA<sup>37</sup> are often ‘hidden’ activities, with their benefits overlooked, and this may be especially the case for inland fisheries<sup>38</sup> and informal low-intensity forms of aquaculture.

**SSF and SSA are often based in geographically remote locations making outward access to markets and inward service provision problematic.** Operating in locations that are often geographically remote from large urban centres/markets, SSF and SSA (in developing countries in particular) commonly face challenges in accessing markets because of distance, time and cost to market, the perishable nature of fish, and poor cold chain infrastructure (despite recent improvements in many countries). The geographical remoteness of many SSF and SSA operators can also cause difficulties for SSF and SSA in accessing the inward flow of services (banking, government extension, donor projects etc.). This remoteness can increase input costs (of both physical items, and capital with SSF and SSA often relying on informal sources of credit with high interest rates) due to low levels of competition between suppliers, and high costs of transport to SSF and SSA from main the import/distribution centres for inputs.

**SSF and SSA are especially vulnerable to natural and man-made hazards.** SSF and SSA face a wide range of hazards which have the potential to cause disasters. Disasters may result from events that are natural (e.g. meteorological – floods, storms, hurricanes, droughts, geological – earthquakes, volcanic eruptions, and biological – epidemics such as the COVID-19 affecting humans and diseases affecting aquaculture stock), technological (e.g. oil or chemical pollution), or that take the form of complex emergencies (e.g. military conflicts and civil unrest).<sup>39</sup> SSF and SSA are often highly *exposed* to natural hazards being located near

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<sup>36</sup> The World Bank 2012

<sup>37</sup> Belton *et al.* 2018

<sup>38</sup> Lynch *et al.* 2020, Youn *et al.* 2014, Lynch *et al.* 2017, Cooke *et al.* 2016

<sup>39</sup> FAO 2014, FAO 2013

water bodies, and aquatic systems that can become vectors for pathogens and pollution, but are also commonly very *sensitive* to hazards (the reason why a hazard can turn into a disaster) due to low *adaptive capacity*. This low capacity for adaptation results from the relative poverty of many of those involved in SSF and SSA, and the frequent constraints and challenges facing them as discussed elsewhere in this paper. Natural disasters are increasing both in number and intensity<sup>40</sup> due to climate change, and low levels of financial and human capacities in many SSF and SSA mean they are commonly not well placed to adapt to these changes and mitigate the negative impacts of disasters.

**Working and employment conditions in SSF and SSA commonly fail to meet minimum requirements.** Fishing is a dangerous occupation involving long hours and strenuous activity in an often-challenging marine environment, and injury and fatality rates in many countries are much higher in the fishing sector than other sectors.<sup>41</sup> The lack of safety equipment on many small-scale fishing vessels, poor surveillance and enforcement of vessel standards, and the small size of vessels being used, all increase risk. Both SSF and SSA are also typically characterised by a lack of formal contracts or any formal provision of medical or social security. And while forced migrant labour is less of an issue in SSF than in larger-scale fishing operations, the risks of children being involved in fishing and downstream-related processing and marketing activities when they should be in school, may be higher. The International Labour Organisation (ILO) Work in Fishing Convention, 2007 (No. 188) aims to ensure decent conditions of work with regard to minimum requirements for work on board, conditions of service, accommodation and food, occupational safety and health protection, medical care, and social security. But to date, only 18 countries have ratified the Convention. ILO Convention No. 138, with 172 ratifications.<sup>42</sup> focusses on countries establishing the minimum age for admission to employment and work and national policies for the elimination of child labour.

**SSF and SSA often compete with and are negatively impacted by other non-sector resource users.** SSF and SSA need access to the water and land-based infrastructure, but often face competition for coastal land from tourism and urban development. In inland areas they face competition for land and water from farming and from other human development (with irrigation and dams affecting water quantities and the flow of water downstream on which fisheries and aquaculture rely).<sup>43</sup> This competition can result in conflicts and negative impacts on production for SSF and SSA. In many inland areas, SSF and SSA are negatively impacted by pollution of water bodies, with other land-based economic activities having an adverse impact on the ecology and environmental status of the aquatic bodies on which they depend.

