





Food and Agriculture Organization of the United Nations
Bangkok, 2022

Required citation:

FAO and INFOFISH. 2022. *The small-scale fisheries and aquaculture sector in Asia – Small in scale, big in value.* Bangkok, FAO. https://doi.org/10.4060/cc0026en

The designations employed and the presentation of material in this information product do not imply the expression of any opinion whatsoever on the part of the Food and Agriculture Organization of the United Nations (FAO) concerning the legal or development status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries. The mention of specific companies or products of manufacturers, whether or not these have been patented, does not imply that these have been endorsed or recommended by FAO in preference to others of a similar nature that are not mentioned.

The views expressed in this information product are those of the author(s) and do not necessarily reflect the views or policies of FAO.

ISBN 978-92-5-136187-0 © FAO, 2022



Some rights reserved. This work is made available under the Creative Commons Attribution-NonCommercial-ShareAlike 3.0 IGO licence (CC BY-NC-SA 3.0 IGO; https://creativecommons.org/licenses/by-nc-sa/3.0/igo/legalcode).

Under the terms of this licence, this work may be copied, redistributed and adapted for non-commercial purposes, provided that the work is appropriately cited. In any use of this work, there should be no suggestion that FAO endorses any specific organization, products or services. The use of the FAO logo is not permitted. If the work is adapted, then it must be licensed under the same or equivalent Creative Commons licence. If a translation of this work is created, it must include the following disclaimer along with the required citation: "This translation was not created by the Food and Agriculture Organization of the United Nations (FAO). FAO is not responsible for the content or accuracy of this translation. The original [Language] edition shall be the authoritative edition."

Disputes arising under the licence that cannot be settled amicably will be resolved by mediation and arbitration as described in Article 8 of the licence except as otherwise provided herein. The applicable mediation rules will be the mediation rules of the World Intellectual Property Organization http://www.wipo.int/amc/en/mediation/rules and any arbitration will be conducted in accordance with the Arbitration Rules of the United Nations Commission on International Trade Law (UNCITRAL).

Third-party materials. Users wishing to reuse material from this work that is attributed to a third party, such as tables, figures or images, are responsible for determining whether permission is needed for that reuse and for obtaining permission from the copyright holder. The risk of claims resulting from infringement of any third-party-owned component in the work rests solely with the user.

Sales, rights and licensing. FAO information products are available on the FAO website (www.fao.org/publications) and can be purchased through publications-sales@ fao.org. Requests for commercial use should be submitted via: www.fao.org/contact-us/licence-request. Queries regarding rights and licensing should be submitted to: copyright@fao.org.

Cover photograph: ©SMART-Fish Indonesia/Ray Chandra Purnama

Ibu Amsu is the oldest seaweed production worker in Pagarbatu village, Sumenep Regency, on the Madura Island of Indonesia. She started growing seaweed in 1990 and was one of the pioneers of this industry in her community. Being already eighty years old, Amsu still actively works on seaweed production, which made her able to send her children and grandchildren to school and universities. She is a member of a cooperative.

Contents

Foreword	
Acknowledgements	V
Introduction	. 1
The International Year of Artisanal Fisheries and Aquaculture 2022 (IYAFA 2022)	
- Supporting the Sustainable Development Goals	
- Supporting greater resilience, inclusivity and sustainability	
- Supporting healthy, productive communities	
- The Small-scale Fisheries (SSF) Guidelines: A tool for delivering the Sustainable Development Goals	
PART 1: Towards a responsible, sustainable and equitable small-scale fisheries and aquaculture sector	15
- Snapshots from Asia: capture and culture	
- Snapshots from Asia: from harvest to table	
- Celebrating the diversity of small-scale fisheries and aquaculture in Asia	
PART 2: No one left behind	47
- Hidden from view	
- Mainstreaming small-scale fisheries and aquaculture policies into national frameworks	
- Building capacity, one step at a time	
- A role for everyone	
PART 3: Voices from the region	63
- A shared regional vision	
- Messages from partners and stakeholders	

Fresh seaweed Kappaphycus alvarezii grown in Jaffna, Sri Lanka, as a new income source for rural fishing communities.

@Ceylon Aqua and Agri / Shawn Senarath, Dasun de Silva, Malika Sugathapala and Nabeel Nnooramith



Foreword

Small-scale, artisanal fishers, fish farmers and fish workers in Asia provide nutritious food to millions of people in this region and around the world. Their contributions to food security and economies are often hidden or overlooked against the backdrop of more visible agricultural sector activities, but their role is important and we are just coming to realize just how so.

The findings of the 'Illuminating Hidden Harvests' study, jointly undertaken by FAO, Duke University and WorldFish, has revealed that small-scale fisheries contribute over 40 percent of the global capture fish catch from marine and freshwaters. This contribution rises to 47 percent for our region, which is also the most prolific producer in global aquaculture accounting for over 90 percent of global production, much of that from small-scale farms.

The numerous small-scale fishing operations and aquaculture farms that are found throughout the Asian region account for the highest global employment in the primary sector of both capture fisheries and aquaculture production.

Asia's inland and marine waters and their associated land- and seascapes are a testament to the diversity of ingenuity found in small-scale fishing, fish farming and fish processing methods that have been practiced across the region for generations. Nowhere else on earth is there such a range of species utilized and processed products, highlighting the role and value of fish in Asian diets, livelihoods, and culture.

Yet, even though they are so productive and underpin so many livelihoods in Asia, small-scale fisheries and aquaculture value chains can be hard work, with precarious outcomes. The many men and women involved in the small-scale sector are often vulnerable to natural disasters, climate change, economic crises and, as witnessed more recently, global pandemics.

The International Year of Artisanal Fisheries and Aquaculture 2022 (IYAFA 2022) is a timely acknowledgement for small-scale fishers, fish farmers and fish workers to be recognized, thanked, and supported. FAO as the lead agency for celebrating IYAFA 2022, in collaboration with other relevant organizations and bodies of the United Nations system, is tasked with helping to coordinate the vision of IYAFA 2022 which looks forward to:

"A world in which small-scale artisanal fishers, fish farmers and fish workers are fully recognized and empowered to continue their contributions to human well-being, healthy food systems and poverty eradication through the responsible and sustainable use of fisheries and aquaculture resources".

IYAFA 2022 provides all stakeholders the momentum to implement the Voluntary Guidelines for Securing Sustainable Small-Scale Fisheries in the Context of Food Security and Poverty Eradication and contribute to achieving Sustainable Development Goal 14.b, which is to "Provide access for small-scale artisanal fishers to marine resources and markets." IYAFA 2022 also puts a spotlight on small-scale aquaculture producers through the United Nations Decade of Family Farming 2019–2028.

Achieving this is part of FAO's mandate as prescribed by our Member Nations for agrifood systems transformation. It needs a concerted response from governments, international organizations, donors, civil society and non-government organizations, academic and research institutions, together and with small-scale fishers, fish farmers, fish workers and their organizations.

This photobook is a celebration of the diversity, innovation and resilience of small-scale fisheries and aquaculture farmers in the Asian region. So let us all take the opportunity provided by IYAFA 2022 to give back to our small-scale fishers, fish farmers and fish workers. They require safe and decent working and living conditions, social protection, a voice in decision-making processes, infrastructure and services, and healthy, productive, and pollution-free aquatic ecosystems that they and their future generations deserve and which we are bound to deliver through the achievement of the Sustainable Development Goals.

Jong-Jin Kim

Assistant Director-General and FAO Regional Representative for Asia and the Pacific

Acknowledgements

This photobook is an output under a Letter of Agreement between the FAO Regional Office for Asia and the Pacific and INFOFISH.

Special thanks are due to the many local, national and regional organizations, authorities, and other stakeholders who have made it their mission to shine a spotlight upon the men, women and children in the small-scale fisheries and aquaculture sector in the unshakeable belief that they and their contributions matter.

The most important acknowledgement goes to the millions of small-scale fishers, fish farmers, and fish workers throughout the world who harvest, process, and market fish and fishery products, often under difficult and tiring conditions. The world is indebted to them.









Village panchayat member at the first demonstration shrimp farm sited in an inland salt-affected wasteland area in Pal Gam, Jodhpur, Rajasthan, India. The farm aims to raise livelihoods.

