



Food and Agriculture
Organization of the
United Nations

FAO
FISHERIES AND
AQUACULTURE
TECHNICAL
PAPER

ISSN 2070-7010

671/1

Strengthening coherence between social protection and fisheries policies

Framework for analysis and action



المنارة للاستشارات

www.manaraa.com

Strengthening coherence between social protection and fisheries policies

FAO
FISHERIES AND
AQUACULTURE
TECHNICAL
PAPER

671/1

Framework for analysis and action

FOOD AND AGRICULTURE ORGANIZATION OF THE UNITED NATIONS
Rome, 2021

المنارة للاستشارات

www.manaraa.com

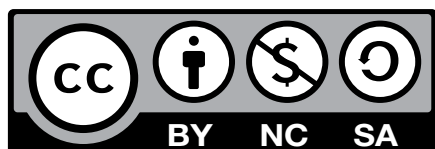
The designations employed and the presentation of material in this information product do not imply the expression of any opinion whatsoever on the part of the Food and Agriculture Organization of the United Nations (FAO) concerning the legal or development status of any country, territory, city or area 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.

ISSN 2070-7010 [Print]
ISSN 2664-5408 [Online]

ISBN 978-92-5-134760-7

© FAO, 2021



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.

Preparation of this document

The Fisheries and Aquaculture Technical Papers 671/1 and 671/2, *Strengthening coherence between social protection and fisheries policies: Framework for analysis and action* and *Diagnostic tool* were prepared to support countries to strengthen the design and adoption of coherent social protection and fisheries policies and programmes.

The documents are the product of interdivisional work between the Fisheries Division (NFI) and the Social Protection Team in the Inclusive Rural Transformation and Gender Equity Division (ESP) of the Food and Agriculture Organization of the United Nations (FAO).

The drafting of the documents was led by Omar Benammour (ESP), Greta Campora (ESP) and Mariaeleonora D'Andrea (NFI), with contributions provided by Daniella Salazar Herrera (NFI), Marco Knowles (ESP) and Anna Carlson (General Fisheries Commission for the Mediterranean). Technical guidance was provided by Daniela Kalikoski (NFI) and Nicole Franz (NFI). The documents build on earlier versions prepared by independent consultants, Cecile Brugere and Angela Lentisco which were piloted in Cambodia and Thailand in 2016 and 2017 and in Senegal in 2019 under the lead of Mariaeleonora D'Andrea (NFI). The inputs of Susana Siar (FAO Regional Office for Asia and the Pacific) and Florence Poulain (NFI) to earlier versions of the documents are also gratefully acknowledged.

The importance of social protection was re-emphasized during the 34th session of the FAO Committee on Fisheries (COFI) and endorsed by the 2021 COFI Declaration for Sustainable Fisheries and Aquaculture which calls on parties to urgently:

...13) Promote the attainment of safe, healthy and fair working conditions for all in the sector, support efforts to prevent and halt forced labour, facilitate access to social protection programmes for fishers and aquaculture producers and their communities, support measures to improve safety at sea, and work towards enhancing the standards of living for all in the sector, in cooperation with other relevant international organizations, including the International Labour Organization and the International Maritime Organization.

The documents build upon existing international instruments aimed at promoting sustainable fisheries and aquaculture around the world, such as the FAO Code of Conduct for Responsible Fisheries and the Voluntary Guidelines for Securing Sustainable Small-scale Fisheries in the Context of Food Security and Poverty Eradication (SSF Guidelines). They also build upon the FAO Social Protection Framework: Promoting Rural Development for All.

Abstract

At a global level there is increasing recognition of the role that fisheries policies and social protection can jointly play in combating poverty and hunger, whilst simultaneously promoting sustainable natural resources management. Efforts are being made at the country level to bring together these two domains, but more needs to be done. For fisheries-dependent communities, the full range of benefits derived from greater coherence between fisheries policies and social protection is not yet widely understood; nor are the means through which improved coherence can be promoted. This *Framework for analysis and action* seeks to fill these knowledge gaps. By drawing from concrete country experiences, the *Framework for analysis and action* clarifies the benefits of strengthening coherence between fisheries policies and social protection, and identifies options for achieving improved coherence through policy and programming.

Contents

Preparation of this document	iii
Abstract	iv
Abbreviations and acronyms	vii
Introduction	1
Background	1
Objectives	2
Audience and scope	3
Key concepts and definitions	3
Social protection	3
Fishery, fishing-related activities and fisheries-dependent communities	4
Poverty, vulnerability and marginalization in the fisheries sector	6
National, regional and global commitments	8
Structure of the framework	10
Section 1	11
1. Why is coherence between fisheries policies and social protection important to combat poverty and hunger?	11
1.1 Rationale for linking fisheries policies and social protection	11
1.2 Why are fisheries and social protection more effective if they work together?	13
1.3 Impacts of fisheries policies and social protection interventions	14
Section 2	21
2. Strengthening the enabling environment for promoting coherence	21
2.1 Political commitment	22
2.2 Policy architecture	24
2.3 Coordination arrangements	24
2.4 Financing arrangements	25
2.5 Human capacities	26
Section 3	27
3. Opportunities to strengthen coherence through programming	27
3.1. Approaches to strengthen linkages	27
3.1.1 Design or adapt standalone interventions	27
3.1.2 Combine multiple interventions	28
3.1.3 Coordinate and align multiple programmes and policies	30
3.2 Design and operational arrangements that can support coherence	32
References	37
Annex	41

BOXES

1. FAO's social protection approach	4
2. Fisheries-dependent communities	6
3. Main barriers of access to social protection faced by fisheries-dependent communities	9
4. Impact of COVID-19 on fisheries food systems	10
5. FAO's Blue Growth Initiative	14
6. Incentives and compensation	15
7. An incentive-based fisheries management cum social protection scheme	30

TABLES

1. Complementary impacts of improving fisheries-dependent communities' management of natural resources	17
2. Complementary impacts of enhancing fisheries-dependent communities' economic inclusion, diversification and the transition to alternative sources of income	19
3. Complementary impacts of strengthening fisheries-dependent communities' risk management and resilience to shock	20
4. Adapting single interventions	28
5. Aligning multiple programmes and policies	32

Abbreviations and acronyms

CCRF	Code of Conduct for Responsible Fisheries
EAF	ecosystem approach to fisheries
EFZ	exclusive fishing zones
FA	fishing agreements
FAO	Food and Agriculture Organization of the United Nations
IUU	illegal, unreported and unregulated (fishing)
LDC	least developed country
LMIC	low middle income country
MPA	marine protected area
NGO	non-governmental organization
PES	payments for ecosystem services
REBYC-II LAC	FAO Sustainable Management of Bycatch in Latin America and Caribbean Trawl Fisheries
SDG	Sustainable Development Goal
SPS	sanitary and phytosanitary
SSF Guidelines	Voluntary Guidelines for Securing Sustainable Small-scale Fisheries in the Context of Food Security and Poverty Eradication

Introduction

Background

FAO recognizes the critical role that social protection plays in furthering and accelerating progress around food security and nutrition, agricultural development and rural poverty reduction. FAO is fully committed to ensure equal access to and benefits from social protection for all, in particular rural people (FAO, 2017a). In the agricultural sector, FAO's From Protection to Production programme has gathered evidence of the positive effects of social protection on smallholder farmers' income and food security, agricultural productivity, resilience and economic and social well-being (FAO, 2016; Tirivayi, Knowles and Davis, 2013). From 2014 to 2015, FAO's Fisheries Division initiated a similar exercise of review and generation of knowledge about fishers' specific vulnerabilities and pathways through which social protection can promote sustainable use of natural resources and reduce rural poverty.

More than 120 million people worldwide are involved in capture fisheries for their livelihoods and 90 percent of them are small-scale fishers and fish-workers (FAO, 2012). Coastal and other fishing communities are often located in remote areas where livelihood opportunities are limited, unemployment rates are high (particularly among the youth), and unhealthy and unsafe working conditions prevail. The livelihoods of fishers are also threatened by the over-exploitation of natural resources and the degradation of supporting habitats and ecosystems (particularly of coral reefs, fish habitats and mangrove forests), which reduce the available resources and create a vicious cycle where overfishing increases poverty, and vice versa.

This cycle is worsened by natural disasters and climate change, lack of secure tenure rights for aquatic resources and the competition for resources with other economic sectors such as tourism, agriculture, energy, mining and infrastructure development. All these factors are compounded by the neglect of fisheries-dependent communities, especially small-scale fisheries, in policy arenas as there are limited investments in potential alternative livelihoods, and insufficient access to social protection, health and education services. The social and economic exclusion faced by fisheries-dependent communities increases their vulnerability to shocks, aggravating their poverty and natural resource mismanagement cycle, and posing major threats not only to traditional fishing and coastal communities but also to national and local economies and food security.

The SSF Guidelines highlight the vulnerability and marginalization of small-scale fishing communities around the world, both formal and informal, and the special attention they need (FAO, 2015). The SSF Guidelines promote small-scale fishers' access to social protection and decent work conditions and support their economic inclusion in wider economic development processes, respecting the sustainability of natural resources on which they depend. The SSF Guidelines also emphasize that fragmentation among development policies and interventions in fishing communities can lead to inefficiencies in resource allocation, and outcomes that are detrimental to both fishing communities and aquatic ecosystems. Indeed, resource management tends to be the focus of fisheries policies. Addressing the multi-faceted social and economic issues affecting the well-being of communities depending on fisheries resources is usually hampered by the narrow remit of mandates and a lack of linkages across governmental institutions.

As a result of the SSF Guidelines, and the development of the *Strengthening coherence between agriculture and social protection to combat poverty and hunger in Africa framework for analysis and action* (FAO, 2016), FAO's Fisheries Division initiated a knowledge generation exercise. The exercise documents small-scale fishers and fisheries-dependent communities' specific vulnerabilities and pathways through which social protection could reduce rural poverty and hunger, whilst simultaneously promoting sustainable management of natural resources. The preparation of this *Framework for analysis and action* is embedded in these ongoing efforts and is an integral part of FAO's work in promoting poverty alleviation and food security in fishing communities.