**SSF and SSA often compete with larger-scale fisheries/aquaculture operators for access to resources.** SSF and SSA don't just face competition from outside of the sector as discussed above. SSF in coastal areas<sup>44</sup> in almost all cases (except in very shallow and near-shore areas) face competition for fish resources from larger-scale fishing vessels. This competition can result in conflicts (both social, and in terms of fishing gear interactions) between small- and larger-scale sectors, and negative impacts on catches and earnings by

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<sup>40</sup> FAO 2014, Barange *et al.* 2018

<sup>41</sup> <https://www.ilo.org/global/standards/subjects-covered-by-international-labour-standards/fishers/lang-en/index.htm>

<sup>42</sup>

[https://www.ilo.org/dyn/normlex/en/f?p=NORMLEXPUB:11300:0::NO::P11300\\_INSTRUMENT\\_ID:312283](https://www.ilo.org/dyn/normlex/en/f?p=NORMLEXPUB:11300:0::NO::P11300_INSTRUMENT_ID:312283)

<sup>43</sup> Lynch *et al.* 2019

<sup>44</sup> Competition between SSF and larger-scale fishing operations is seldom a problem in inland water bodies due to low levels of larger-scale operators in such areas

SSF. Governments may try to mitigate this through fishing zones with areas nearer the shore reserved for SSF. However, enforcement of regulations prohibiting larger-scale vessels from these zones is often weak. SSA may also face competition for land and water from larger-scale aquaculture operations which have greater economic power and political influence, and due to power relations and weak title to land (as discussed earlier), this makes SSA operators vulnerable to displacement.

**Improving management regimes for SSF can be difficult.** Good fisheries management is the best form of conservation, and a way of ensuring ongoing sustainability of resources and the broader environments that SSF operate in. Bringing about improvements in fisheries management in SSF typically requires short-term restrictions on fishing inputs (capacity, effort), outputs (catches/landings) or the use of technical measures (e.g. gear restrictions, closed seasons). Imposing and enforcing such restrictions can be: i) politically difficult, due to the large number of fishers involved (who are also voters); ii) practically difficult, given the need for enforcement of management measures for large numbers of operators often in remote areas, making it difficult to collect relevant data for effective management and to undertake monitoring, control and surveillance (MCS) activities; and iii) economically difficult, with many producers operating on a subsistence basis and so vulnerable to any restrictions on their ability to catch what they want when they want.

## 4. Tensions between SSF and SSA

While IYAFA 2022 is intended to support both SSF and SSA, there can be tensions between the two sub-sectors. Recognition of these tensions, and the different nature of SSF and SSA as distinct food production systems, may be important in informing both IYAFA 2022 planning, but also future interventions in support of the small-scale sector.

**SSF and SSA compete for resources.** Competition between SSF and SSA can occur over physical resources such as the catch itself (see 'Demand for fishmeal in SSA...' below) and water space: fishers need access to catch fish or pass through to fishing grounds, but aquaculture farmers also need water space for production purposes. It also occurs over government and donor financial resources. Governments have limited finances, and typically variable levels of technical capacity, to support all groups equally, and prioritise their support on some stakeholders, whether explicitly or not, over others. This is also true of donors, with donor support for SSF and SSA representing significant proportions of total support financial support provided to the sector in some less developed countries. This donor support is not equal for different types of SSF and SSA, with inland capture fisheries perhaps being historically less well funded than small-scale coastal capture fisheries and small-scale aquaculture.<sup>45</sup> Evaluations at programme level by donors of their own portfolios of fisheries and aquaculture projects are typically used to inform future decision-making over the foci of support (but don't provide a consistent view over whether projects in one sub-sector or type of aquatic environment are necessarily more successful than others).<sup>46</sup>

**SSF and SSA products may be direct competitors in markets.** While making generalisations is difficult, competition (market integration) has been demonstrated between wild and farmed for similar fish species and can also occur between different species from wild and farmed sources, in particular for similar products. Of interest is that market interactions between farmed and wild fish may increase in the future, as a larger part of fish supply from aquaculture and a larger market share of sales takes place in supermarkets and large retailers.<sup>47 48</sup>

**Demand for fish meal in SSA (and use of wild fish as an input to fish meal) can have negative impacts on SSF.** In Asia in particular, significant amounts of fish are caught when they are small without having had a chance to grow and reproduce, and are then used as inputs to fish feed required primarily by larger-scale aquaculture operations but also by SSA. Juveniles along with low value species are often caught by larger-scale vessels as part of 'trash fish/multi-species' bottom trawl fisheries. The demand from the small- and larger scale aquaculture industry thus removes fish which would otherwise have a chance to grow to larger sizes and be of greater value, and which could potentially be caught by SSF.<sup>49</sup>

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<sup>45</sup> IFAD 2018. Development Assistance Criteria (DAC) and the Creditor Reporting System (CRS) numbers used to track overseas development assistance funding, don't unfortunately allow for a detailed assessment of donor support for different types of small- and larger-scale fisheries and aquaculture in different types of aquatic environments (e.g. coastal, inland, etc)

<sup>46</sup> Asian Development Bank 2006, The World Bank 2004, IFAD 2018

<sup>47</sup> FAO 2016

<sup>48</sup> Note also that in many markets in which products from small-scale value chains are sold, wild and farmed fish, or freshwater and marine fish, are seen as very distinct product offerings with different characteristics. Direct competition in such cases between other sources of animal protein such as chicken from the small-scale sector may represent greater competition than competition between products from SSF and SSA