©Manoj Sharma



Small-scale fisheries employ more than 90 percent of the world's capture fishers and provide the primary source of animal protein for 17 percent of the world's population. Meanwhile, some 20 million people are directly engaged in aquaculture worldwide (FAO, 2020). This increases to up to 50 million if indirectly engaged people are also considered. FAO also estimates that about 62 percent of food fish will come from aquaculture by 2030.

Despite their obvious importance as a source of food security, nutrition, and livelihoods, fisheries and aquaculture are consistently undervalued and overlooked in planning and development policies.

Mainstreaming the needs of small-scale fishers and fish farmers into food-security related policies, as well as broader economic and social development strategies, will enhance resilience and sustainability within the sector.

¹ FAO. 2020. The State of World Fisheries and Aquaculture 2020. Sustainability in action. Rome.



The International Year of Artisanal Fisheries and Aquaculture 2022 (IYAFA 2022)

The United Nations General Assembly has declared 2022 the International Year of Artisanal Fisheries and Aquaculture (IYAFA 2022). FAO is the agency leading the advocacy activities for the Year, in collaboration with other entities of the United Nations. Celebrating IYAFA 2022 gives important recognition to the millions of small-scale fishers, fish farmers and fish workers who provide healthy and nutritious food to billions of people and contribute to achieving Zero Hunger.

The objective of celebrating IYAFA 2022 is two-fold: the Year aims to focus world attention on the role that small-scale fishers, fish farmers and fish workers play in food security and nutrition, poverty eradication and sustainable use of natural resources and thereby increasing global understanding and action to support them. The celebration is also an opportunity to enhance dialogue between different actors, and strengthen small-scale producers to make their voices heard so that they can influence the decisions and policies that shape their everyday lives all the way from local community level to international and global fora.

What is 'artisanal' and 'small-scale'?

There is no universal definition for what type of fisheries or aquaculture count as 'artisanal' or 'small-scale'. Commonly, these terms are used for describing fisheries and aquaculture that use relatively small production units with low input and output, and low levels of technology or capital investment. Fishing for sport or recreation are excluded.

- Approximately 60.2 million people were employed part-time or full-time along the small-scale fisheries and aquaculture value chain in 2016.
- · This confirms that small-scale fisheries and aquaculture account for almost 90 percent of global fisheries employment.
- Women account for 30 percent of the total employment in small-scale fisheries and aquaculture (20.9 million).
- An additional 52.8 million people were estimated to engage in subsistence fishing at least once a year in 2016. Some 23.8 million of these are women (45.2 percent).
- At least 40 percent of global catch comes from small-scale fisheries and aquaculture.

The Global Action Plan

The Global Action Plan (GAP) for IYAFA 2022 was developed to build global momentum to empower small-scale artisanal fisheries and aquaculture and secure a sustainable future for these important sectors. The GAP provides inspiration for small-scale artisanal fisheries and aquaculture proponents including, but not limited to, national administrations, non-governmental organizations, civil society organizations, private enterprises, development agencies and intergovernmental bodies.

The Global Action Plan is structured around seven Pillars:

- Pillar 1: Environmental sustainability: Use biodiversity sustainably for the longevity of small-scale artisanal fisheries and aquaculture.
- Pillar 2: Economic sustainability: Support inclusive value chains for small-scale artisanal fisheries and aquaculture.
- Pillar 3: Social sustainability: Secure social inclusion and well-being of small-scale artisanal fisheries and aquaculture.
- **Pillar 4:** Governance: Ensure effective participation of small-scale artisanal fisheries and aquaculture in building and strengthening enabling policy environments.
- Pillar 5: Gender equality and equity: Acknowledge that women and men in small-scale artisanal fisheries and aquaculture are equals.
- **Pillar 6:** Food security and nutrition: Promote the contribution to healthy diets from small-scale artisanal fisheries and aquaculture in sustainable food systems.
- **Pillar 7:** Resilience: Increase the preparedness and adaptive capacity of small-scale artisanal fisheries and aquaculture to environmental degradation, shocks, disasters and climate change.





Supporting the Sustainable Development Goals (SDGs)

On 25 September 2015, the 194 countries of the United Nations General Assembly adopted a bold new vision for the future entitled "Transforming our world: the 2030 Agenda for Sustainable Development." The 2030 Agenda identifies 17 Sustainable Development Goals (SDGs) that aim to "ensure that all human beings can fulfil their potential in dignity and equality in a healthy environment."

The International Year of Artisanal Fisheries and Aquaculture 2022 (IYAFA 2022) will stimulate action to achieve the Sustainable Development Goals by 2030. SDG 14: Life Below Water is often seen as the primary goal for the fisheries sector, involving the oceans, seas, and marine resources. However, small-scale fisheries and aquaculture, because of their complexity and cross-cutting relevance, require a holistic approach encompassing several additional SDGs related to livelihoods and poverty alleviation (SDG1), food security and protein intake (SDG2), gender equality as a fundamental human right (SDG5), economic growth and decent work for all (SDG8), climate action (SDG13), and working together to achieve common objectives (SDG17).





Supporting greater resilience, inclusivity and sustainability

The Blue Transformation strategy

In 1995, FAO Member Countries endorsed the Code of Conduct for Responsible Fisheries (CCRF) which establishes principles for responsible fisheries and aquaculture development. In the years since then, there has been significant progress: greater stability in capture fisheries production; aquaculture production now provides about

half of the fish we eat; fish consumption has grown at twice the human population growth rate; and fish has become one of the most highly traded food commodities, providing a larger net income for developing countries than all other agricultural commodities combined.

At the same time, global human population is ever-increasing and many challenges remain inadequately addressed, including overfishing, equitable access to resources, threats to biosecurity and climate change. Fisheries and aquaculture therefore were thought to need targeted transformation to ensure resilience in aquatic food systems, food safety, and sustainable socio-economic ecosystems.

Consequently, in its 2021 Declaration for Sustainable Fisheries and Aquaculture, the FAO Committee on Fisheries (COFI) outlined a number of areas where additional effort is needed to promote more efficient, inclusive, resilient and sustainable aquatic food systems, and to increase the contributions of the sector to the objectives of Agenda 2030. The needs identified by the Declaration are captured in the vision and strategy of Blue Transformation, which has become a Priority Programme Area within FAO.

The Blue Transformation strategy outlines three important areas of focus:

- sustainable expansion and intensification of aquaculture to satisfy global demand for aquatic food and distribute benefits equitably;
- · effective management of all fisheries to deliver healthy stocks and secure equitable livelihoods; and
- upgraded value chains to ensure the social, economic and environmental viability of aquatic food systems.

Through the effective implementation of Blue Transformation, it is estimated that the annual per capita consumption of fish and fish products could grow from the current 20 kg to 25.5 kg by 2050. Such a per capita growth as we approach 10 billion people would make a significant contribution to address hunger and malnutrition.

Blue Transformation initiatives therefore will help to meet several important SDG14 targets as well as those linked to SDG2 (End hunger); SDG8 (Promote inclusive and sustainable economic growth, employment and decent work for all); SDG12 (Ensure sustainable consumption and production patterns); SDG13 (Take urgent action to combat climate change and its impacts); and SDG17 (Strengthen means of implementation and revitalize global partnerships for sustainable development).