The *Framework for analysis and action* is based on a literature review of relevant published FAO and non-FAO studies and reports on social protection and fisheries at country, regional and global level. Country-specific case studies describe experiences to strengthen the linkages between social protection and sustainable use of natural resources. The results of an earlier version of a coherence diagnostic tool, piloted in the context of the inland capture fisheries in Cambodia are also used in the framework (FAO, 2019a). Regional exercises from Africa, Asia and Latin America have also been considered to assess fisheries-dependent social protection needs and propose recommendations for public policies (FAO, 2019b; FAO, 2019c; Tietze and van Anrooy, 2019). Findings from a technical workshop focusing on "Social protection to foster sustainable management of natural resources and reduce poverty in fisheries-dependent communities", held by FAO in 2015, are also considered in this document. The workshop suggested the need to create a conceptual framework for fisheries-dependent communities, poverty and natural resources management, to reconcile socio-economic development and natural resources conservation (FAO, 2017b).

This document has been produced in parallel with a *Diagnostic Tool*, which provides practical instruments for assessing the coherence between fisheries policies and social protection at country level, including a methodology and interview guides.

Objectives

There is increasing recognition at a global level of the role that agriculture and social protection can jointly play in combating poverty and hunger (FAO, 2016). While efforts have been made at country level by governments, more needs to be done to consider the specifics of the fisheries sector in this overall strategy to reduce poverty and improve food security and nutrition. The range of benefits derived from greater coherence between fisheries and social protection policies and programmes is not yet widely understood, nor are the means through which coherence can be promoted. This document presents a framework for analysis and action that aims to fill this knowledge gap. By showing the role that fisheries policies and social protection can jointly play in combating poverty and hunger, and drawing from concrete country experiences, the framework will help to clarify how to protect fisheries-dependent communities, their livelihoods and natural resources simultaneously. It will also identify ways to design and implement social protection and fisheries policies and programmes in a coherent manner.

This document aims to support the implementation of the SSF Guidelines and is aligned to its dedicated chapter on "Social development, employment and decent work", as well as to the chapter on "Policy coherence, institutional coordination and collaboration" (FAO, 2015). As part of this work, FAO is committed to contributing to the global and regional social protection agendas by strengthening the economic case to expand and scale-up social protection systems in the fisheries sector, and to promote linkages between social protection and fisheries policies, food security, nutrition, natural resource management, decent rural employment and resilience building.

Audience and scope

This *Framework for analysis and action* should be used by all stakeholders who play an active role in improving the welfare and resilience of fisheries-dependent communities and the sustainability of natural resources, through the design of policies, programmes and advocacy activities. It includes:

- i) Government staff and policymaking officers involved in:
 - the design and implementation of fishery and social protection policies and programmes (e.g. national ministries of fisheries/environment/natural resources management; national ministries in charge of social protection and others focused on poverty and hunger reduction);
 - financing interventions (e.g. national ministries of finance, parliamentary committees and other institutions involved in financing governmental interventions); and
 - supporting cross-sectoral coordination (e.g. national ministries of planning, national/decentralized committees and other institutional and governmental entities supporting cross-sectoral coordination).
- ii) Development partners providing technical and financial support to government-led social protection and fishery policies and programmes; and
- iii) Civil society organizations, including research organizations, non-state service providers and grassroots fisheries' organizations engaged in advocating and providing services to eradicate poverty and hunger.

The *Framework for analysis and action* focuses on (i) countries involved in both marine and inland fisheries, facing specific interlinked problems of poverty, hunger and fish stocks management; (ii) the livelihood and welfare of all the actors involved in the small-scale fisheries value chains (from catch to consumption); (iii) specific vulnerabilities of small-scale fishers; and (v) a wide range of fisheries policy and programmes and social protection interventions.

Key concepts and definitions

Social protection

Social protection refers to the **set of policies and programmes that addresses economic, environmental and social vulnerabilities to food insecurity and poverty by protecting and promoting livelihoods** (FAO, 2017a). This definition aligns with the vulnerability, poverty and marginalization that characterize fishing communities (Béné, Devereux and Roelen, 2015).

Social protection is aimed at preventing or protecting all people against poverty, vulnerability, and social exclusion throughout their lifecycles, particularly the most vulnerable groups through three pillars:

- **Social assistance** that alleviates chronic poverty through non-contributory transfers that can be provided in-kind or in cash. This includes interventions such as cash transfers, school feeding, food transfers, fee waivers and public works programmes.
- **Social insurance** that protects the uninsured against adverse personal circumstances, lifecycle hazards and livelihood risks through contributory insurance to mitigate the effects of shocks.
- **Labour market interventions** that facilitate employment and promote livelihoods to ensure basic work standards and extend rights through protection for labour such as unemployment benefits and skills development.

BOX 1

FAO's social protection approach

FAO adopts a comprehensive approach to social protection, which encompasses four essential functions of social protection (FAO, 2017a):

- protective (to guarantee relief from deprivation);
- preventive (to avert deprivation);
- promotive (to enhance capabilities and build resilience); and
- transformative (to address power imbalances and inequalities in society).

The work of FAO on social protection is guided by three cross-cutting principles which reflect FAO's commitment to the 2030 Agenda for Sustainable Development and specifically its target to expand coverage of social protection systems for all:

- socio-economic inclusion
- gender equality
- sustainability.

In particular, FAO aims to promote linkages between social protection and agriculture, food security, nutrition, natural resource management, decent rural employment and resilience building. In its efforts to reduce rural poverty, FAO recognizes the **critical role social protection plays in natural resource management**. Social protection can enable and incentivize people to comply with resource management regulations and to engage in sustainable livelihood activities by providing an alternative to negative coping mechanisms that incentivize short-term gain at the expense of long-term sustainability.

Source: FAO, 2017a; FAO, 2017b.

The Universal Declaration on Human Rights recognizes social protection as a right and entitlement: “Ensuring, at the very least, minimum essential levels of non-contributory social protection is not a policy option, but rather a legal obligation under international human rights law” (Sepúlveda and Nyst, 2012).

However, **55 percent of the world's population has no access to any type of social protection** and thus the world is still far from achieving universal coverage goals (ILO, 2017). Most of these people reside in rural areas, rely predominantly on natural resources for their livelihoods and are particularly vulnerable and exposed to multiple risks. Yet, they play a critical role in ensuring global food security in the long term, as well as in sustainably managing the natural resource base in some of the most fragile ecosystems.

Fishery, fishing-related activities and fisheries-dependent communities

Fisheries-dependent communities provide a livelihood and a way of life for millions of people, especially in least developed countries (LDCs) and low middle income countries (LMICs). For many communities, fishing is also a way of life, a culture that has been passed down several generations and takes place in their ancestral home. When the framework refers to fisheries-dependent communities it refers not only to fishers but also to their families and other socio-economic groups along the small-scale fisheries value-chain (from pre-harvesting to harvesting and consumption): boat crew members, fish processors and fish retailers, processing factory workers, fish farms and fisheries-dependent families (see Box 2). This *Framework for analysis and action* uses some key concepts and definitions in referring to these:

- **Fishery** is generally an activity leading to the harvesting of fish. It may involve the capture of wild fish or raising fish through aquaculture. It is a unit determined by an authority defined in terms of some or all of the following: “People involved, species or type of fish, area of water or seabed, method of fishing, class of boats, and purpose of the activities or a combination of the foregoing features” (FAO, 2020a). Fisheries comprise marine fisheries operating along the coast, in lagoons and offshore, as well as inland (freshwater) activities on lakes, rivers, reservoirs, floodplains and permanent or seasonal waterbodies.
- **Fishing-related activities** includes different activities along the fisheries value-chain encompassing fishing (i.e. the physical activity that leads to the production – capture and landing – of fish); fish processing (i.e. the conservation and transformation of fish to improve the added value of the product); and trading and commercialization of fish products (including bartering, direct-selling, retail, wholesale, etc.) (see Box 2).
- **Fisheries co-management** can be defined as collaborative and participatory processes of regulatory decision-making among stakeholders (Jentoft, 2003) which embody measures for power sharing, capacity building, definition of rights, and linking different systems of knowledge (Berkes, 2007). Co-management is a practice recommended by the SSF Guidelines that strongly promotes participatory approaches to management (see in particular Chapter 5 of the SSF Guidelines) (FAO, 2015). Fishers' participation in these arrangements ranges from the inclusion of local rules and norms in management programmes, to direct participation in legislative processes. This has been observed in Africa, Asia, Europe, Oceania, North America and South America, such as in the Federative Republic of Brazil (Begossi *et al.*, 2011; Acheson, 2007; Hauck and Sowman, 2004; Pinedo and Soria, 2008; Seixas *et al.*, 2009). The co-management process may involve fishing agreements (FAs) which are collective agreements with simple mechanisms for managing specific resources. Compared to top-down government management regimes, FAs have the advantage of reduced transaction costs, dealing with specific resource users, such as small-scale fishers, thus involving fewer stakeholders and more specific targets and rules (Begossi *et al.*, 2011).
- **Fisheries policies** refer to the Code of Conduct for Responsible Fisheries (CCRF) that sets out principles and international standards of behaviour for responsible practices to ensure the effective conservation, management and development of living aquatic resources, with due respect for the ecosystem and biodiversity. The CCRF recognizes the nutritional, economic, social, environmental and cultural importance of fisheries, and the interests of all those concerned with the fishery sector. States involved in fisheries are generally encouraged to apply the CCRF and establish fisheries policies for responsible conservation of fisheries resources and fisheries management and development. Fisheries policies refer to human-rights, enshrined in the SSF Guidelines. According to these, states should ensure that fisheries policies provide a long-term vision for sustainable small-scale fisheries and the eradication of hunger and poverty, using an ecosystem approach. The overall policy framework for fisheries should be coherent with the long-term vision and policy framework for small-scale fisheries and human rights, paying particular attention to vulnerable and marginalized people (Béné, Devereux and Roelen, 2015).