<sup>49</sup> FAORAP 2015b



**There can be negative environmental impacts of SSA on SSF.** Some SSA operations rely on the catch and on-growing of fingerlings. Demand for fingerlings such as grouper, incentivised by high final market values (often in export markets), can result in over-exploitation of the wild resources which may also be targeted by SSF.<sup>50</sup> SSA may also have negative impacts on SSF through pollution from farms of feed, chemicals and pathogens in solid and dissolved form.<sup>51</sup> Habitat destruction may also have an impact on ecosystem productivity and thus stocks and catch rates in SSF (for example the cutting and removal of mangroves, which are important as breeding and nursery areas, for subsequent use of the areas for aquaculture. While such activities are more commonly associated with larger-scale aquaculture operations they may also result from SSA).

**SSA can conflict with or erode social systems and community values that SSF engender through common pool resource dependence.** Common property areas and resources used by SSF may be taken over or allocated as privatised rights to aquaculture operators. In such instances the change from common property to individual rights has social impacts. For example, the clearing of mangroves and the use of coastal areas for aquaculture may remove a shared sense of responsibility within a community for collective management and resource protection for community-wide benefits, with aquaculture operators focused instead on short-term and individual benefits (sometimes resulting in degraded coastal zone areas).<sup>52</sup> Changes in resource use from SSF to SSA can thus result in changes in social systems and values associated with the switch from common property to individual rights.

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<sup>50</sup> The authors have personal evidence of this phenomena in Thailand, Indonesia, and the Maldives, with exports destined for high-value export markets in Hong-Kong

<sup>51</sup> In particular nitrogen and phosphorus (Dauda *et al.* 2019)

<sup>52</sup> Cabral and Alino 2011

## 5. Synergies between SSF and SSA

Despite the tensions between SSF and SSA that can sometimes exist, the sub-sectors can also be mutually supporting, and IYAFSA 2022 may wish to highlight the following synergies between the sub-sectors.

**Waste products from SSF and related processing may be utilised by SSA.** Many small-scale aquaculture producers do not use specialist formulated feeds, but instead utilise available household waste and other locally available products as feed for fish. Waste from the processing of fish from small-scale fisheries value chains can be used as an input to SSA in place of formulated feeds<sup>53</sup> supporting a circular economy and a value being placed on things currently discarded. Other examples of synergies include the repurposing of fishing nets and other gear from SSF for use in SSA (and other husbandry systems).

**Aquaculture production can support capture fisheries.** Water bodies in many developing countries (particularly in Asia),<sup>54</sup> often managed communally, can be used for culture-based fisheries (CBF) development, whereby water bodies are stocked from aquaculture to increase productivity of capture fisheries<sup>55</sup> with fish later recaptured by SSF. While fish stocked into water bodies are more typically provided by government-run hatcheries than SSA, there is increasing private sector involvement in 'hatch and catch' enhanced fisheries, and governments may purchase fingerlings for stocking from private sector SSA operators.

**SSF catches may represent inputs to SSA.** The capture by SSF of wild fry/fingerlings, or of even of species at a more mature stage of their lifecycle, can be used/sold as an input to SSA for on-growing (known as capture based aquaculture) through supplemental feeding to increase growth rates and thus market values.<sup>56</sup> Examples of species for which this takes place include grouper, mullet and crabs.

**SSF and SSA producers can share downstream processing and market distribution systems.** While fishing and fish farming represent distinct food production systems, after capture/harvest SSF and SSA may share the same downstream processing and marketing value chains. This raises the potential for collective organisation as small-scale food producers, for example through joint marketing campaigns about the benefits of fish consumption, or collective/joint negotiation with downstream actors in the value chain, to create 'sustainable food systems' whereby SSF and SSA are integrated to the extent possible to ensure efficient, coordinated and mutually supportive production and processing.

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<sup>53</sup> Mo *et al.* 2018

<sup>54</sup> e.g. Lao PDR, China, Cambodia (de Silva 2016)

<sup>55</sup> with five to tenfold increases in productivity per hectare not uncommon (FAO 2011)

<sup>56</sup> Note comment in previous section about the potentially negative environmental impacts of such practices

## 6. Opportunities for action to support both SSF and SSA

### 6.1 Objectives and high-level messages

The focus on this sub-section is on key 'high-level' messages about opportunities for action that are applicable in a general sense to both SSF and SSA. As such they are broadly relevant to and should be supported by all stakeholder groups.