The Small-Scale Fisheries Guidelines: A tool for delivering the Sustainable Development Goals

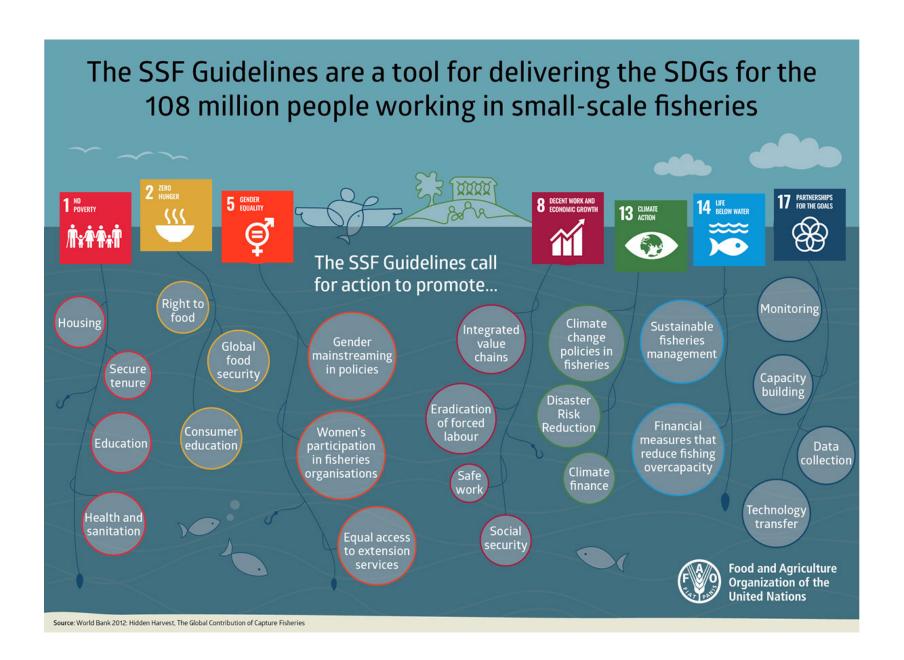
The Voluntary Guidelines for Securing Sustainable Small-Scale Fisheries in the Context of Food Security and Poverty Eradication (SSF Guidelines) are the first internationally agreed instrument dedicated entirely to the immensely important – but until now often neglected – small-scale fisheries sector. These Guidelines complement the Code of Conduct for Responsible Fisheries, which, alongside the fishing provisions of the United Nations Convention on the Law of the Sea, is the most widely recognized and implemented international fisheries instrument.

The SSF Guidelines are intended to support the visibility, recognition and enhancement of the role of small-scale fisheries and to contribute to global and national efforts towards the eradication of hunger and poverty. They support responsible fisheries and sustainable social and economic development for the benefit of current and future generations, with an emphasis on small-scale fishers and fish workers and including vulnerable and marginalized people. The Guidelines are voluntary, global in scope and with a focus on the needs of developing countries (contact SSF-Guidelines@fao.org for further information).

SDG target 14.b is specific to small-scale fisheries: "Provide access for small-scale artisanal fishers to marine resources and markets." SDG indicator 14.b.1 measures the "Progress by countries in adopting and implementing a legal/regulatory/policy/institutional framework which recognizes and protects access rights for small-scalefisheries."

IYAFA 2022 provides an excellent opportunity to step up the implementation of the SSF Guidelines and contribute to the achievement of SDG 14.b.





Supporting healthy, productive communities

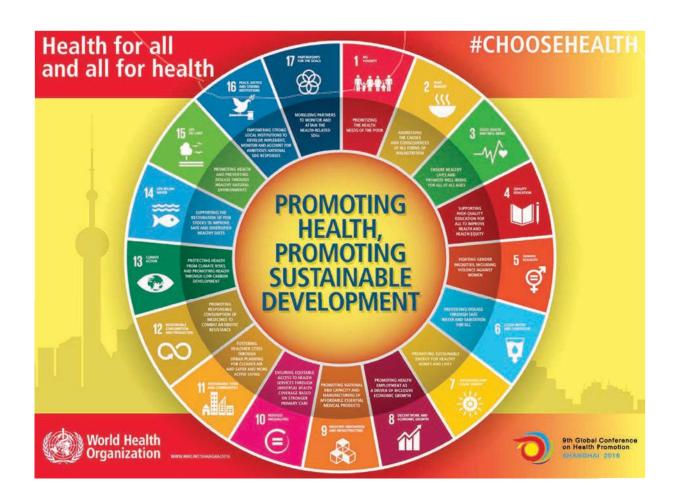
United Nations Decade of Family Farming, 2019 - 2028

As IYAFA 2022 falls within the UN Decade of Family Farming (UNDFF 2019–2028), the two celebrations will complement one another and provide greater visibility to small-scale producers. The pillars of the UNDFF aim to integrate the three dimensions of sustainable development (economic growth, social inclusion and environmental protection) as well as support participation and partnerships among different actors.

The UNDFF Global Action Plan provides an extensive list of activities through various modalities of action, including: data collection pertaining to specific issues, advisory and extension services, and communication and advocacy activities tailored to target groups. Developing the capacities of family farmers and other stakeholders across a wide spectrum must be reinforced as a key component, along with strengthening inclusive governance mechanisms.

IYAFA 2022 is also a timely reminder for the global community to honour the political commitments made in Shanghai in 2016 during the World Health Organization's 9th Global Conference on Health Promotion. This event was a political watershed because it positioned health promotion within the 2030 Agenda; in particular SDG3 which focuses on ensuring healthy lives and promoting well-being for all people at all ages.

#ChooseHealth and leave no one behind.





Feeding tra catfish (Pangasianodon hypophthalmus) on a family-operated farm in the Mekong Delta, Viet Nam.

©Network of Aquaculture Centres in Asia-Pacific







Demersal fish, including the red bigeye fish and the glistening silvers of sardines, ponyfish and scad constitute the bulk of catches in the waters of Guimaras Strait, Philippines. These small fish sustain the livelihoods of numerous small-scale capture fishers in the region. At the same time, they are important links in the marine food web as the prey of top predators. Hence, an inclusive resource management system must include a focus on sustainable fishing of both economically and ecologically important species.

Snapshots from Asia: capture and culture

Asia is home to the majority of the world's fisheries and aquaculture producers. Small-scale fisheries and aquaculture play complementary roles in contributing to food security, poverty alleviation and employment opportunities. Owing to the expansion in aquaculture, the fisheries sector increasingly contributes to the volume and value of trade in export markets, representing an important source of foreign exchange.

With regard to culture, FAO fishery statistics indicate that Asia is the largest aquaculture producer in the world, accounting for 92 percent of the liveweight volume of animals and seaweeds in 2017. By far the main producer is China, with India, Viet Nam and Bangladesh making rapid strides.

In comparison to the capture sector, women in Asia are more visible in the farming of aquatic species. In 2018, the proportion of women fish farmers as primary producers in Asia was about 19 percent, while that in fisheries was about 10 percent. As more women work in the post-harvest stage such as processing, their actual contribution to the aquaculture sector is higher than reported (FAO, 2020).²

² FAO. 2020. The State of World Fisheries and Aquaculture 2020. Sustainability in action. Rome.



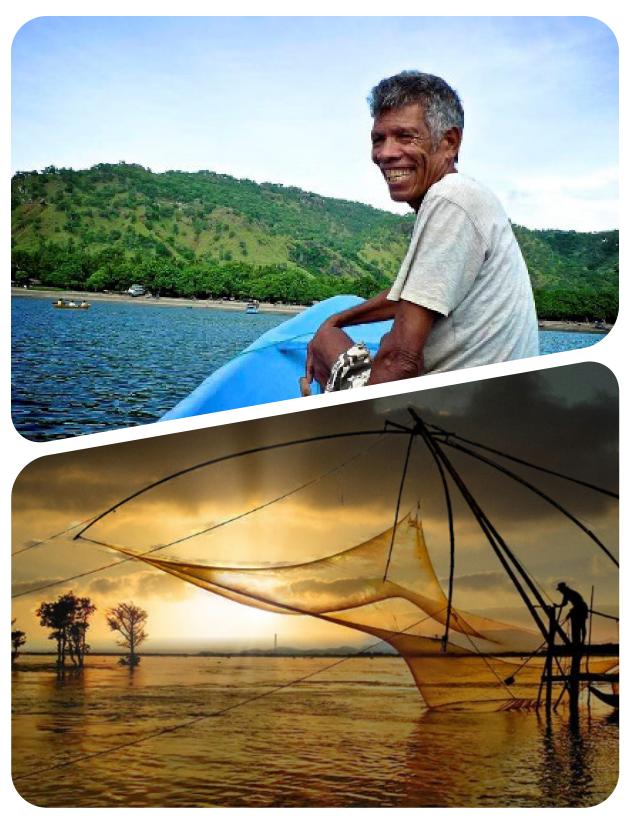


Capture fisheries

One of the challenges faced by the small-scale sector is competition from bigger, more mechanized vessels owned by the industrial sector. The SSF Guidelines addresses this, stressing that small-scale fishing communities must have equitable access to the resources that form the basis for their social and cultural well-being, their livelihoods and their sustainable development.