BOX 2

Fisheries-dependent communities

This *Framework for analysis and action* refers to fisheries-dependent communities as communities whose livelihoods are dependent on the natural marine, coastal or inland resources, with people actively involved in harvesting, processing and/or selling the resources as a primary means of income; and whose social and cultural identity is integrated into these practices. Specifically, they are part of these communities (Béné, Devereux and Roelen, 2015):

- **Small-scale, coastal or artisanal fisheries** are terms that are often used interchangeably. Small-scale fisheries are characterized by “low capital input” activities, low capital investments and equipment, labour-intensive operations, and, generally, relatively low productivity (Garcia, et al., 2008; FAO, 2012b). What differentiates small-scale fisheries from larger ones is not necessarily clear, and “scale” is often partly contextual. This topic has been regularly debated in various forums at the global level, for example, within the context of specific regional fisheries management organizations. The SSF Guidelines recognize the great diversity of small-scale fisheries around the world and acknowledge that there is no single, agreed-upon definition, nor would such a definition be desirable for such a diverse and dynamic sector. The definitions vary in each country and even within national contexts. This category also includes gleaners, known as shore or beach fishers, who fish on foot, gathering shellfish.
- **Boat crew members** who are contracted by boat owners to operate on industrial, semi-industrial and family-owned vessels.
- **Fish processors and fish retailers**, especially women, often wives, widows or partners of fishers. These activities are often mostly informal and unregulated.
- **Processing factory workers** who are predominantly women in LDCs where such factories operate.
- **Fisher-farmers or farmer-fishers** refers to households that engage in fishing as part of a larger portfolio of (often on-farm) livelihood activities.
- **Fisheries-dependent families**, equally affected by the same vulnerabilities, livelihoods shocks and threats in the fishing sector.

Source: Béné, Devereux and Roelen, 2015.

Poverty, vulnerability and marginalization in the fisheries sector

Socio-economic development, human well-being and ecosystem well-being are intimately tied, and nowhere is this truer than in capture fisheries. The incomes and livelihoods of those who depend on fisheries are affected by a series of stresses, risks, threats, drivers and opportunities that are unique to the sector.

Thus, the debate about the (monetary) poverty of fisheries-dependent communities, including small-scale fisheries, has been extremely long, complex and is still ongoing (Béné and Friend, 2011; Jentoft, 2003). This framework follows the framework for poverty, vulnerability and marginalization adapted for small-scale fisheries by Béné, Devereux and Roelen (2015).

Poverty is a complex issue for fisheries-dependent communities with a wide array of causal factors in effect. Firstly, fishers’ economic status is difficult to assess, especially in small-scale fisheries. Fishers’ socio-economic data are often not available, standardized or accessible, therefore preventing scaled-up or comparative analyses (Teh et al., 2020).

Secondly, **the concept of vulnerability is generally defined as the degree to which a system or an individual is susceptible to risk and unable to cope with the adverse effects of a shock.** Fishers' incomes and livelihoods, especially those of small-scale fishers, are generally uneven and unpredictable because their overall revenues depend for a large part on their catches, which are highly variable according to seasonality and risks. The framework identified different potential sets of risks which may affect fisheries-dependent communities' incomes and livelihoods throughout their lifecycles, both at individual or community level, such as health, natural/environmental, social, economic and political risks (See Table 1 in the Annex). Fishing also remains one of the most hazardous occupations worldwide, with an estimated 32 000 fatalities per year and a higher number of people injured by accidents at sea and conflicts with industrial fishing operations (FAO, 2020b).

The incomes and livelihoods of fisheries-dependent communities are particularly vulnerable to climate change, which has increased the hazardous conditions under which they work as endogenous shocks become more destructive and prevalent. Because they are located at the waterfront, fisheries-dependent communities are exposed to climate-related extreme events and natural hazards, such as hurricanes, cyclones and sea level rise, ocean acidification, floods and coastal erosion (Barange *et al.*, 2018).

Besides impairing the ecosystems, these factors:

- increase the vulnerability of fishery resource production and yields; and
- exacerbate the stability, access, use and availability of fish, increasing fishers' vulnerability, food insecurity and safety risks.

Additionally, marine resources have come increasingly under pressure, which, in turn has led to a decrease in economic performance and increased vulnerability of fisheries-dependent communities. The **over-exploitation of resources and degradation of supporting habitats and ecosystems** reduce available resources and create a vicious cycle where overfishing increases poverty, and vice versa. In this sense, poverty and environmental issues are interconnected and entangled in a complex web of human–environment relationships. On many occasions, fisheries-dependent communities have no alternative but to engage in unsustainable fishing practices in order to meet present needs at the expense of their future benefits. Conversely, environmental degradation and over-exploitation of resources tend to exacerbate poverty through deterioration of their livelihoods, income and health (Chen, De Bruyne and Bollempalli, 2020).

This paradox is significant and issues that must be urgently addressed include the **downward spiral of the environment and poverty nexus, where poverty is seen as a cause of fish stock exploitation and deterioration, and simultaneously, fish stock depletion and deterioration contribute to deeper poverty.** This poverty–environment nexus is particularly visible in local communities' interactions with coastal and ocean ecosystems (Charles, Kalikoski and Macnaughton, 2019). For example, small-scale fishers in the Federative Republic of Brazil have a very low income due to depletion of fish stocks and the pollution of the marine environment. Likewise, in Mumbai, the Republic of India, pollution is a major detriment for small-scale fishers and coastal ecology. In the Saldanha Bay harbour, in the Republic of South Africa, tourism and industrial developments have had an impact on the marine ecology of the traditional fishing grounds and subsequently on small-scale fisheries livelihoods (FAO, 2017b).

Lastly, **although fisheries-dependent communities are not necessarily the poorest of the poor with significant economic and societal contribution, they are often highly vulnerable and politically or socially marginalized.** For example, they:

- are socially excluded from processes of development planning at macroeconomic level as they usually work in the informal sector (Thorpe *et al.*, 2004);
- are highly mobile (unregistered migrants);
- live in marginal or remote areas;

- have lower education; and
- their role and contribution in the local economy is poorly considered and appreciated at a political and societal level.

In the Republic of South Africa, low levels of literacy and education, coupled with a lack of awareness of rights among small-scale fishers, keep them in a marginalized dimension (FAO, 2017b). Similarly, in the Kingdom of Cambodia, fishers have relatively low rates of formal education, which contributes to challenges around equitable benefits from public information (FAO, 2019a).

Thus, the incomes and livelihoods of fishers are jeopardized by exogenous factors such as fisheries regulatory mechanisms (e.g. bans, restrictions) or lack of secure tenure rights for aquatic resources, and competition over resources with other sectors such as tourism, agriculture, energy, mining and infrastructure development. Limited investments in potential alternative livelihoods and insufficient access to health, education services and social protection due to several barriers (see Box 6) also pose additional threats to the sector. In some cases, there are no social protection schemes that fisheries-dependent communities can access. In other cases, schemes exist, but these communities might find it difficult to join social security schemes that require paying a monthly fee. As a result, fisheries-dependent communities often adopt “low risk, low return” livelihood strategies that reduce their income earning potential, such as disinvesting in healthcare and resorting to migration or child labour. Child labour is widespread in the sector and often children engage in all phases of a fishing trip (loading of equipment, motoring, bailing water out of boats or canoes, etc.), shore collection of fish and shellfish, and illegal and harmful practices (e.g. fish poisoning or fishing with explosives), and building and maintenance, such as boat and net making and repairing (FAO, 2018a).

National, regional and global commitments

Fisheries provide a vital source of food, employment, recreation, trade and economic well-being for people throughout the world, both for present and future generations. Fisheries should therefore be conducted in a responsible, coherent and coordinated manner, in line with Sustainable Development Goal (SDG) 14 – Conserve and sustainably use the oceans, seas and marine resources for sustainable development – and other SDGs relevant to fisheries (FAO, 2020b). To avoid unsustainable resources depletion, national governments or other public agencies often introduce regulatory mechanisms to strike a balance between the human maximization of revenues from natural resources and their sustainability in time, including (EC, 2019):

- no take zones (no fishing in certain areas);
- closed season (no fishing in certain season);
- fishing ban (no fishing of certain species);
- quotas or permits (limited fishing of certain species);
- restrictions on the size of fish that can be caught; and
- mesh size of fishing nets and fishing gear.

BOX 3

Main barriers of access to social protection faced by fisheries-dependent communities

- **Legal barriers:** Lack of formal integration of the fisheries sector in labour and social security legislation.
- **Financial barriers:** Limited contributory capacity due to an irregular and unpredictable income, including the cost of affiliation to and compliance with social security schemes.
- **Institutional and administrative barriers:** Some governments have low administrative capacities and heavy procedures. These constraints are even more severe in the fisheries sector due to a low level of registration and pervasive informality.
- **Geographic barriers:** The geographic accessibility of social services in rural settings may be limited.
- **Cultural barriers:** Lack of trust in social security systems or the perception that benefits are not relevant.
- **Political barriers:** Reluctance to expand social protection schemes due to political decisions and perceptions, especially concerning small-scale fishers.

Source: Adapted by Allieu and Ocampo, 2019.

International regulations also aim to correct market failures and create conditions under which fisheries-dependent communities can prosper without depleting the resources upon which they depend. For instance, the CCRF sets out principles and international standards of behaviour for responsible practices to ensure the effective conservation, management and development of living aquatic resources, with respect for the ecosystem and biodiversity (FAO, 1995). The CCRF recognizes the nutritional, economic, social, environmental and cultural importance of fisheries, and the interests of all those concerned with the fisheries sector. States involved in fisheries are generally encouraged to apply the CCRF and implement it through the establishment of fisheries policies.