**Environmental sustainability must be the over-riding goal.** States and all other parties should seek to ensure sustainable utilisation, prudent and responsible management, and conservation of fisheries and aquatic resources consistent with the Code of Conduct for Responsible Fisheries (CCRF) and related instruments. This requires policy upgrading and improved fisheries and aquaculture management practices building on the value of traditional and local knowledge. Sustainable economic and social benefits from SSF and SSA can only be realised through sustainable exploitation of natural resources.

**Many actors have a role to play in supporting SSF and SSA.** They include SSF and SSA operators themselves and their representation, governments, international organisations, donors, NGOs and civil society, researchers, and consumers. All actors should think about where their added value and leverage lies in affecting change i.e. donors may fund interventions in support of SSF and SSA, civil society may advocate, government may provide an enabling policy and legislative environment, international organisations may define and guide on best practice, SSF and SSA may innovate and adapt, academics may investigate and research, and consumers may make buying choices in support of products from SSF and SSA.

**The basis for action already exists, and implementation of existing, relevant, and agreed instruments, frameworks and guidelines would go a long way in supporting SSF and SSA.** While not necessarily all specific to SSF and SSA, a wide range of international and regional instruments, mechanisms and guidelines already exist related to sustainability, human rights, fisheries management, and aquaculture management. Improved implementation and adherence to such frameworks, and in particular the CCRF and the SSF Guidelines, would have huge positive benefits for SSF and SSA.

**Devolve management rights and responsibilities to the local level so that SSF and SSA can act as resource stewards in sustainable food systems.** Development and management of SSF and SSA should be led from the 'bottom up'. Government should provide a supporting and enabling role, but management responsibilities devolved to the local level will ensure that SSF and SSA voices are better heard, that local decisions reflect local situations and needs, and that customary laws and practices are better institutionalised. However, in devolving management responsibilities there is also a need to: i) ensure oversight and conditionalities are in place to manage the risk of discriminatory practices, elite capture of resource rents, and women and young people being marginalised; ii) devolve rights as well as responsibilities; and iii) ensure necessary capacity development continues to be acquired by relevant institutions.

**Improve the quality, quantity and timeliness of data on SSF and SSA.** Improved data on catches/production by SSF and SSA is critical as an input to improved management decisions. There is also an urgent need to improve data collection on other aspects such as employment, economic contribution, contribution to food security and nutrition, and the role of SSF and SSA as social safety nets. This will require increased capacities and inter-disciplinary approaches, and would serve to better bring the small-scale sector out from the shadows into the light, and to demonstrate its true value and importance. Improved datasets, regularly updated, are

required at national level (by governments), at regional level (by RFMOs or regional economic groupings), and internationally (by FAO and other organisations).

**Adopt and promote a broad concept of the benefits generated by SSF and SSA.** The benefits of the small-scale sector should not be thought of purely in terms of tonnes and \$ of production, or the numbers of those employed. It would be beneficial to reconfigure how we value SSF and SSA and to develop a methodology for doing so that includes social, environmental and economic benefits, and includes an assessment of the whole small-scale value chain. An inter-disciplinary approach would better capture the contributions of SSF and SSA.

**Support inclusion of SSF and SSA in the wider blue economy.** The ‘blue economy’ or ‘blue growth’ is a recent and increasingly important paradigm that has gained traction in many countries and regions of the world<sup>57</sup>. It recognises that there are a wide range of economic sectors and related policies that together determine whether the use of aquatic resources is sustainable. It thus seeks to promote coordinated multi-sectoral economic growth, social inclusion, and the preservation or improvement of livelihoods while at the same time ensuring environmental sustainability.<sup>58</sup> Given the growing emphasis and adoption of this paradigm in policy and decision-making, ‘blue economy’ interventions should specifically involve SSF and SSA when being planned/designed, with an assessment of their potential impacts on the small-scale sector.

**Support capacity building.** The need to build individual and institutional capacities to better support SSF and SSA exists and applies to SSF and SSA, governments, international organisations, donors, (i)NGOs and civil society, and researchers. This requires the upskilling of individual and institutional capacities related to knowledge of SSF and SSA and their requirements. Capacity building may be best achieved through recognition of the benefits of both north-south and south-south cooperation, and of the use of a wide range of both face-to-face and remote delivery mechanisms.<sup>59</sup>

**Conduct demand-driven research on gaps in understanding of SSF and SSA.** Research in support of SSF and SSA should be driven by the requirements of small-scale operators, be action-oriented, and should integrate indigenous knowledge and ensure a participatory approach. It should be used to inform policy and management decision-making, and shared with and disseminated to the small-scale sector.

## 6.2 Opportunities to address common challenges facing SSF and SSA

There is no shortage of specific areas which actors can choose to focus on in efforts to support SSF and SSA. These areas may relate to both the challenges and synergies identified in this paper, or other action areas highlighted in the SSF Guidelines under the different chapter headings of the SSF Guidelines.