Small-scale fisher in Atauro Island, Timor-Leste.

©Francisco Blaha



Fishing in the Mekong river, Can Tho province, Viet Nam.

©Nguyen Huu Dzung



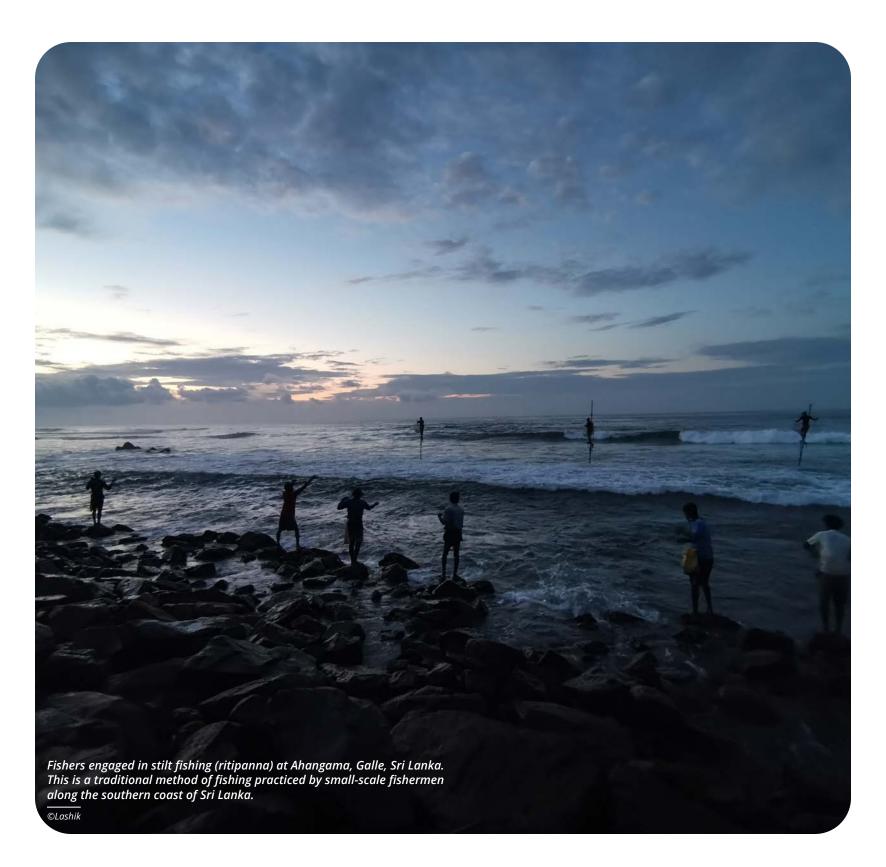
These women working at Cox's
Bazar are migrants from other
areas of Bangladesh. This is one
of the largest marine fisheries
landing areas and is a centre
for fish drying/dehydrating and
salting. The women are dressing
sea perch, after which they will
add salt and dry the fish in the sun
on drying hangers. They work for
about six hours (7 a.m. - 1 p.m.)
but are paid less wages compared
to male workers. Most of the male
members of their families are
fishers.

©Habibur Rahman Khondaker



Bringing home the day's catch, Malaysia.

©Department of Fisheries, Malaysia

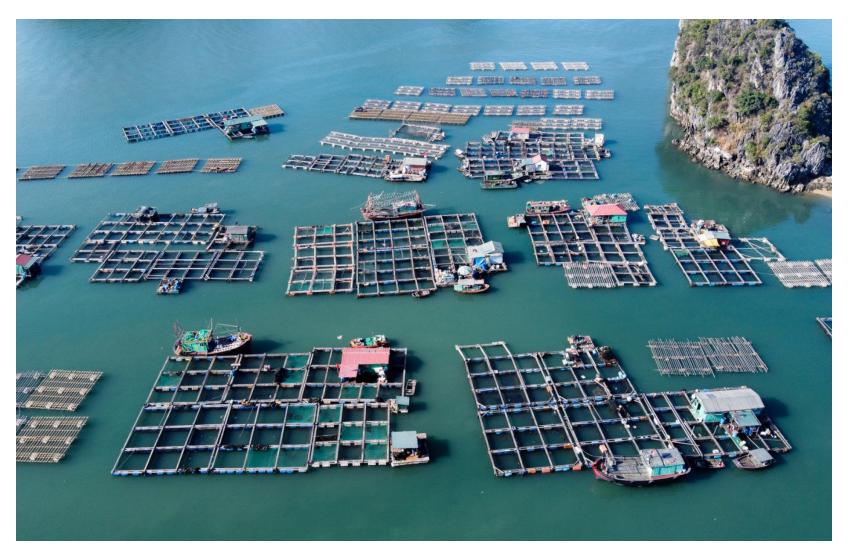




Culture of aquatic species

Fish farming is dominated by Asia, which has produced 89 percent of the global total in volume terms in the last 20 years. Over the same period, the shares of Africa and the Americas have increased, while those of Europe and Oceania have decreased slightly. Outside China, several major producing countries (Bangladesh, Chile, Egypt, India, Indonesia, Norway and Viet Nam) have consolidated their shares in world aquaculture production to varying degrees over the past two decades. China has produced more farmed aquatic food than the rest of the world combined since 1991.³

³ FAO. 2020. The State of World Fisheries and Aquaculture 2020. Sustainability in action. Rome.



Fish cages at Ong Cu island, Cam Pha city, Quang Ninh province, Viet Nam.

©Nguyen Huu Dung





Typical homestead pond with fruit trees on pond dikes and vegetables grown on trellises, Mymensingh, Bangladesh.



Village women preparing check tray for monitoring shrimp growth in ponds, India.

©Manoj Kumar



Milkfish harvested from a farm in Malaysia.

© Joelyn Sentina



Talaad Thai in Pathum Thani Province is the largest wholesale food market in Southeast Asia. Snakeskin gourami and a wide variety of live, fresh/chilled freshwater fish (wholesale/retail), fresh/chilled seafood and dried fish products are sold in this retail outlet.

©INFOFISH



Lobster farming in Viet Nam.

©Nguyen Huu Dung



The SSF Guidelines recognize the need for responsible and sustainable use of aquatic biodiversity and natural resources in line with its Guiding Principles which include human rights and dignity; equity and equality; economic, social and environmental sustainability; holistic and integrated approaches; and social responsibility.

Small-scale fisheries are generally portrayed as being sustainable due to their relatively low impact on the environment as compared to the industrial sector. However, the incidence of small-scale fishers using poisons and explosives as well as highly destructive fishing gears and small-meshed nets to harvest ever-declining resources is also well-documented.

The majority of small-scale farmers in Asia are involved in freshwater aquaculture which is predominantly centred around ponds and cages managed by households or communities; or integrated into local traditions and activities such as rice–fish farming. Consequently, small-scale aquaculture activities meet many of the aims contained in the SSF Guidelines such as economic, social and environmental sustainability. Diseases wiping out entire stocks, poor water quality, and low-quality feeds are some of the challenges faced by farmers.

Shrimp fry distribution at Harekrishnapur, West Bengal, India.