The ecosystem approach to fisheries (EAF) is one of the main reference frameworks for managing fisheries and implementing the principles of sustainable development by providing guidance on how to translate the economic, social and ecological policy goals and aspirations of sustainable development. The EAF at a local scale should protect and restore fish recruitment and key habitats, explore livelihoods diversification and improve co-management systems (FAO, 2021).

The SSF Guidelines (FAO, 2015) is the first internationally agreed instrument that inter alia, recognizes the importance of social development with a focus on small-scale fisheries and vulnerable and marginalized groups such as indigenous people. The guidelines emphasize policy coherence, institutional coordination and collaboration between different sectors and stakeholders to promote comprehensive and holistic development in small-scale fishing communities.

Lastly, the International Labour Organization Convention No. 188 (the Work in Fishing Convention) (ILO, 2007) sets out binding requirements to address the main issues concerning work on board fishing vessels, including occupational safety, health and medical care at sea and ashore, rest periods, written work agreements and social security protection at the same level as other workers. The Convention helps prevent unacceptable forms of work for all fishers, especially migrant fishers. It also sets out

that each member shall ensure that fishers who are ordinarily resident in its territory and their dependents, to the extent provided in national law, are entitled to benefit from social security protection under conditions no less favourable than those applicable to other workers, including employed and self-employed persons (Article 34). The Convention came into force in 2017 and 18 countries have ratified it to date¹.

Structure of the framework

This *Framework for analysis and action* aims to provide an overview of the benefits of bringing together fisheries policies and social protection to reduce rural poverty and hunger. It supports the development of concepts and promotes reflection for enhancing coherence, based on the review of evidence from different countries and different regions. The various sections of this document are as follows:

Section 1 describes how greater coherence between fisheries policies and social protection interventions can contribute to eradicate poverty and hunger and promote sustainable use of natural resources.

Section 2 identifies key challenges for this coherence, the elements in the enabling environment (e.g. political commitment, policy architecture, coordination arrangements, financing arrangements and human capacities) that can support it.

Section 3 identifies programmatic options for greater coherence between fisheries policies and social protection, including design, implementation and operational features that can facilitate synergies and help manage trade-offs.

BOX 4

Impact of COVID-19 on fisheries food systems

The fisheries sector provides nutritious food for hundreds of millions of people around the world. Key activities along the fisheries food supply chain have been susceptible to disruption or to being stopped altogether by the impacts arising from the COVID-19 pandemic. The main impacts in the short term include:

- reduction in demand for fresh fish products, further compounded by a collapse in export markets, price drops and increase in demand for canned, frozen and processed fish;
- some species farmed for export (e.g. pangasius) have been affected by the closure of international markets (the People's Republic of China, European Union);
- labour migration (returning home);
- loss of markets (domestic and international) around the globe, while organizations providing direct delivery services connecting fishers and consumers have expanded (e.g. e-commerce in the Sultanate of Oman to sell fresh seafood); and slowdown in restaurant trade and market demand.

Source: FAO, 2020b; OECD, 2020.

¹ The Republic of Angola, Argentina, Bosnia and Herzegovina, the Democratic Republic of the Congo, the Kingdom of Denmark, the Republic of Estonia, France, the Republic of Lithuania, the Kingdom of Morocco, the Republic of Namibia, the Kingdom of the Netherlands, the Kingdom of Norway, the Republic of Poland, the Portuguese Republic, the Republic of Senegal, the Republic of South Africa, the Kingdom of Thailand and the United Kingdom of Great Britain and Northern Ireland.

Section 1

1. Why is coherence between fisheries policies and social protection important to combat poverty and hunger?

This section explains the rationale for strengthening coherence between fisheries policies and social protection. It describes the complementary roles that fisheries policies and social protection interventions can play, the impact they can have on each other, and the kind of friction and counter-productive outcomes that can occur when coherence is not achieved.

In this *Framework for analysis and action*, coherence is considered as the **systematic promotion of complementary and consistent policies and programmes between fisheries policies and social protection, thereby creating synergies to combat rural poverty and food insecurity more effectively** (FAO, 2016). There is strong global evidence that the impact on rural poverty and food security is maximized if social protection interventions are designed and implemented in coherence with agriculture, natural resource management, and food security and nutrition interventions, through an adequate enabling environment.

Coherence is a means to an end, not an end in itself. In this case, more effective poverty reduction, food security interventions and natural resources management are the objectives of coherence between fisheries policies and social protection, rather than coherence itself being the objective (Slater *et al.*, 2016). Coherence is as much about ensuring that potentially conflicting interactions between policies and programmes are avoided or minimized, as it is about actively exploiting complementarities and synergies between sectors (Gavrilovic, Knowles and Davis, 2015). Coordination is a critical element of pursuing coherence. Although coherence may evolve as the result of fortunate chance, systematically developing coherence requires deliberate coordinated action between various stakeholders.

1.1 Rationale for linking fisheries policies and social protection

Fisheries-dependent communities – often geographically located in remote areas where livelihood opportunities are limited, unemployment rates are high (particularly among the youth) and unhealthy and unsafe working conditions prevail – are highly vulnerable to:

- climate change impacts;
- over-exploitation of resources;
- illegal, unreported and unregulated (IUU) fishing;
- socio-economic and gender gaps;
- increased health risks due to high exposure to extreme temperatures and accidents;
- lack of access to social protection such as pension schemes;
- low participation in contributory social security schemes; and
- low adaptive capacity to cope with covariate shocks owing to the social and political marginalization they face.

As a result, fisheries-dependent communities often adopt negative coping strategies that reduce their income-earning potential. Their production and consumption decisions are highly interdependent, in the sense that risks and challenges faced in their income-generating activities affect their consumption decisions. This means that they face decisions such as disinvesting in education and health to spend more money on

food, and send children to work instead of to school. This in turn often traps them into cycles of poverty and vulnerability to future risks (Dorward *et al.*, 2006).

Coordinated fisheries policies and social protection interventions can support fisheries-dependent communities in breaking the vicious cycle of poverty and disadvantage and prevent its intergenerational continuation. Such policies and programmes can protect fish stocks and their ability to replenish sustainably. Social protection can provide liquidity and certainty for fisheries-dependent communities. It can allow them to sustainably invest in fisheries, diversify their activities, invest in human capital development, increase participation in social networks and co-management processes and better manage risks, allowing them to engage in more profitable livelihood and agricultural activities. On the other hand, fisheries policies, as highlighted in the SSF Guidelines, can provide a long-term vision for sustainable small-scale fisheries and the eradication of hunger and poverty, using an ecosystem approach. Fisheries policies can ensure the effective conservation, management and development of living aquatic resources, with due respect for the ecosystem and biodiversity. These policies can also pay particular attention to vulnerable and marginalized people, such as small-scale fishers, by addressing structural constraints that limit access to water resources, inputs, social protection, financial services, advisory services and markets.

A coherent framework for fisheries-dependent communities, poverty and natural resources management is a framework where socio-economic aspects are reconciled with environmental considerations. When embedded within broader rural development frameworks, stronger coherence between fisheries policies and social protection interventions can assist in reconciling socio-economic aspects with environmental considerations. A coherent framework will improve fisheries-dependent communities' management of natural resources and their sustainability, facilitate their socio-economic inclusion, diversify and transition them to alternative livelihoods, as well as improve their resilience, risk-management capacity, and climate change adaptation, enabling them to gradually move out of poverty and hunger.

Fisheries policies and social protection interventions can reach common goals, such as managing and reducing the over-exploitation of natural resources while simultaneously supporting livelihoods and alternative sources of income; helping fisheries-dependent communities to lift themselves out poverty and hunger and cope with shocks; and strengthening resilience (Béné, 2006). Judiciously designed with coherent and common objectives, synergies between fisheries policies and social protection interventions are vital to achieving these outcomes.

Coherence between fisheries policies and social protection interventions is fundamental because:

- high rates of poverty and vulnerability typically prevail among fisheries-dependent communities, especially small-scale fishers;
- fishing is one of the most dangerous professions; and
- fisheries-dependent communities are highly dependent on the state and health of the natural resource base.

Fisheries policies and social protection can complement and mutually reinforce each other. By promoting fisheries and ecosystem preservation, strengthening the management of the resources as well as contributing to the socio-economic needs of fisheries-dependent communities, **fisheries policies** can:

- ensure the conservation and, where appropriate, rehabilitation of aquatic habitats, helping to sustain the productivity of fishery resources;
- promote the economic viability of the sector through livelihood diversification and development of the value chain, in accordance with market demand; and
- increase the availability of high-quality fishery products for the domestic market, including increased production of low-price fish for popular consumption.

By reducing poverty, vulnerability and marginalization of fisheries-dependent communities, **social protection** interventions can:

- stabilize fishing communities' income, thus increasing their demand for nutritious food and other goods and services;
- enable fishers to comply with fisheries policies and regulations (closed seasons, fishing bans, etc.) or invest in activities perceived as costly, such as investing in bycatch reduction fishing gear;
- play an inclusive role, allowing fisheries-dependent communities to save and invest in alternative sources of income and reduce their dependence on fishing; and
- enhance fisheries-dependent communities' resilience in case of shocks, thus avoiding negative coping strategies such as child labour, as well as protect against and prevent indecent work.