Action on specific issues should recognise the distinct and different characteristics and differences between and within SSF and SSA. There is no ‘one-size-fits-all’ solution, and

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<sup>57</sup> For example, see the High Level Panel on Sustainable Ocean Economy

<sup>58</sup> The World Bank 2017

<sup>59</sup> Face-to-face mechanisms include: classroom-based training, seminars, conferences and workshops, research programmes, exchange programmes, demonstration trials, on-the-job training. Remote mechanisms include budget/programme support, publications, manuals/training material, radio, mentoring, distance-based training/learning, and mechanisms based on information and communication technology (ICT)

specific actions and solutions in support of SSF and SSA and to address the challenges they face should be adapted to reflect local, cultural, techno-economic, and geographical contexts.

Actions may include, but are certainly not limited to ten areas the authors chose to highlight below.<sup>60</sup>

- i. *Reduce post-harvest losses.* Given current levels of losses, an obvious means of increasing the supply of fish from SSF and SSA to contribute to both food security and higher incomes in SSF and SSA, even without increased landings, is by reducing post-harvest losses of what is presently caught.
- ii. *Recognise, grant and protect the long-term rights of small-scale operators.* Rights may include those to settlement and ownership of land, and rights to use areas for fishing (and may be community-based or allocated to individuals). While *ownership* may be necessary, often what is really needed is user rights. It can be appropriate for governments to grant preferential access for SSF and SSA to specific areas, for example through geographical zoning, seasonal restrictions on larger operators, or spatial management in the context of integrated coastal management. Critically important also is the need to enforce access and rights through strong MCS, for example of inshore encroachment by larger-scale vessels.
- iii. *Make markets work for small scale operators.* Improving access to markets through upgraded infrastructure, product innovation, and enhanced market information, are all ways of ensuring that small-scale value chains are supported and result in increased incomes. Given rising domestic demand/purchasing power in many regions focusing on domestic markets may reduce the need for potential trade-offs between an export market focus and the availability for fish at a national level to support food security.
- iv. *Unlock potential of the small-scale sector through ensuring access to financial services.* Given that a lack of access to affordable credit and the inability to generate savings are major constraints for many small-scale operators, support for micro-finance,<sup>61</sup> with an emphasis on access by women, may be especially appropriate because of the services commonly associated with micro-finance products and institutions such as deposits/savings, loans, payment services, money transfers and insurance.
- v. *Support participation by women and youth in fisheries and aquaculture value chains and their management.* There is a need for gender specific and responsive interventions in the small-scale sector. Because the degree of control exercised by women over family income impacts directly on household food security and nutritional outcomes, enhancing the economic status of women through their involvement in aquaculture and/or fisheries-related activities (fish processing and trading) is an important pathway to improve household nutritional security. Consideration may be given to minimum levels of female participation in small-scale fisheries and aquaculture management bodies. Interventions should also support access to value chains and quality employment by the youth.

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<sup>60</sup> While some actions may be identified as the responsibility of specific parties (e.g. allocating rights would be for governments to do), for most actions multiple stakeholder groups could be involved in an action based on the specific nature of the intervention, so allocating responsibilities is not attempted here

<sup>61</sup> Béné *et al.* 2007, Tietze *et al.* 2003

- vi. *Facilitate investments in appropriate infrastructure for small scale producers.*<sup>62</sup> Government and donors need to play a role in financing infrastructure developments in support of small-scale producers given the amounts of finance involved. But care must be taken to ensure that investments are appropriately scaled, with thought given to sustainability (e.g. maintenance, running/re-investments costs, etc).
- vii. *Enhance resilience to disasters and adaptation/mitigation to climate change.* Increasing the resilience of small-scale operators to natural and man-made disasters is vital given the increasing frequency and intensity of such events associated with climate change, and the significant impact that such events can have as evidenced most recently by Covid-19. And while the contribution of small-scale value chains to climate change are very small compared to those of larger-scale operations, there is still a responsibility to mitigate contributions to climate change, for example through strategies aimed at reducing fuel use in capture fisheries, feed in aquaculture, or fuel used in transporting fish to market.
- viii. *Ensure high standards of labour/working conditions.* Both policy and support are required to assist SSF and SSA in achieving standards and demonstrating best practice in terms of safety, wages, contracts, and social security.
- ix. *Empower small-scale operators through collective organisation and representation.* Support and capacity building should be provided for strengthening representative organisations, with institutionalised, meaningful, and representative participation ensured in management processes and advisory bodies.
- x. *Improve technology and innovation.* While the importance of traditional and local knowledge and practices should be recognised, support should also be provided for innovation and the introduction of new and appropriate technology to increase value-addition and upgrade small-scale value chains.