©Manoj Sharma

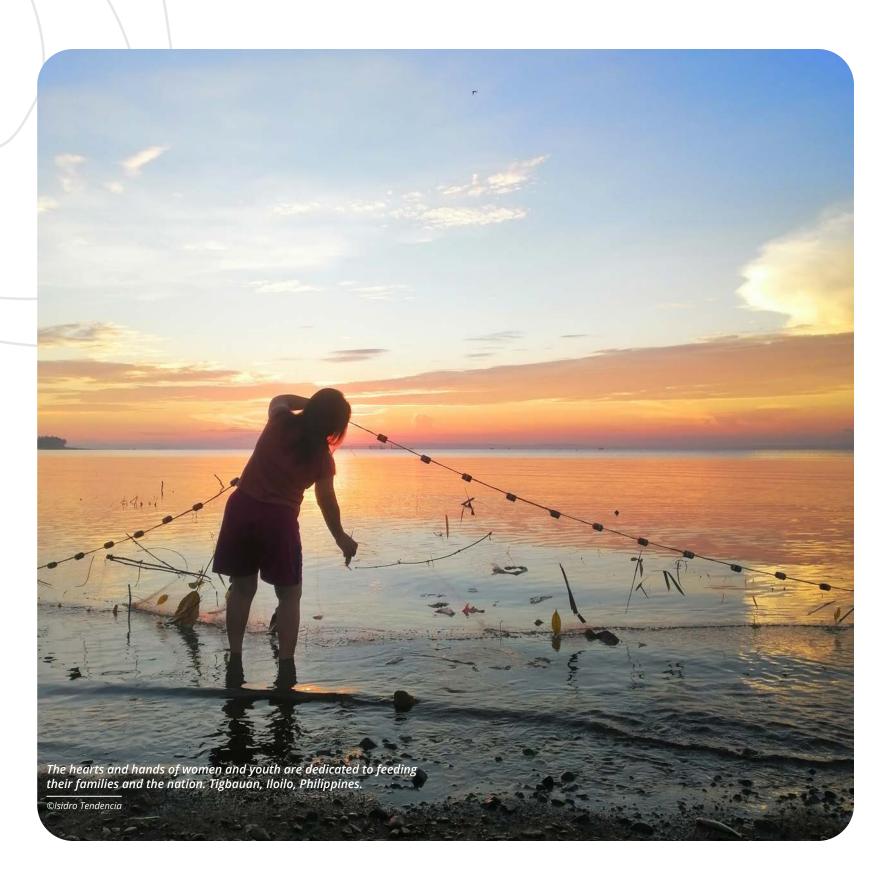




Snapshots from Asia: from harvest to table

With the global population expected to reach 9.8 billion by 2050, harvesting responsibly; reducing post-harvest losses; adding value to small-scale fisheries and aquaculture production; ensuring proper transport and storage conditions; and facilitating sustainable trade and equitable market access build upon each other to form a value chain. Initiatives to strengthen each link in the chain are highlighted as priorities in the SSF Guidelines and the 2030 Agenda for Sustainable Development.

Central to guaranteeing the contributions of small-scale fisheries and aquaculture to sustainable nutritional security is addressing post-harvest food losses/food waste (FLW), and the first step is to understand why and where food loss and waste happen. In fact, by its very nature, small-scale fisheries and aquaculture are more aligned with sustainability goals than commercial initiatives; and yet, significant post-harvest losses occur in these sectors. So crucial is this issue that the FAO has set up a specific website specifically for FLW (https://www.fao.org/flw-in-fish-value-chains/en) covering capture fisheries, aquaculture, processing and storage, wholesale, transport, retail, and consumption. Reducing FLW will contribute to the objectives of at least six United Nations Sustainable Development Goals (SDGs).





Drying Gracilaria seaweed in Ujung Baji village, Takalar district of South Sulawesi, Indonesia. In this village, 80 percent of the men and women work together in seaweed farming and have organized themselves in a farmers' group (Makio Dalle). The dried seaweed from the village is sent to a cooperative in Makassar city where it is sent to either a seaweed processing plant on Java Island or exported overseas. Indonesia is one of the largest Gracilaria seaweed producers in the world and home to around 20 Gracilaria seaweed processors producing agar for domestic and export markets.





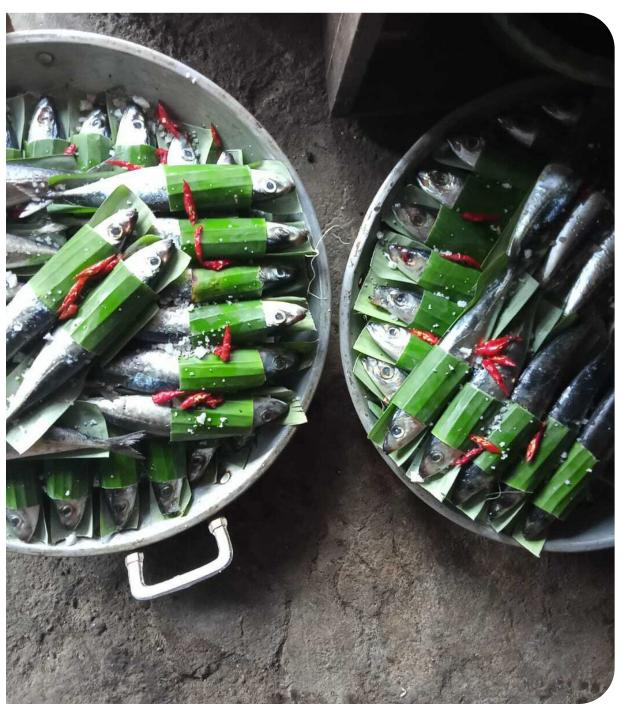
"Rani Kutti" is laying processed fish on a mat for sun drying at Wellaweediya, Negombo Sri Lanka.

©*Lashik*





Milkfish (bangus) harvested from bamboo fish cages operated by this small-scale fisher in the Philippines. Encouraged by the rise in her income, she intends to install an additional bamboo cage and eventually hopes to create jobs in her community by hiring people as labourers in this venture.



Small pelagic fish wrapped with banana leaves and sprinkled with salt and chillies, ready for boiling. The species are usually tongkol (Euthynnus affinis), or mackerel tuna (kawakawa). The banana leaves are used to prevent belly burst during boiling, but in other areas, paper may be used instead. Tegal, Central Java, Indonesia.

©Achmad Poernomo

Realization of SDG14b, which calls for improved access to markets by small-scale fisheries, is still a long way off in every region of the world. In part, this is due to the structure of prevailing value chains where the power to set prices and negotiate with buyers is firmly in the hands of traders or trade organizations, as well as market structures themselves which are contrary to the nature of small-scale fisheries. Even at landing sites, village markets and roadside stalls, the fishery products may already have been traded at least once from the point of harvest. Access to international markets brings extra levels of difficulty; for example, the inability to fulfil traceability criteria.

And yet, time and again, the small-scale sector has proven itself to be adaptable and resilient, given the necessary tools. Most recently, informal reports have related how in the face of closed market channels due to the COVID-19 pandemic, there were incidences of small-scale fishers who took their first steps into e-commerce using websites and social media.

In this regard, the International Year of Artisanal Fisheries and Aquaculture 2022 (IYAFA 2022) serves as a timely reminder that the SSF Guidelines call for increased focus on capacity building within the sector, and an enabling environment in which to thrive.



Celebrating the diversity of small-scale fisheries in Asia

In 2018, an estimated 50.38 million people were directly engaged in fisheries and aquaculture in Asia, representing 85 percent of the global total. The SSF Guidelines describes small-scale fisheries as encompassing these wide-ranging activities undertaken throughout the value chain by both men and women in inland and marine fisheries, including harvesting from boats and on foot, along with pre- and post-harvest labour that occurs on land.



Nowadays, fishing operations in villages in China are mainly carried out by middle-aged and elderly people.

©Mingzhi Chen



Women in fisheries: An estimated 59.51 million people were engaged (on a full-time, part-time or occasional basis) in the primary sector of capture fisheries (39.0 million people) and aquaculture (20.5 million people) in 2018, a slight increase from 2016. Women accounted for 14 percent of the total, with shares of 19 percent in aquaculture and 12 percent in capture fisheries. Of all those engaged in primary production, most are in developing countries, and the vast majority are artisanal fishers and aquaculture workers. The highest numbers of workers are in Asia (85 percent), followed by Africa (9 percent), the Americas (4 percent), and Europe and Oceania (1 percent each). When post-harvest operations data are included, it is estimated that one in two workers in the sector is a woman.⁴ When women are given the support that they need and they become successful, the balance of power within their family and social environment shifts.

Apart from gleaning and casting nets from the shoreline, women are rarely the ones doing the actual fishing. Instead, they constitute the main bulk of the labour force in the processing and small retail sub-sectors. Nevertheless, their contribution to the landed value globally is around USD 5.6 billion.

Peddling fish to increase income for the family and enhance access to fish protein for the community, Tigbauan, Iloilo, the Philippines.