1.2 Why are fisheries and social protection more effective if they work together?

When synergies between fisheries policies and social protection are promoted systematically and intentionally through policy and programming, and when they are aligned with broader development policies, they can achieve their shared goals of combating hunger, poverty and unsustainable fish stock exploitation more effectively. There are two main reasons for this:

- Neither fisheries nor social protection alone can address all constraints faced by poor rural households. Impact evaluations, mostly from the agriculture sector, show that combined interventions can be more effective in tackling hunger and poverty than stand-alone programmes (FAO, 2016). Coordination between fisheries policies and social protection has been until recently fairly limited, but there is a growing body of evidence to support the concept of coherently approaching fisheries policies and social protection.
- Coherence avoids potential harm when well implemented. Certain fisheries' policies and restrictions, though reasonable and necessary for the conservation of natural resources, may inadvertently be unfavourable to fisheries-dependent communities, compromising their dependent fragile livelihoods. Imposing fisheries regulatory mechanisms to protect natural resources, such as quotas or fishing bans, may threaten the subsistence of fisheries-dependent communities and also contravene their traditional lifestyle and values. Social protection interventions, such as fuel subsidies, can in some cases also have pernicious impacts, by encouraging unsustainable fishing practices (FAO, 2017b). Coherence between fisheries policies and social protection interventions may help to balance this set of considerations. For example, in the Republic of South Africa, in 2007 the government introduced a ban on commercial fishing of abalone to protect its stocks. However, this led to a rise in unemployment and an increase in IUU fishing (Béné, Devereux and Roelen, 2015). These negative effects could have been avoided if complementary social protection interventions had been implemented to economically support the sector.

BOX 5

FAO's Blue Growth Initiative

The goals of the FAO Blue Growth Initiative are to coherently **maximize economic and social benefits while minimizing environmental degradation from fisheries and aquaculture**. The Blue Growth Initiative is closely aligned with the 2030 Agenda for Sustainable Development (supported by the SDGs) as well as the concept of Blue Economy. Implementation spans the three pillars of sustainable development, referred to here as the following platforms: blue communities (social), blue production (environmental) and blue trade (economic). The Blue Growth Initiative's focus on blue communities is of particular relevance to understanding the needs and interests of marginalized women, youth, indigenous peoples and migrant groups. The approach works alongside governments, communities and civil society to advance policies and incentives designed to empower these groups and ensure their access to decent work and social protection, all the while safeguarding the aquatic environment.

Source: FAO, 2018b.

1.3 Impacts of fisheries policies and social protection interventions

There is a growing body of evidence to support the concept of coherence between fisheries policies and social protection interventions. This section contains some examples of the impacts of fisheries policies and social protection interventions on a set of outcomes related to combating poverty, vulnerability and marginalization of fisheries-dependent communities, and natural resources management. The complementary impacts of fisheries policies and social protection are as follows:

Improving fisheries-dependent communities' management of natural resources

Fisheries policies can support the acquisition of fishing technologies to target higher value species and avoid incidental capture of vulnerable species (also known generically as "bycatch"). The FAO Sustainable Management of Bycatch in Latin America and Caribbean Trawl Fisheries (REBYC-II LAC) project is a partnership between six countries (Federative Republic of Brazil, Republic of Colombia, Republic of Costa Rica, United Mexican States, Republic of Suriname and Republic of Trinidad and Tobago) and regional organizations, to better manage bycatch and support the sustainable development of trawl fisheries and the people who depend on them. It addresses unsustainable fishing practices through EAF and promotes equitable distribution of new technologies to minimize bycatch and discards. Social protection interventions, such as predictable cash transfers or social insurance can also alleviate liquidity constraints faced by poor fisheries-dependent communities, thereby enabling them to invest in fishing technologies and recover from the lost income of bycatch species, thus reducing the negative effects on the ecosystem.

Secondly, fisheries policies contribute to the enhancement of aquatic ecosystem functions, services and values. For example, in the Republic of Madagascar the government introduced periodic fishery closures for *Octopus cyanea*, a regionally important species consumed locally and sold for export in Europe (Moreno, 2011). The regime of fishery closures has spread to the United Republic of Tanzania, Mayotte, United Mexican States and Republic of Mauritius and in 2007, the government of the Republic of South Africa introduced a ban on commercial fishing of abalone, to protect stocks. Social protection interventions such as cash transfers, public work schemes, payment for ecosystem services (see Box 6), and social security mechanisms

can attenuate the hardships that fisheries-dependent communities face in complying with these restrictive fisheries policies, as well as work to conserve marine biodiversity. In the Republic of India, within the framework of the FAO Fisheries Management for Sustainable Livelihoods project, the Ministry of Fisheries provides welfare support to fisheries management services (FAO, 2017b). In the Republic of South Africa, coastal communities have benefitted extensively from the Expanded Public Works Programme that has put in place short-term employment and skills training and provided cash transfers in exchange for employment in clearing alien vegetation, dune rehabilitation and prevention of coastal erosion, fighting fires and cleaning up the coast (FAO, 2017b). Cash transfers are provided in the Republic of Nicaragua during the closed season for lobster, while short-term subsidies are available in the Republic of Colombia because of the decrease in territorial sea. Social insurance schemes can also play a role in mitigating the potential negative socio-economic impacts on natural resources. For example, the National Fishers' Assistance Programme in the Republic of Paraguay subsidizes fishers who are unable to work during the closed season in the form of a non-contributory transfer. Likewise, in the Federative Republic of Brazil, the unemployment insurance for small-scale fishers (*Seguro Desemprego do Pescador Artesanal*) provides a temporary stipend during the closed season for those fishers who are registered with the General Fishing Registry, as compensation for the loss incurred. This fulfils the dual purpose of contributing to the income stability of fishers and providing incentives for the conservation of the ecosystem (INSS, 2020).

BOX 6

Incentives and compensation

Coastal and marine resources provide millions of people with livelihoods and provide the world with a range of critical “ecosystem services”. Yet globally, these resources are fast-diminishing under the weight of pollution, overfishing, natural disasters and climate change. Many countries have tried to address the problem through regulation – imposing rules and restrictions on when, where and how fishing and coastal development can take place. To this end, few mechanisms to improve the sustainability of natural resource-based economic activities have been developed, thereby reconciling poverty reduction and resource conservation objectives.

The introduction of incentives to fishing communities not to over-exploit the local fish stock and to manage the resource base more sustainably, in the form of “payments for ecosystem services (PES)”. This market-based approach is already relatively widely used on land, for example within forests. But its application in coastal and marine environments – where resources (fish) are more mobile and harder to monitor, and where property rights are often ill-defined or insecure – remains limited. The idea of incentivization is not new. It has been proposed as a response to the problem of undervaluing natural resources (Emerton, 2013) and is one of the founding principles of PES.

The introduction of compensation for fishers whose livelihoods are compromised by restrictions on fishing in Marine Protected Areas (MPAs). This approach effectively shifts the cost of lost incomes from fishers themselves onto society at large, in the interests of the greater good, preserving fish stocks and protecting coastal and marine ecosystems.

Source: Mohammed, 2012; Jack, Kousky and Sims, 2008; Gómez-Baggethun *et al.*, 2012.

Lastly, fisheries policies can promote the recognition and strengthening of local grassroots institutions which often support sustainable natural resource management practices. For example, the department responsible for sustainable fisheries management

in the Republic of South Africa has implemented a programme to support the establishment of fisher cooperatives along the coast. Many communities involved have been given access to finance as well as boats and new equipment through this project to better manage natural resources. The co-management fisheries project of the Environmental Evaluation Unit at the University of Cape Town highlighted the link between sustainable natural resource utilization and the socio-economic rights of local communities. In particular, it provided evidence that fishers' empowerment to participate in decision-making (co-management) is a necessary precondition for sustainable resource utilization. Likewise, the Worldwide Fund for Nature's Small-Scale Fisheries Fisher Improvement Project (2013) recognizes that community empowerment and co-management is key to achieve long-term sustainability of the small-scale fisheries sector. Additionally, the Republic of Kenya, the Republic of Madagascar, the United Republic of Tanzania and the Republic of Mozambique, have developed fisheries policies and legislation that strengthen community participation and empowerment in natural resource governance (Obura, 2017). The FAO REBYC-II LAC project works to improve the management of natural resources by fisheries-dependent communities, going beyond simply trying to develop techniques that minimize bycatch. The project supported dialogue to develop spatial or temporal measures that protect critical habitat. However, bycatch reduction may undermine short-term food security in many coastal communities. Thus, understanding the contribution of the trawl fisheries and different components of trawl catches to livelihoods, nutrition, food security and poverty alleviation, was critically important for the development of sustainable bycatch management strategies. Using this approach, the project sought to protect biodiversity while preventing food security impacts on vulnerable communities. The project established a consensus by adopting a regional strategy to manage bycatch. This strategy improved practices across the region, strengthened co-management arrangements and supported the implementation of the SSF Guidelines.

Conversely, fisheries cooperatives or local grassroot institutions may support the poorest and most vulnerable fisheries-dependent communities to adopt sustainable resources management practices through the provision of social protection interventions. For example, in the Republic of Senegal, fisheries cooperatives provide fishers with conditional cash transfers for abstaining from destructive fishing², and training programmes to improve the management of the natural resources on which the fishing communities depend (FAO, 2017b).

² Destructive fishing is the use of fishing gear in ways or in places such that one or more key components of an ecosystem are obliterated, devastated or rendered useless (UN Atlas of the Oceans, 2002–2016).