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<sup>62</sup> Donors and governments should also consider prior to the implementation of development projects that might impact small-scale fishing communities even if not intended to support them, the social, economic and environmental impacts of those projects on SSF/SSA, and hold effective and meaningful consultations with potentially affected communities

## 7. Additional thoughts on planning for IYAFA 2022

This paper is intended as a starting point for work that will need to be done when planning for IYAFA 2022. It will be the job of the IYAFA 2022 Task Force in FAO and the IYAFA-ISC to take the key messages articulated in this paper, and to use them over the coming 18 months when planning for IYAFA 2022 both: i) to inform the communication and event planning; ii) as input and material when implementing the strategy.

This final section of the scoping paper takes the opportunity to make some suggestions related to the future work of the IYAFA 2022 Task Force and the IYAFA-ISC, It focusses on:

1. Communication.
2. General principles for action planning.
3. Additional preparatory work that may be useful.
4. Evaluation.

### 7.1 Communication

Communication and event planning could be usefully tailored around a number of components which could be identified based on the preliminary/suggested key messages presented in this paper, for example:<sup>63</sup>

- i. Addressing challenges faced by SSF and SSA.
- ii. Implementing the SSF Guidelines and adoption of good farming practices.
- iii. The importance of SSF and SSA in contributing to the SDGs and other relevant processes.
- iv. Celebrating SSF and SSA.<sup>64</sup>

Each component would need to be broken down into sub-components. For example, a component on addressing challenges might have sub-components based around the different challenges/messages discussed in this paper and what parties can and are doing to address them, such as:

- a) improving fisheries management in SSF;
- b) ensuring women's participation; and
- c) supporting access to markets.

A component on implementing the SSF Guidelines may have sub-components on:

- a) raising awareness;
- b) strengthening the interface between science and policy;
- c) empowering SSF stakeholders; and
- d) supporting implementation through building an enabling environment, etc.

Critically important for communications and planning will be the need for targeted and nuanced communications channels, products and events relevant to what specific actors can achieve for the various components and sub-components itemised.

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<sup>63</sup> Alternative components could alternatively more closely reflect the sections of this paper e.g. role and contribution, challenges, tensions, synergies, opportunities for action

<sup>64</sup> Whilst celebration is in and of itself a positive activity, a clear call to action associated with related events will ensure more value for money

## 7.2 Principles

Some general principles which might serve to guide the planning of events as part of IYAFA 2022 could include the following.

1. Events associated with IYAFA 2022 are likely to be necessary and appropriate at many levels – international, regional, national and local.
2. Events should ensure the active participation of small-scale operators themselves, with representation from both sub-sectors (fisheries, aquaculture), from the whole value chain (input suppliers, producers, traders, processors, and marketers), from different regions (developed and developing country), from different aquatic environments (marine and inland), and involving different groups (men, women, youth, indigenous peoples).
3. Events and information products should showcase the diversity of small-scale operations and their culture, their traditional, indigenous and local knowledge, their methods, and their ways of conserving and sharing fishery and natural resources through collective action.
4. Events and information products should be available in a range of languages to increase their accessibility.

## 7.3 Additional preparatory work

Additional preparatory work for IYAFA 2022 might usefully involve the collection and/or specific commissioning of work to obtain:

- Photos, videos, and case studies on small-scale fisheries and small-scale aquaculture which could be used in event products and media (and in competitions and other activities such as crowd sourcing aimed at generating finance).
- A suite of data specifically on small-scale fisheries and small-scale aquaculture (noting current data limitations), to inform events, to be used in speeches/presentations, and to be used in products such as infographics.
- Further development and expansion of the IYAFA 2022 website, for example with the addition of data and information, publications, chat rooms on specific topics, etc.

## 7.4 Evaluation

It would appear important given the time and resources that will be deployed around IYAFA 2022, to evaluate its impact. The completion of such an evaluation would need to take place after all events associated with IYAFA 2022 have been finalised. Nevertheless, it may already be appropriate to consider:

- The identification of funding for such an evaluation and preparation of terms of reference.
- The need to conduct some benchmarking before 2022 against which the impact of IYAFA 2022 can be later assessed/evaluated. This benchmarking could involve the need to define and collect baseline values for indicators associated with different evaluation questions, which in turn might be related to components and sub-components of the communications and event planning strategy once articulated.



## Appendix A: References

**Afflerbach, J., et al.**, 2014. A global survey of “TURF-reserves”, Territorial Use Rights for Fisheries coupled with marine reserves. *Global ecology and conservation* 2 (2014).

**Akande, G.; Diei-Ouadi, Y.**, 2010. Post-harvest losses in small-scale fisheries: case studies in five sub-Saharan African countries. *FAO Fisheries and Aquaculture Technical Paper*. No. 550. Rome, FAO. 2010. 72.