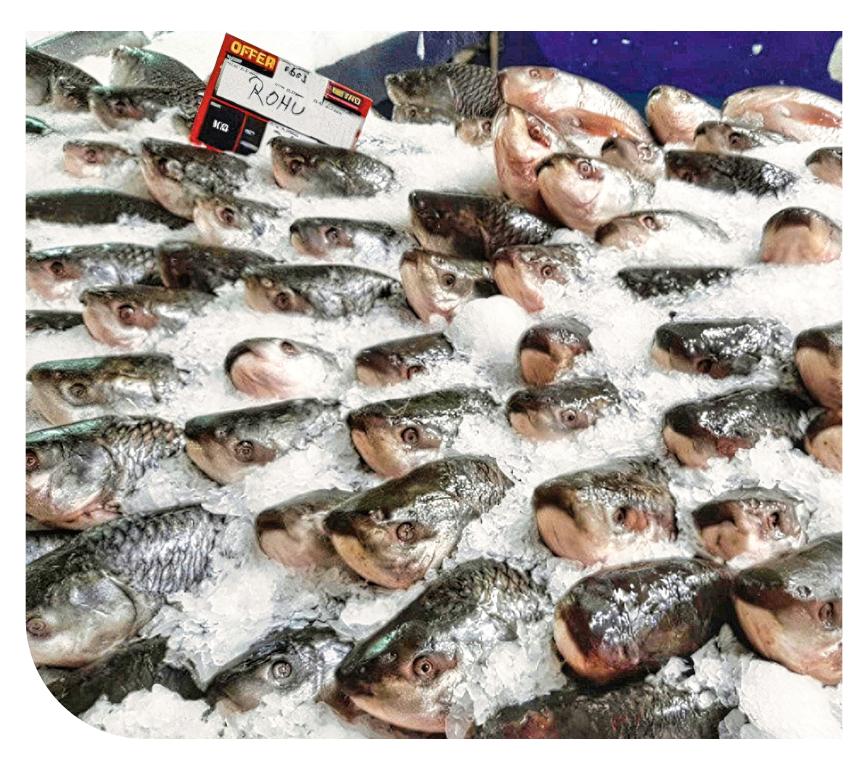
©Isidro Tendencia

⁴ FAO. 2020. The State of World Fisheries and Aquaculture 2020. Sustainability in action. Rome.



Cleaning and removing the shells of green mussels, Serang, West Java, Indonesia.

©Udin, Suryanto and Poernomo



Fresh chilled rohu in a supermarket in Islamabad, Pakistan.

© INFOFISH/ Shirlene Maria Anthonysamy



Small scale processing of fish sausages (lekor), Mersing, Johor state, Malaysia. This is a traditional Malay fish snack originating from the state of Terengganu, Malaysia, made from fish (bream or herring) and sago flour, and seasoned with salt and sugar. The word lekor is said to be derived from a Terengganu Malay word meaning "to roll".

©INFOFISH









Hidden from view

"The development and implementation of socially, economically and environmentally sustainable small-scale fisheries policies, legislation and legal frameworks" mentioned in the Voluntary Guidelines for Securing Sustainable Small-scale Fisheries in the Context of Food Security and Poverty Eradication (SSF Guidelines) remains a major challenge throughout Asian small-scale fishing communities. Unfortunately, fisherfolk themselves as well as organizations linked to the sector, especially in the developing world, are largely absent in economic and political decision-making at national level. A major problem has always been that catches from small-scale fisheries and aquaculture are under-represented in the fisheries statistics of many developing countries, and therefore their scale is under-estimated.

In a bid to address information gaps, FAO, Duke University, and WorldFish have conducted a study in 58 country and territory case studies called "Illuminating Hidden Harvests: The Global Contribution of Capture Fisheries" to generate and disseminate new evidence about the benefits, interactions and impacts of small-scale fisheries to inform policy and practice. The publication of its full findings is forthcoming but some of the salient facts are as follows:

- 40 percent of global catch (37 million tonnes) comes from small-scale fisheries and aquaculture;
- 47 percent and 31 percent of total catch in Asia and the Pacific come from small-scale fisheries and aquaculture respectively;
- · inland fisheries make up almost 34 percent of small-scale fisheries and aquaculture catch in Asia;
- 46 million livelihoods in Asia and the Pacific are dependent on small-scale fisheries and aquaculture;
- · worldwide, 492 million depend at least partially on small-scale fisheries and aquaculture.





The "Illuminating Hidden Harvests" study looks at the contributions of small-scale fisheries and aquaculture to sustainable development, in line with the Sustainable Development Goals and the Voluntary Guidelines for Securing Sustainable Small-Scale Fisheries.



Mainstreaming small-scale fisheries and aquaculture policies into national frameworks

The tremendous potential of both fisheries and aquaculture can only be realized when fisher and farmer communities are fully involved in discussions on sustainability and co-management of resources. In this aspect, governments have a role in introducing or enhancing legislation based on guidance such as the SSF Guidelines and the FAO Code of Conduct for Responsible Fisheries.

Involving the small-scale fisheries and aquaculture sector in decision-making processes is an effective approach to enhance governance in the sector and build sustainable regional fisheries management frameworks, as highlighted in the SSF Guidelines. Also mentioned in the Guidelines is the need to ensure that this participation is equitable and representative of all groups which may otherwise be marginalized by gender, age, socioeconomic background, power imbalances, and political affiliation.

The primary stakeholder in this process must be governments, so that relevant policies can be enacted and implemented, such as marine spatial planning which defines clear spaces for small-scale fishers, industrial development, land reclamation for development, offshore energy facilities, tourism, and marine conservation reserves. Against this background, it is easy to see how the interests of small-scale fisheries can be overlooked and their full participation in the socio-economic fabric of the country denied.

Some of the entry points in increasing the contribution of small-scale fisheries and aquaculture to poverty alleviation and food security include:

- policy in support of the poor;
- · legislation in support of the poor;
- · implementing policy and legislation;
- · cross-sectoral solutions;
- fisheries management solutions;
- financing poverty reduction;
- · making markets work for the poor; and
- · information and communication.



Building capacity, one step at a time

In building capacity and resilience within the small-scale fisheries sector, policymakers have the responsibility to formulate sustained and coherent programmes and activities based on the vast traditional knowledge of the small-scale fishers themselves. Ensuring effective, meaningful and informed participation of small-scale fishing communities, including indigenous peoples, takes into account the UN Declaration on the Rights of Indigenous Peoples (UN DRIP) in the whole decision-making process.

Key enabling factors/recommendations

- government commitment to decentralization is vital;
- there needs to be a positive and supportive policy/regulatory environment at all levels (national as well as provincial, district or village) or the political will to make any necessary changes;
- high-level support is needed from central government as well as top-level local administrative officers;
- government commitment is backed up with allocation of resources (human and financial) at all levels;
- key government counterparts are released full-time for the duration of any project/ programme, with specific terms of reference; and
- policy is non-discriminatory against women or any other stakeholder group.

Source: Regional Fisheries Livelihood Programme for South and Southeast Asia (RFLP): "Ten lessons for more effective co-management in small-scale fisheries". Published by the Asia-Pacific Fishery Commission, Food and Agriculture Organization of the United Nations (FAO,2013)











A role for everyone

Small-scale fisheries are multifaceted, being linked to issues such as socio-economic development, trade, gender equality, human rights, and protection of the environment. Collaboration, partnerships, as well as coherence in policy and action as advocated in the SSF Guidelines must form the bedrock in order to realize a prosperous and resilient future for small-scale fishing communities.

Fishers carrying a variety of fish species caught in Rongshanliao, Hainan Province, China.

©Mingzhi Chen





Selling chilled fish by the roadside, Sri Lanka.

©Lashik





Dried seaweed in the Philippines.

©Bureau of Fisheries and Aquatic Resources, Philippines

In this cage culture of tilapia, the fish are harvested after three months, with an average weight of 285 grams per fish. Fish wholesalers are also involved in this activity since the harvests are sold live for higher returns.

©Fishermen's Association, Paka, Terengganu, Malaysia.





A shared regional vision

States have their own national frameworks set up to manage their fisheries and aquaculture industry, including at the small-scale level. However, there are issues which are transboundary in nature and have an impact well beyond national borders. These include monitoring, control and surveillance regarding the exploitation of regional fishery resources, as well as biosecurity threats such as the whitespot syndrome virus (WSSV) which had ravaged shrimp farms in Asia in the 1990s.