Table 1. Complementary impacts of improving fisheries-dependent communities' management of natural resources

Outcomes	Role of fisheries policies	Role of social protection
Support acquisition of fishing technologies for reducing bycatch	Fisheries policies provide access to extension services and new technologies (gear, nets, etc.) to improve selectivity of fishing, minimize bycatch and discards, and overall, reduce the negative effects on the ecosystem.	Social protection alleviates liquidity and credit constraints, enabling households to invest in fishing technologies to recover from the lost income from bycatch, thereby reducing the negative effects on the ecosystem.
Contribute to aquatic ecosystem conservation	Fisheries policies contribute to the enhancement of aquatic ecosystem functions, services and values (e.g. the protection and restoration of essential fish habitats, including through MPAs, the implementation of no take zones or temporal closures, and the restoration of coral reefs and mangroves).	Cash transfers, PES, public works and social security mechanisms attenuate the hardships experienced by fisheries-dependent communities in complying with fisheries management measures, helping to sustainably manage natural resources and contribute to ecosystem conservation.
Support social network development and fisheries co-management mechanisms	Fisheries policies can promote the recognition and strengthening of local grassroots institutions (e.g. fishers' cooperatives, associations and other fisheries-based organizations) necessary for inclusive fisheries co-management.	Social protection can increase the participation of the poorest and most vulnerable beneficiaries in social networks (e.g. cooperatives, community-based credit associations, mutual societies, etc.), which support them in sustainable natural resources practices.

Enhancing fisheries-dependent communities' economic inclusion, diversification and the transition to alternative sources of income.

Fisheries and social protection interventions may enhance fisheries-dependent communities' economic inclusion as well as promote diversification of the means of livelihoods. Additionally, those interventions can support the use of climate smart agriculture for fisheries production through the development of agro-ecological fish farming techniques, as is the case in the Republic of Zambia, Republic of Seychelles and Republic of Guinea (FAO, 2018a). Training efforts in the Republic of the Union of Myanmar led to 40 fishery training courses in aquaculture, fisheries management, English and computer literacy, and market access requirements between 2013 to 2014. In the Republic of Chile, aquaculture has long been considered an alternative for fishers and as a means to strengthen small-scale enterprises and diversify the livelihoods of fisheries-dependent coastal communities (FAO, 2019d). In drought-prone areas of the Near East and North Africa regions, integrated agri-aquaculture production systems are being used to promote water saving activities, while in the Federative Republic of Brazil, the introduction of cage-cultured tilapia to reservoirs has provided viable alternative livelihoods and employment opportunities in areas vulnerable to drought and erratic rainfall (FAO, 2017b). The United Republic of Tanzania supported enhanced livelihood diversification of fishing households by promoting small-scale trading, especially through micro-credit schemes (FAO, 2017b). Likewise, in the Republic of South Africa, non-governmental organizations (NGOs) and academic and research institutions have implemented various ad hoc projects offering a combination of social protection and fisheries interventions, supporting sustainable fisheries and alternative livelihoods. For example, the Mussel Rehabilitation Project in Coffee Bay provided fisheries-dependent women with inputs to establish a local food garden where they could grow their own vegetables, thus reducing the harvesting of mussels (FAO, 2017b). After cyclones Sidr and Aila, in the People's Republic of Bangladesh, small-scale fishing communities received training in aquaculture and alternative occupations by the government and international development partners and NGOs, including homestead gardening, rice-cum-shrimp culture, and cultivation of salt-tolerant rice varieties (FAO, 2019b).

Fisheries policies provide support to improve the access of small-scale fisheries to markets through training and extension services for the application of sanitary and phytosanitary (SPS) standards³. SPS measures include laws, decrees, regulations, requirements and procedures that protect animal and plant life and health from risks arising from the entry, establishment or spread of pests, diseases or disease-causing organisms. SPS measures also protect human or animal life or health from risks arising from additives, contaminants, toxins or disease-causing organisms in foods, beverages or feedstuffs and from diseases carried by animals, plants or products, thus enhancing food security and nutrition. Also, social protection interventions such as school feeding programmes linked to public procurement systems can provide a guaranteed market for small-scale fishers. For example, the Republic of Peru has been working with FAO to introduce the *anchoveta* fish into school feeding programmes and the public procurement process, offering an inexpensive, yet nutritionally valid staple product for children, at the same time providing a certain market for small-scale fishers (FAO, 2017d).

Fisheries policies can promote the development of grassroot institutions (e.g. fishers' cooperatives, associations and other fisheries-based organizations) necessary for enhancing economic inclusion and developing alternative fishery value chains. Social protection interventions can increase the participation of the poorest and most vulnerable beneficiaries in social networks (e.g. cooperatives, community-based credit associations, mutual societies, etc.), which are important sources of information and knowledge sharing, support during hardship, and sources of lending and credit for business development. The National Aquaculture and Fisheries Authority of Colombia with FAO's assistance, promoted and trained two small-scale fish farming organizations to institute and manage a collectively owned revolving fund, which is used both as a source of soft loan credit for working capital and as an attractive social protection safety net. In the Republic of Costa Rica, collective insurance for small-scale fishers works through cooperatives and fishers' associations, allowing their members to register and receive state subsidies (Solórzano-Chavez, Solís-Rivera, and Ayales-Cruz 2016). This promotes the development of fishers' organizations, increasing fishers' participation and expanding the scope of the insurance.

³ Reduction of pest and disease burdens, alongside improved food safety, have a key role to play in reducing the prevalence of food-borne diseases, increasing food availability and protecting the environment.

Table 2. Complementary impacts of enhancing fisheries-dependent communities' economic inclusion, diversification and the transition to alternative sources of income

Outcomes	Role of fisheries policies	Role of social protection interventions
Stimulate economic diversification	Fisheries policies facilitate linkages with other sectors (e.g. tourism, restaurants, etc.) to support livelihood diversification.	Social protection interventions in combination with labour market policies, micro-enterprise development schemes, pro-poor fisheries interventions, as well as financial inclusion initiatives, can facilitate transition to a more diversified economy.
Increase access to market and household food security and nutrition	Fisheries policies provide support to improve the access of small-scale fisheries to markets through training and extension services for the application of SPS standards.	Social protection interventions can directly and indirectly increase access to more diversified and better quality food, thus improving food security and nutrition.
Support social network development, cooperatives and organizations to enhance economic inclusion and develop alternative fishery value chains	Fisheries policies can promote the development of grassroots institutions (e.g. fishers' cooperatives, associations and other fisheries-based organizations) to enhance economic inclusion and develop alternative sources of income.	Social protection interventions can increase the participation of the poorest and most vulnerable beneficiaries in social networks (e.g. cooperatives, community-based credit associations, mutual societies, etc.), which are important sources of information and knowledge sharing, provide support during hardship, as well as economic inclusion and sources of lending and credit for business development.

Strengthening fisheries-dependent communities' risk management and resilience to shocks

Fisheries policies can strengthen risk management by ensuring that current data on fisheries-dependent communities is available to inform the legislation and policy required to facilitate the identification of losses in the case of shocks. Likewise, fisheries policies can improve the formalization of the sector (registration of small-scale fisheries and their crew members, port facilities for small-scale fishers, etc.) thus, improving fishers' work conditions, safety at sea and their access to social security. This could be achieved through appropriate fisheries policies which make the release of fishing licences conditional on the proof of registration for social security schemes, so as to increase safety at sea, risk management and disaster preparedness. For instance, the governments of the Arab Republic of Egypt, the Kingdom of Morocco and the Republic of Tunisia provide annual fishing licenses on condition on proof of affiliation to social security schemes (FAO, 2019c).

Social insurance also plays a key role in strengthening the resilience of fisheries-dependent communities. The United Mexican States developed several micro-insurance programmes against extreme climatic variations to protect small-scale rural producers – including the fisheries sector. The Republic of Costa Rica, has since the 1980s introduced collective insurance for small-scale fishers in case of shocks, allowing the members of cooperatives and fishers' associations to register and receive state subsidies while promoting the development of fishers' organizations to expand the scope of the insurance (Solórzano-Chavez, Solís-Rivera and Ayales-Cruz, 2016). The Republic of Peru's Ministry of Production introduced the Mandatory Insurance for Small-Scale Fisherman which acts like personal accident insurance and covers the risk of death and bodily harm suffered by independent small-scale fishers, including crew and non-crew members (El Peruano, 2017). Additionally, the General Directorate of Agrarian Promotion offers an insurance policy called “*Seguro + VIDA*” to independent small-scale fishers and other fish-workers, which covers personal accidents and grants compensation in case of death or total or partial permanent disability (Sarmiento, 2017).

Social transfers can also safeguard people's welfare and assets and assist them in better managing shocks. In the Republic of South Africa, environmental organizations made conditional cash transfers, disaster preparedness and climate change adaptation

training available to safeguard fishing communities in cases of climate shocks (FAO, 2017b). After cyclones Sidr and Aila, the Government of the People's Republic of Bangladesh provided short-term relief in terms of food, cash, drinking water, medicine and clothing. This was followed by reconstruction efforts through cash for work, including building coastal embankments and other physical infrastructure (roads, houses) as well as mangrove afforestation programmes. The small-scale fishers of the region benefited from the Emergency Cyclone Recovery and Restoration Project to facilitate restoration and recovery and build long-term disaster preparedness. The project provided small-scale coastal fishers with improved boats, nets and safety equipment, as well as technical assistance and training in aquaculture practices. The project also worked to strengthen the disaster risk reduction capacity of the government, and prepare future operations for long-term risk reduction (FAO, 2019b).

Lastly, the FAO Global Environment Facility-funded Climate Change Adaptation in the Eastern Caribbean Fisheries Sector project is seeking to introduce adaptation measures in fisheries management, capacity building of fisherfolk and aquaculturists, insurance schemes and in-kind equipment delivered, as well as implementing an EAF and mainstreaming climate change. Likewise, the Ministry of Agriculture, Forestry and Fisheries of the Kingdom of Cambodia, in partnership with WorldFish Center/FAO, is discussing the construction of a shock responsive social protection system as part of its fisheries policies.

Table 3. Complementary impacts of strengthening fisheries-dependent communities' risk management and resilience to shock

Outcomes	Role of fisheries policies	Role of social protection
Strengthen risk management and resilience	Fisheries policies can improve fishery data collection and serve to facilitate the identification of losses in the case of shocks.	Social protection helps households in managing shocks, improving their resilience and protecting their assets.
Improve work conditions and safety at sea	Fisheries policies can improve the formalization of the sector (registration of small-scale fisheries and their crew members, port facilities for small-scale fishers, etc.) and facilitate inspections of health and safety conditions and equipment.	Social protection can enable households to shift from casual labour to formal work contracts, and even vessel ownership. Such a shift can improve the terms and conditions of employment for labourers and crew members.