**Asian Development Bank**, 2006. Special evaluation study of ADB fisheries policy.

**Barange, M., Bahri, T., Beveridge, M.C.M., Cochrane, K.L., Funge-Smith, S. & Poulain, F., eds.** 2018. Impacts of climate change on fisheries and aquaculture: synthesis of current knowledge, adaptation and mitigation options. *FAO Fisheries and Aquaculture Technical Paper* No. 627. Rome, FAO. 628 pp.

**Belton, B., et al.** The emerging quiet revolution in Myanmar's aquaculture value chain. *Aquaculture* 493 (2018).

**Béné, C.; Macfadyen, G.; Allison, E.H.**, 2007. Increasing the contribution of small-scale fisheries to poverty alleviation and food security. *FAO Fisheries Technical Paper*. No. 481. Rome, FAO. 2007. 125p.

**Cabral, R., and Alino, P.**, 2011. Transition from common to private coasts: Consequences of privatization of the coastal commons. *Ocean and Coastal Management*. volume 54, Issue 1, January 2011, Pages 66-74.

**Cooke, S.J., Allison, E.H., Beard, T.D. et al.**, 2016. On the sustainability of inland fisheries: Finding a future for the forgotten. *Ambio* 45, 753–764 (2016). <https://doi.org/10.1007/s13280-016-0787-4>.

**Dauda, A., et al.**, 2019. Waste production in aquaculture: Sources, components and managements in different culture systems. *Aquaculture and Fisheries* Volume 4, Issue 3, May 2019, Pages 81-88 .

**De Silva, S.**, 2016. Culture based fisheries in Asia are a strategy to augment food security. *Food Sec.* DOI 10.1007/s12571-016-0568-8.

**FAO**, 2001. Techno-economic performance of marine capture fisheries. *Fisheries Technical Paper* 421. Tietze *et al.*

**FAO**, 2011. Feasibility of stocking and culture-based fisheries in Central Asia. *FAO Fisheries And Aquaculture Technical Paper* 565. Thorpe, A., *et al.* (eds)

**FAO**, 2013. Guidelines for the fisheries and aquaculture sector on damage and needs assessments in emergencies. Edited by David Brown and Florence Poulain. <http://www.fao.org/3/a-i3433e.pdf>

**FAO**, 2014. Fisheries and aquaculture emergency response guidance. Cattermoul, B., Brown, D., and Poulain, F. (eds) <http://www.fao.org/3/a-i3432e.pdf>

**FAO**, 2015. Voluntary Guidelines for Securing Sustainable Small-Scale Fisheries in the Context of Food Security and Poverty Eradication

**FAO**, 2016. Market Competition Between Farmed And Wild Fish: A Literature Survey. FAO Fisheries and Aquaculture Circular No. 1114. Bjørndal, T., and Guillen, J.

**FAO**, 2017. Towards gender-equitable small-scale fisheries governance and development. A handbook in support of the implementation of the Voluntary Guidelines for Securing Sustainable Small-Scale Fisheries in the Context of Food Security and Poverty Eradication <http://www.fao.org/3/i7419en/I7419EN.pdf>

**FAO**, 2018. The State of World Fisheries and Aquaculture 2018 - Meeting the sustainable development goals. Rome. Licence: CC BY-NC-SA 3.0 IGO.

**FAORAP**, 2005. Report of the Regional workshop on mainstreaming fisheries co-management held in Siem Reap, Cambodia from 9 to 12 August 2005. FAO Regional Office for Asia and the Pacific, Bangkok, RAP Publication 2005/23, 48 p.

**FAORAP**, 2005b. APFIC Regional workshop on low value and “trash fish” in the Asia-Pacific region. RAP PUBLICATION 2005/21. <http://www.fao.org/3/a-ae935e.pdf>

**Frangoudes, K., and Gerrard, S.**, 2018. (En)Gendering Change in Small-Scale Fisheries and Fishing Communities in a Globalized World. *Maritime Studies* (2018) 17:117–124

**Government of Cambodia**, MAFF, 2016. The Strategic Planning Framework for Fisheries: Update for 2015-2024 (SPF 2015)

**Government of the Maldives**, 2019. Draft Maldives National Plan of Action to prevent, deter and eliminate Illegal, Unreported and Unregulated Fishing. Ministry of Fisheries, Marine Resources and Agriculture, Malé, Republic of Maldives.