Such issues of regional and global concern are referenced in many documents and plans of action, including FAO's groundbreaking 1995 publication "The Code of Conduct for Responsible Fisheries (CCRF)" which sets out principles and international standards of behaviour for responsible practices with a view to ensuring the effective conservation, management and development of living aquatic resources.⁵ States are called upon to cooperate at sub-regional, regional and global levels through fisheries management organizations, international agreements or other arrangements to promote conservation and management, ensure responsible fishing as well as effective conservation and protection of living aquatic resources, within their respective competences and in accordance with international law.

Regardless of formalized frameworks, cooperation, collaboration and networking in the pursuit of common goals and shared visions are nothing new for many institutions worldwide, including organizations in Asia with a mandate in fisheries and aquaculture development. In commemorating the International Year of Artisanal Fisheries and Aquaculture 2022, the following pages contain messages from several of these organizations, preceded by comments from the IYAFA 2022 International Steering Committee Representative for Asia.

⁵ https://www.fao.org/resilience/resources/resources-detail/en/c/273397/



Message from Indonesia, IYAFA 2022 International Steering Committee Representative for Asia

On behalf of the Ministry of Marine Affairs and Fisheries (MMAF) of the Republic of Indonesia, I would like to take this opportunity to congratulate the commemoration of IYAFA 2022. Allow me to reiterate that the role of small-scale fisheries in Indonesia has been strategic and the sector is an important element of the national economic backbone.

The central issue related to small-scale fisheries is, among others, the low priority accorded to the welfare of small-scale fishers. Therefore, it is crucial for us to adopt policies directly aimed at tackling the root causes of poverty from the perspective of fisheries. In this regard, Indonesia has issued Law Number 7 of 2016 on Protection and Empowerment of Fishers, Fish Farmers, and Salt Farmers; and Government Regulation Number 50 of 2015 on Empowerment of Small-Scale Fishers and Small-Scale Fish Farmers. MMAF translates the Law and Regulation into programmes and activities to support the livelihoods of small-scale fishers. These programmes and activities include *Sehat Nelayan* (Land Certification), *Asuransi Nelayan* (Fisher Insurance), facilitation of access to capital, business diversification, business registration, and *Kampung Nelayan Maju/Kalaju* (Developed Fishing Villages).

Indonesia is also currently preparing a breakthrough policy called *Penangkapan Ikan Terukur* (Measurable Fishery) which will transform the fishing system, originally carried out through licensing, into a more regulated sector. It will limit the amount of fish caught by business actors by applying a catch quota according to the carrying capacity of each fish commodity in each Fishery Management Area of the Republic of Indonesia (WPPNRI).

It is my expectation that IYAFA 2022 will be another milestone for small-scale fisheries and serve as a reference in small-scale fisheries development. Indonesia is committed to demonstrating continuous support to develop small-scale fisheries at national, regional, and international levels.

Muhammad Zaini

Director General of Capture Fisheries Ministry of Marine Affairs and Fisheries (MMAF) of the Republic of Indonesia



Bay of Bengal ProgrammeInter-Governmental Organisation

The declaration of the Year 2022 by the United Nations General Assembly as the International Year of Artisanal Fisheries and Aquaculture, recognizes the significance and value of this sector to the food security and sustainable livelihoods of the poor. In the Bay of Bengal region, the artisanal fisheries and aquaculture sector (AFAS) holds the key. It is the provider, nourisher, and also the protector. Artisanal fisheries are synonymous with low-impact fisheries as shown in its synergetic existence from time immemorial.

In the post-pandemic world, it is even more important for us to appropriate the role of artisanal fisheries and aquaculture to align its contributions in consonance with the Sustainable Development Goals (SDGs). We have seen three specific roles of the AFAS sector which have contributed to the SDGs significantly: (i) livelihoods creation in a resource-deficient environment; (ii) women's engagement; and (iii) micro-level nutritional security. However, the sector is still disenfranchised from macro-development in multiple aspects, especially ensuring human rights and beneficial access to capital and the product markets.

To address these issues, the BOBP-IGO is implementing a structural programme, "Reimagining fisheries management" with the objectives of promoting evidence-based management of fisheries and data-driven decision-making at the ground level. In the changing world, to capture the value of artisanal fisheries practices and to evolve it as a choice rather than as a last resort, we need to document the best artisanal fishing practices well, and to capitalize on its sustainability quotients. This would also help in promoting responsible fisheries with an ecosystem approach to fisheries management.

We at BOBP-IGO intend to strengthen its core activities including promotion of safety at sea. Meanwhile, it is heartening to note that the health and occupational safety of fishers are now better mainstreamed and that there is increasing attention on formal credit and insurance services. This, however, is not a solitary journey, but a shared dream and a rally that we all should embark on-together.

Thank you!

The Network of Aquaculture Centres in Asia-Pacific (NACA) expresses its support of the International Year of Artisanal Fisheries and Aquaculture 2022

Dr P Krishnan

Director, Bay of Bengal Programme Inter-Governmental Organisation



International Collective Support of Fishworkers (ICSF)

The United Nations' proclamation of 2022 as the International Year of Artisanal Fisheries and Aquaculture 2022 (IYAFA 2022) is an occasion to celebrate the relevance of small-scale fisheries and aquaculture in reducing poverty and ensuring food security. There is need to celebrate it at the international, regional, national and local levels with the active participation of food producers: fishers, fish farmers and fishworkers and their organizations, indigenous peoples, women and youth in rural communities (both marine and inland).

IYAFA 2022 is an opportunity for governments at various levels to join hands and to demonstrate how they are addressing the concerns of the vulnerable and marginalized in fisheries and aquaculture-dependent communities by promoting their legitimate interests and by protecting their tenure rights to land, water and fishery resources both in the marine inland contexts; and by protecting their access to markets (SDG 14.b). The governments can further highlight how they are undertaking disaster preparedness to protect fishers and fish farmers from climate change impacts, extreme weather events and related shocks (SDG 1.5 and 13.1), and loss of income and decreased productivity from pandemics such as COVID-19.

IYAFA 2022 is also an opportunity for governments to uphold their obligations regarding the human rights of fishers, fishworkers, workers engaged in aquaculture and migrant workers (especially their right to decent work) and the elimination of child labour and forced labour in fisheries and aquaculture. It is an occasion for governments to show their commitment to gender equity and equality, and how they are keen to safeguard and strengthen the institutions of fishers, fishworkers and fish farmers such as cooperatives, associations and trade unions towards improving participatory governance.

Further, celebrating IYAFA 2022 is an opportunity to showcase the culture, traditional, indigenous and local knowledge of fishers, their fishing gear and methods, boat-making, gear-setting and fish processing techniques, and their ways of conserving and equitably sharing fishery and natural resources through collective action.

Observing IYAFA 2022, needless to say, can bring greater visibility to the contribution of small-scale fisheries and aquaculture to food security and poverty reduction consistent with the FAO 2014 SSF Guidelines, and the need to sustain these activities in the face of unprecedented value chain disruptions facing small-scale fisheries and aquaculture-dependent communities worldwide since 2019. Hopefully, IYAFA 2022 will garner support for small-scale fisheries and aquaculture from a wide range of stakeholders and concerned parties around the world.

Sebastian Mathew

Executive Director, International Collective in Support of Fishworkers (ICSF)



International Union for Conservation of Nature (IUCN)

With about 90 percent of the world's 30 million fishers in Asia (FAO, 1998b) and roughly 80 percent of them as small-scale or artisanal fishers (IPFC, 1994), there is really nothing small about small-scale fishers in Asia when it comes to food security, nutrition and livelihoods. And yet, over the past 30 years, we have witnessed this invaluable sector of society becoming increasingly invisible: under-recognized for their contributions to the economy and to human wellbeing; under-appreciated for their unique knowledge when it comes to decision-making and governance arrangements for sustainable fishing; and in particular, undervalued when it comes to the vital and frequently unpaid role that women play in the labour force of almost all fisheries value chains in Asia.

In the meantime, small-scale fish workers and farmers have been undermined by the continued expansion and reach of the commercial fishing industry that has continued to plunder fisheries resources across the region, enabled by perverse incentives and political interests. A system of elite capture where the rich become richer and the poor become poorer. Addressing this polarized situation needs urgent action through robust global and national policy agreements for sustainable fisheries and effective, inclusive governance.