Section 2

2. Strengthening the enabling environment for promoting coherence

This section identifies options for promoting a conducive and favourable environment for more coherent fisheries policies and social protection. When synergies between fisheries policies and social protection are promoted systematically and intentionally through policy and programming, and when they are aligned to broader development policies, they can achieve their shared goals of combating poverty and hunger more effectively.

Coherence does not happen naturally and it needs to be purposely sought. It requires coordinated efforts across different government agencies. However, government agencies are not typically organized to allow for easy cross-sectoral collaboration (Slater *et al.*, 2016). Political, institutional and operational factors often pose barriers to effective joint action across ministries of fisheries and social protection. Some of the barriers identified by the study are:

- **Different strategic goals and approaches**

One of the main challenges behind the lack of coherence between fisheries policies and social protection interventions – in line with the SSF Guidelines and its enabling environment and coherence chapter – is that their respective objectives could diverge. Coherence, and greater impacts, will only be achieved if they can be reconciled. In particular, ministries may adopt different approaches – ministries of fisheries work with more commercially oriented fishers and focus mostly on natural resource management, while ministries responsible for social protection work largely with the vulnerable strata of the population, such as small-scale fishers and fish-workers, to guarantee their access to social protection or their first relief assistance. Thus, the two sectors sometimes do not have a joint long-term agenda towards better natural resources management and economic inclusion of fisheries-dependent communities.

- **Organizational fragmentation**

A “silo” effect can occur when institutions and actors responsible for different sectors (i.e. fisheries and social protection) are compartmentalized and work in isolation. When they do link with other sectors, the fisheries sector is more inclined to work with “economic” (infrastructure, trade, etc.) and “environment” sectors, while the social protection sector is more likely to link with “social” sectors (health, education, nutrition, etc.).

- **Limited data, assessment, evaluation covering the sector**

There is a consistent lack of data to adequately cover the sector. Systematic sector disaggregated data on fisheries-dependent communities, from pre-harvesting to harvesting and trade, is missing. Likewise, data on accidents and fatalities is also necessary to further improve the offer of affordable and adequate social protection programmes for fisheries-dependent communities.

- **Competition for resources and political leverage**

Competition for natural resources with other economic sectors such as tourism, agriculture, aquaculture, energy, mining and infrastructure development can occur, leading to difficult cross-sectoral collaboration between stakeholders and government agencies.

FAO considers five aspects as relevant to create an enabling environment for coherence, as well as key entry points and actions for overcoming these challenges. These aspects are:

- political commitment
- policy architecture
- coordination arrangements
- financing arrangements
- human capacities.

2.1 Political commitment

Political commitment is essential to overcome any challenges of coordination at the policy and operational levels listed above. When coordination is limited, opportunities for synergies to reach greater goals may not be seen. Political commitment can help in reducing this risk. Opportunities for mobilizing political commitment to coherence are influenced by political context, including historical factors and political economy factors – such as motivations, interests and values regarding fisheries-dependent communities' development – as well as development and poverty reduction strategies. For example, the views of fisheries ministries about the role of fisheries-dependent communities in national food security, development strategies and natural resource management are important factors in determining the extent of political support for coherence between fisheries and social protection. Generally, ministries of LMICs are mostly focused on large-scale fisheries as opposed to subsistence production. Large-scale fisheries are perceived to have higher potential for generating growth and producing a trickle-down effect on poverty reduction, due to higher productivity, income and ability to contribute to national food availability. Furthermore, political marginalization has been a recurrent issue in the fisheries literature for decades. Policymakers and stakeholders at both national and international level, may be used to considering small-scale fishers as backward, informal, marginal economic actors doomed to disappear with economic development and modernization (Béné, Devereux and Roelen, 2015). According to these government misconceptions, fisheries-dependent communities are still today marginalized and not entirely protected by their states. Additionally, lack of and/or poor access to public services (education, health), difficulties in accessing formal credit, limited investments in potential alternative livelihoods, and exposure to labour abuse and child labour, are all factors determined by weak political involvement in support of the sector.

Understanding the barriers that hinder fisheries-dependent communities from accessing social protection services and benefits is indispensable to develop proper policy responses to effectively bridge the gap in terms of populations covered, type of vulnerabilities and risks, addressing synergies between social protection and fisheries policies. FAO supports governments in lifting these barriers (e.g. legal, financial and administrative) for rural and coastal communities to reduce poverty, vulnerability and marginalization, and increase the economic inclusion of the most vulnerable.

What can be done about it?

- **Building coalitions of stakeholders to develop a shared vision and call to action.** Strategic alliances between ministries of fisheries, social welfare, finance and planning, district and local government departments, parliamentarians and non-state actors (e.g. NGOs, fisheries cooperatives and communities) can generate momentum towards coherence and increase its prominence in the national political agenda. Initial steps for building these coalitions can include organizing events such as workshops and visits to field sites that exemplify complementarities

between fisheries interventions and social protection. These can help sensitize participants to the potential benefits of collaboration and co-management and can lead to identifying shared goals and joint activities to achieve these benefits.

- **Generating and disseminating evidence for policy advocacy.** Evidence-based advocacy on the role and benefits of coherence between the two sectors can be useful in garnering support and establishing a common understanding of key issues among diverse stakeholders. To this end, governments should carry out systematic sector-disaggregated data collection to calculate the exact share of fishery-dependent people within the total population in poverty. Moreover, gender-disaggregated data are needed to ensure socio-economic assessments of the fisheries sector and the design and adoption of gender-sensitive measures. Better data on accidents and fatalities are also necessary to further improve the offer of affordable and adequate social security programmes for fisheries-dependent communities. National dialogues need to be opened to raise awareness based on specific socio-economic data and vulnerability analysis related to fishers and fish-workers.
- **Improve governance.** Greater coherence will not be created without improved governance of both social protection and fisheries policies/laws. Overcoming the overall neglect of fisheries-dependent communities in social protection programmes, enhancing the positive impacts they can generate on both the well-being of humans and ecosystems, strengthening the institutional role of fisheries-dependent communities and fish-workers' organizations/cooperatives through co-management and participatory approaches in decision making, are actions needed. The failure to rebuild the Jaffna fisheries and its fishing communities in post-war and post-tsunami Sri Lanka (Siluvaithasan and Stokke, 2006) showed the critical importance of adequate institutions and good governance at multiple levels to successfully mediate this process. In recent years, Latin America has generated good examples of progressive fisheries laws, which include social protection for small-scale fishers.
- **Leveraging national, regional and global commitments.** The international and global-level political commitment may help states to leverage and frame their national laws, policies and programmes toward a better coherence between social protection and fisheries interventions. Some international regulations are extremely relevant to ensure and promote coordinated actions between the two sectors, such as the SSF Guidelines, CCRF and the Work in Fishing Convention. Consistent with the SSF Guidelines, in 2018, several coastal countries of the Mediterranean Sea adopted the 10-year Regional Plan of Action for Small-Scale Fisheries in the Black Sea and Mediterranean Sea through a Ministerial Declaration (GCFM, 2020). It includes actions and commitments on decent work and social protection along with fisheries governance and development. In the same year, social protection entered the discussions of the Fifth Forum of Fisheries and Aquaculture Parliamentarians of Latin America and the Caribbean, in Panama. Among other measures, the Forum agreed to explore the development of a model law on social security for small-scale fishers. In supporting the uptake of international standards, FAO and partners organized seminars in Asia, the South West Indian Ocean and West Africa to promote safety in fisheries and decent work, as well as coherence between social protection and fisheries policies. The meetings led to calls for improved cooperation between safety, labour and fisheries authorities. Other actions have been developed for preventing labour and human rights abuses in the sector, with greater attention paid to the vulnerabilities of small-scale fisher communities.

2.2 Policy architecture

Policy architecture defines the joint role played by fisheries and social protection policies in moving people out of poverty and hunger and can provide the strategic vision and guidance necessary to translate political commitments towards coherence into action. Ministries responsible for fisheries and social protection often have different mandates as well as potentially competing priorities, all of which contribute to fragmented policies and programmes across the two sectors. Even when policy objectives do overlap, sectoral ministries may have limited incentives to coordinate if they do not view fisheries and social protection policies as relevant, interdependent and beneficial to their own mandates and sectoral priorities. Objectives in the fisheries sector focus predominantly on enhancement of the fisheries production and achievement of economic growth by exporting fish and fisheries products, while social protection addresses poverty and vulnerability and may not fit neatly within fisheries sector mandates. The two sectors in coordination may support the same objectives, which commonly reflect the three pillars of sustainability: ensuring resource conservation; contributing to social well-being; and generating economic benefits in a context of food security and poverty eradication.

What can be done about it?

- **Using dialogue processes around national social protection strategies and policies.** These dialogue processes can involve ministries of fisheries in social protection policy discussions, in particular when these policies adopt a system approach to social protection. Through these processes, it is possible to identify how the ministry of fisheries could contribute to addressing structural constraints in the sector in order to achieve a set of common food security and poverty reduction objectives. Another entry point is through dialogue with fisheries cooperatives and associations, which play an active role by providing informal social protection.

2.3 Coordination arrangements

Coordination mechanisms can facilitate collaboration across and within different agencies, as well as across different programmes, ensuring that policy and programme formulation is harmonized and aligned, and interventions are well implemented. These coordination mechanisms are particularly important when fisheries policies and social protection interventions are implemented by different ministries – as is most often the case – and when various actors from the government, civil society and development partners are involved in these interventions. Clear working procedures can also support coordination by indicating if and how interventions should take place, and institutions – at national and subnational levels – need to have the resources to operate effectively.