**IFAD**, 2018. IFAD’s support to livelihoods involving aquatic resources from small-scale fisheries, small-scale aquaculture and coastal zone. Independent office of evaluation. [https://www.ifad.org/documents/38714182/40953337/ES\\_Aquaticresources\\_finalreport\\_edited\\_formatted\\_for+web.pdf/d3446726-38dd-b772-e772-43e3d281939d](https://www.ifad.org/documents/38714182/40953337/ES_Aquaticresources_finalreport_edited_formatted_for+web.pdf/d3446726-38dd-b772-e772-43e3d281939d)

**Kawarasuka, N, and Béné, C.**, 2010. Linking small-scale fisheries and aquaculture to household nutritional security: an overview. *Food Sec.* (2010) 2:343–357

**Lynch, A.J., et al**, 2016. The social, economic, and environmental importance of inland fish and fisheries. <https://www.nrcresearchpress.com/doi/pdf/10.1139/er-2015-0064>

**Lynch, A.J., et al.**, 2017. Inland fisheries – Invisible but integral to the UN Sustainable Development Agenda for ending poverty by 2030. *Global Environmental Change*. Volume 47, November 2017, Pages 167-173

**Lynch, A.J., Elliott, V., Phang, S.C. et al.**, 2020. Inland fish and fisheries integral to achieving the Sustainable Development Goals. *Nat Sustain* (2020). <https://doi.org/10.1038/s41893-020-0517-6>

**Lynch, A.J., et al.**, 2019. Speaking the same language: can the sustainable development goals translate the needs of inland fisheries into irrigation decisions? <https://www.publish.csiro.au/MF/MF19176>

Macfadyen, G. *et al.*, 2011. Value-chain analysis of Egyptian aquaculture. Project report 2011-54. The WorldFish Center. Penang, Malaysia. 84 pp.

**Macfadyen, G., Cacaud, P., Kuemlangan, B.,** 2005. Policy and legislative frameworks for co-management: Background paper for a workshop on mainstreaming fisheries co-management, held in Cambodia, 9<sup>th</sup>-12<sup>th</sup> August 2005. Poseidon Aquatic Resource Management Limited.

**Mo, W., et al.,** 2018. Use of food waste, fish waste and food processing waste for China's aquaculture industry: Needs and challenge. *Science of The Total Environment*. Volumes 613–614, 1 February 2018, Pages 635-643

**National Marine Fisheries Service,** 2020. Fisheries of the United States, 2018. U.S. Department of Commerce, NOAA Current Fishery Statistics No. 2018 Available at: <https://www.fisheries.noaa.gov/national/commercial-fishing/fisheries-united-states-2018>

**Said, A., and Chuenpagdee, R.,** 2019. Aligning the sustainable development goals to the small-scale fisheries guidelines: A case for EU fisheries governance. *Marine Policy* 107 (2019) 103599

**Scientific, Technical and Economic Committee for Fisheries (STECF),** 2018. The 2018 Annual Economic Report on the EU Fishing Fleet (STECF-18-07). Publications Office of the European Union, Luxembourg, 2018, JRC112940, ISBN 978-92-79-79390-5, doi:10.2760/56158

**The World Bank and United Nations Department of Economic and Social Affairs,** 2017. The Potential of the Blue Economy: Increasing Long-term Benefits of the Sustainable Use of Marine Resources for Small Island Developing States and Coastal Least Developed Countries. World Bank, Washington DC.

**The World Bank,** 2004. Saving fish and fishers: Toward Sustainable and Equitable Governance of the Global Fishing Sector

**The World Bank,** 2012. HIDDEN HARVEST The Global Contribution of Capture Fisheries. REPORT NUMBER 66469-GLB.

**The World Bank,** 2013. Fish to 2030: prospects for fisheries and aquaculture (English). Agriculture and environmental services discussion paper ; no. 3. Washington DC ; World Bank Group. <http://documents.worldbank.org/curated/en/458631468152376668/Fish-to-2030-prospects-for-fisheries-and-aquaculture>

**Tietze, U. & Villareal, V.,** 2003. Microfinance in fisheries and aquaculture: guidelines and case studies. FAO Fisheries Technical Paper. No. 440. 2003. Rome.

**WorldFish Centre,** 2018. Gender and fisheries: Do women support, complement or subsidize men's small-scale fishing activities? Issues Brief, 2018. [http://pubs.iclarm.net/resource\\_centre/WF\\_2711.pdf](http://pubs.iclarm.net/resource_centre/WF_2711.pdf)

**Youn, S-J., et al.,** 2014. Inland capture fishery contributions to global food security and threats to their future. *Global Food Security*. Volume 3, Issues 3–4, November 2014, Pages 142-148. <https://www.sciencedirect.com/science/article/abs/pii/S221191241400039X>

Viale delle Terme di Caracalla  
00153  
Rome  
Italy

[iyafa@fao.org](mailto:iyafa@fao.org)  
[www.fao.org/artisanal-fisheries-aquaculture-  
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