The post-2020 Global Biodiversity Framework's anticipated 30x30 target is expected to bring great positive impacts for mitigating biodiversity loss and the impacts of climate change, and places effective Protected and Conserved Areas (PCAs) management at the heart of national and global strategies, to deliver multiple benefits for nature and for people.

IUCN promotes multiple different types of PCAs, including Other Effective Area-Based Conservation Measures (OECMs) such as Locally Managed Marine Areas (LMMAs). These are local cost-effective and scalable solutions that address small-scale fisheries management challenges, safeguard food security, address coastal poverty, and help coastal communities to adapt to climate change, recognizing small-scale fishers as rights holders. Indonesia, the Philippines, Fiji, Solomon Islands, and Palau are among the countries to have effectively implemented LMMAs at scale in the Indo-Pacific Region. Indonesia alone has introduced LMMAs in 300 sites across the three provinces of Papua, Maluku and North Maluku, 200 of which have LMMA management regulations in place.

While these measures do not replace the need for robust international and national policies, laws and regulations for sustainable fisheries, and their effective enforcement, they do provide an opportunity and critical entry point for building social and political capital and recognition through a more bottom-up, inclusive, equitable, informed and collaborative area-based conservation measure, founded on fisher's knowledge and traditional management practices. These in turn represent a more holistic, rights-based, learning and management approach for biodiversity conservation and fisheries management, where state-and non-state actors and local stakeholders each play a vital role.

Dindo Campilan

Regional Director for Asia & Hub Director for Oceania International Union for Conservation of Nature (IUCN)



The Network of Aquaculture Centres in Asia-Pacific (NACA)

(IYAFA 2022). We are fully aligned with its objectives of focusing the world's attention on the role of small-scale fisheries, fish farmers, and fish workers in food security and nutrition, poverty alleviation, as well as sustainable use of natural resources.

Artisanal farming is the main livelihood and primary mode of operation for most of the small-scale farms and many large-scale extensive farms in the Asia-Pacific region. Artisanal workers across the aquaculture value chain contribute significantly to regional aquaculture development and face special challenges in confronting issues linked to sustainable livelihoods, globalization, international trade, maintaining environmental integrity, and the looming threat of climate change.

For more than 30 years, NACA has been instrumental in skills training, developing better guidelines, and responding to disease and other regional emergencies faced by artisanal farmers in small-scale farms and related communities in the region. NACA's new Strategic Plan (2020-2024) prioritizes the development of small-scale aquaculture by mobilising Members' resources to deliver services on education and training, information and networking, strategy and governance, and the concept of One Community with regard to technical assistance on productivity and sustainability, health and biosecurity, genetics and diversity, safety and quality, and emerging regional and global issues. We strongly encourage establishing networks focused on specific aquaculture subjects to build partnerships among research institutions, colleges, industries and artisanal producers to help small-scale farms adapt to challenges in facing sustainable development issues.

NACA would be delighted to work closely with Member governments and international organizations, including FAO, INFOFISH, and other relevant organizations, to create an enabling environment for sustainable livelihoods and development of artisanal aquaculture.

Dr Jie Huang

Director-General The Network of Aquaculture Centres in Asia-Pacific (NACA)



Southeast Asian Fisheries Development Center (SEAFDEC)

First of all, I would like to express my sincere gratitude to INFOFISH for inviting SEAFDEC to be part of this photobook to commemorate the International Year of Artisanal Fisheries and Aquaculture 2022 (IYAFA 2022).

SEAFDEC has been working toward sustainable fisheries in the Southeast Asian region, and we are fully aware that small-scale fisheries (including aquaculture) provides significant contribution to income generation, poverty alleviation, and food and nutrition security, either directly through fisheries production or indirectly across the value chains. Small-scale fisheries also provide employment opportunities for part-time, full-time, as well as seasonal jobs in combination with other agriculture activities. In the Lower Mekong River Basin alone, it is estimated that approximately 40 million of small-scale fishers and workers are involved in inland fisheries including in traditional fish processing practices in order to preserve large amounts of catches during the peak season.

As part of our work, SEAFDEC has been supporting countries in Southeast Asia to develop measures to ensure the sustainability of small-scale fisheries and aquaculture through several initiatives and programmes, as guided by relevant regional guidelines such as "Supplementary Guidelines on Co-Management Using Group User Rights, Fishery Statistics, Indicators and Fisheries Refugia; and the Voluntary Guidelines for Securing Sustainable Small-Scale Fisheries in the Context of Food Security and Poverty Eradication", among others. Moreover, the importance of small-scale fisheries and aquaculture was also highlighted in the recently adopted "ASEAN-SEAFDEC Resolution and Plan of Action on Sustainable Fisheries for Food Security for the ASEAN Region Towards 2030". Several aspects of small-scale fisheries in the region are being addressed, especially the insufficiency of data and information, the need for improved management through co-management and ecosystem approach to fisheries management, aquaculture feed formulations in small-scale fish farms, gender integration, impacts of COVID-19 on small-scale fisheries and aquaculture, and other issues.

SEAFDEC therefore appreciates the efforts made by several organizations in raising the profile of small-scale fisheries and aquaculture throughout the world including in the Southeast Asian region. We are indeed happy to be part of this significant celebration and we look forward to having closer cooperation with FAO, INFOFISH, and relevant agencies for the promotion of sustainable small-scale fisheries in the Southeast Asian region in the future.

Malinee Smithrithee

Secretary-General, Southeast Asian Fisheries Development Center (SEAFDEC)



Millions of people throughout the world who are involved in small-scale fisheries and aquaculture are far more important than is often realized. Not only do they contribute immensely towards food security, health, employment and poverty eradication in rural communities, they are the people who form the value chains which supply and prepare fishery species for trade in export markets.

It was to celebrate these unsung heroes that the United Nations decided to proclaim 2022 as The International Year of Artisanal Fisheries and Aquaculture 2022 (IYAFA 2022). It also acknowledges their importance as custodians of traditional knowledge and serves as a reminder to governments and other stakeholders that they are valuable partners in the formulation of policies and legal frameworks which aim to enhance governance in the sector.

According to FAO, in 2018, an estimated 50.38 million fishers, fish farmers and fish workers were directly engaged in fisheries and aquaculture in Asia, with millions more in post-harvest processing and marketing, many of them women. As an intergovernmental organization based in Asia since 1981 to provide marketing information and technical advisory services on regional fisheries and aquaculture, INFOFISH has always been keenly aware that they, more than anyone or anything else, are the people who really matter.

We therefore fully support the ideals contained in the IYAFA 2022 Global Plan for Action: environmental, economic and social sustainability; governance; gender equality and equity; food security and nutrition; and resilience. We pledge that even after IYAFA 2022 has ended, these ideals will continue to form the basis of our capacity building workshops, consultancies, studies, publications and other communication materials.

On behalf of INFOFISH, I extend my appreciation to our regional and international partners, notably FAO, with whom we are privileged to work in uplifting the small-scale fisheries and aquaculture sector in accordance with the ideals and goals of the IYAFA 2022 Global Action Plan and Agenda 2030, and guided by the human-rights principles of participation, accountability, human dignity, empowerment as well as the rule of law. We would also like to thank the FAO Regional Office for Asia and the Pacific for the opportunity to partner in the production of this e-photobook.

Together, let us look forward to the realization of the IYAFA 2022 Vision Statement of "a world in which small-scale artisanal fishers, fish farmers and fish workers of both genders are fully recognized and empowered to continue their contributions to poverty alleviation, human well-being and resilient and sustainable food systems through the responsible use of fisheries and aquaculture resources and socio-economic development".

Thank you.

Shirlene Maria Anthonysamy Director INFOFISH



" We play together, we will fish together. Protect fish for our future."

These healthy, happy boys are shown playing on fishing boats owned by their fathers who had returned back to the beach with catches in the late morning.

Fishers in this area use non-mechanized fishing boats which they construct innovatively using styrofoam, bamboo frames, wood planks and synthetic nets. The boats can be used in all wave and tide conditions in Cox's Bazar, Kolatoli Hatchery point, Bangladesh.







FAO REGIONAL OFFICE FOR ASIA AND THE PACIFIC fao-rap@fao.org www.fao.org/asiapacific/en/

FOOD AND AGRICULTURE ORGANIZATION OF THE UNITED NATIONS BANGKOK, THAILAND