What can be done about it?

- **Using existing coordinated fisheries and social protection interventions to place coherence into national policy agenda.** Lessons learned from cross-sectoral initiatives backed by LMICs and/or supported internationally, may be outstanding examples of coordinated actions to scale up. Useful lessons can be drawn from Canada's Northern Cod Adjustment and Recovery Programme⁴, the Federative Republic of Brazil's *Seguro Defeso* programme, and the Republic

⁴ Canada's Northern Cod Adjustment and Recovery Programme aims to assist fisheries workers to cope with the closure of the northern cod fishery and to reduce dependency on fisheries.

of South Africa's small-scale fisheries policy of 2012⁵. There, national fisheries management agencies ensured that when measures were introduced to protect natural resources, social protection compensations for small-scale fishers were also applied. In addition, sometimes the boundary between what constitutes social protection and fisheries interventions can be blurred. In these instances, fisheries interventions and social protection can be dissociated but their objectives cannot be. This is the reason why placing coherence between the two sectors into national policy agendas is necessary to optimize complementarities between interventions.

- **Promoting inter-institutional cooperation in relevant coordination mechanisms.** Bringing all concerned ministries together (e.g. welfare, health, development, economy and finance, women, fisheries, environment, public works, planning, etc.) within national sovereignties will be essential to lay the foundation of an integrated and coherent programme that responds to the needs of the communities and fisheries identified in the earlier steps. An extension of inter-institutional cooperation may be required across borders, for example in the case of the management of transboundary resources and migratory fish species and compliance with international commitments regarding, for instance, the protection of workers' rights in the sector, if important labour migration patterns are observed.

2.4 Financing arrangements

Financing is key to establish coherence between fisheries and social protection because it helps to determine priorities, including the attention given to coordination. Challenges to coordination between departments of fisheries and social protection arise partly from particular funding arrangements and existing priorities; for example, ministries of fisheries may not be committed to the development of small-scale fishers' communities and therefore do not prioritize funding for this group.

What can be done about it?

Government and development partners can create financial support for coherence by:

- **Identifying the role of social protection and fisheries within a cross-sectoral investment plan.** The role of fisheries and social protection should be identified within cross-sectoral investment frameworks (e.g. sector-wide fisheries policies, investment plans for the economic inclusion of small-scale fisheries, investment plans for natural resource management or climate change adaptation). These frameworks, which are key to turning policy statements into action, allow different sectors to agree jointly on investment priorities and key features (e.g. target groups, geographic location, type of intervention) and to align donor financing with national priorities.
- **Pooling funds into basket funding.** Pooled funding administered by national governments can simplify harmonization of planning, channelling of funds and the delivery of activities.
- **Creating incentives for coordination.** Incremental financing, provided on condition of achieving targets related to coverage of fisheries-dependent communities, can be used by ministries of finance and aid agencies to create incentives for ministries of fisheries to work with small-scale fishers. In addition, development partners can help draw attention to coordination by providing

⁵ The South African policy aims to provide redress and recognition to small-scale fisher communities who were previously marginalized and discriminated against by racially exclusionary laws and policies, individualized permit-based systems of resource allocation, and the insensitive imposition of conservation-driven regulations.

investment support to interventions that bring together fisheries policies and social protection.

2.5 Human capacities

While policy frameworks and institutional mechanisms are important for achieving coherence, they are not sufficient. Government agencies responsible for implementing policies and programmes and for facilitating collaboration between institutions need to have the required skills to make these things happen.

What can be done about it?

As highlighted by the agriculture and social protection framework, it is possible to develop technical and functional capacities using various modalities, such as in-class training, e-learning, experiential learning, on-the-job coaching in two ways:

- **Sensitizing staff on the design and implementation of coherent fisheries and social protection.** Staff within ministries of fisheries might require training to gain a basic understanding of social protection and its nexus with fisheries policies. Similarly, staff dealing with social protection may require training on fisheries interventions and their linkages with social protection.
- **Developing capacities to generate and exchange evidence.** Where necessary, the capacity of research and university staff to evaluate the impacts of complementary fisheries and social protection interventions using quantitative and qualitative techniques should be developed. This will aid their understanding of what works and what does not work and improve the design of coherent interventions.

Section 3

3. Opportunities to strengthen coherence through programming

This section discusses the practical approaches and interventions that policymakers and programme staff can adopt to systematically pursue coherence. It introduces both programming approaches and operational arrangements that can support coherence.

3.1 Approaches to strengthen linkages

The way in which linkages between fisheries and social protection policies and programmes play out and can be combined are context-specific, but they can generally be characterized as follows:

→ **Reinforcing:** This occurs when fisheries and social protection together contribute to a common goal, with each serving its own function. For instance, a cash transfer can be used to ease a household's liquidity constraints and fisheries interventions can provide the same household with access to improved technology (nets, gears, etc.) which target higher value species and avoid bycatch.

→ ← **Conflictual:** Conflict may occur between different interventions, undermining positive outcomes. For example, cash transfers might be used to invest in the fishery sector, thus increasing small-scale fishers' catches and intensifying overfishing and bycatch. Likewise, fuel subsidies provided to fishing communities may have a stabilizing effect on available income, but can in some cases encourage unsustainable fishing practices.

FAO proposes to strengthen the linkages between fisheries policies and social protection interventions, through either (FAO, 2016):

- design or adapt single interventions;
- combine interventions into a single programme;
- align and coordinate multiple programmes and policies.

3.1.1 Design or adapt standalone interventions

“Freestanding” social protection or fisheries programmes can be designed or adapted to maximize coherence between their objectives. Fisheries policies can be designed to reach vulnerable and marginalized fisheries-dependent communities, including small-scale fishers, and incorporate social protection into their design. This is the case in the implementation of exclusive fishing zones (EFZs) purposely established to protect the fishing rights of small-scale fishers against the intrusion of semi-industrial and industrial fishing vessels. For example, in 2006 the government of the Republic of Mozambique established an EFZ as part of the implementation of its fisheries policy in line with the SSF Guidelines which advocate for state spatial planning approaches. These include inland and marine spatial planning, which take due account of the small-scale fisheries' interests and role in integrated coastal zone management by consultation and co-management processes. Fisheries policies could subsidize inputs, directly targeting poor and vulnerable fisheries-dependent communities that struggle to afford fishing equipment and boats, such as in Kerala, in the Republic of India, where a subsidized transport service for women fish vendors called *Vanitha* exists (FAO, 2017b). Fisheries policies could also promote the competitiveness of processing activities through the introduction of new, simple and inexpensive technologies.

These can have a tremendous effect on the small-scale fisheries value chain, particularly in increasing earnings and improving livelihoods. The introduction of more efficient fish smoking kilns in the Republic of Côte d'Ivoire increased profits, especially for women's cooperatives, and lowered the level of food waste and carbon fuel required to produce the product, thereby protecting fish-workers' health and natural resources (FAO, 2017c).

Social protection interventions can also be designed to be coherent with the livelihoods of their beneficiaries. Public works programmes can be timed to avoid conflicting with small-scale fisheries activities, providing employment to small-scale fishers during fishing bans or a closed season, thus avoiding harm to livelihoods. Cash and in-kind transfers are increasingly used as standalone interventions to compensate for, incentivize or even simply restore coastal habitats. For example, in the Republic of Kenya in 2005, the Kuruwitu Conservation and Welfare Association established a "no-take zone" of two square kilometres in response to significant declines in fish catches. To this end, a compensation intervention for fishers whose livelihoods were compromised by this fishery policy in MPAs has been instituted. Small-scale fishers are paid by an international NGO to not fish in the area, leading to significant environmental gains (EC, 2019). Additionally, PES can be used as a standalone intervention to spur coastal dwellers to conserve and restore local habitats. The Manzanar Project in the State of Eritrea offers coastal communities, especially small-scale fishers, small financial and in-kind benefits to plant mangrove trees. In return, project participants (mostly poor women) receive a free meal and 20 Nafka (USD 1.33) each day they work. The project claims that up to 100 hectares of coastal land has been afforested through the scheme. The newly planted mangroves have also had a positive effect on the populations of select fish and shellfish species (EC, 2019).

Table 4. Adapting single interventions

Adapt single interventions	Fisheries policies can be designed to be more socially inclusive.	<i>Examples</i>	<ul style="list-style-type: none"> • Fisheries policies designed to be more socially inclusive and reach poor and vulnerable fisheries-dependent communities • Targeted inputs subsidies can be designed to better reach vulnerable fisheries-dependent communities • Promote competitiveness of fisheries' value-chain activities through innovative technologies
	Social protection interventions can be designed to be coherent with the fisheries livelihoods of their beneficiaries.	<i>Examples</i>	<ul style="list-style-type: none"> • Public works programmes can be timed to avoid conflicting with small-scale fisheries activities.

3.1.2 Combine multiple interventions

Fisheries policies and social protection interventions can be combined into one programme so that targeted households participate in both fisheries and social protection interventions. In the Republic of South Africa, coastal communities have benefited extensively from the Expanded Public Works Programme that has combined different interventions for the same beneficiaries, such as skills training and cash transfers in exchange for employment in clearing alien vegetation, dune rehabilitation and prevention of coastal erosion, fighting fires and cleaning up the coast (FAO, 2017d).

Another key example of combining multiple fisheries and social protection interventions is the compensation PES-like scheme for hilsa fishers in the People's Republic of Bangladesh, which aims to both reduce vulnerability of fishing communities and improve fish stocks (Box 7). The incentivization scheme is implemented through a fisheries cum compensation and livelihood diversification mechanism. It provides

assets to develop alternative income-generating activities, as well as a rice bag for fishing families excluded from a fish sanctuary delineated for conservation purposes. This is combined with awareness-raising initiatives to inform about the benefits of fisheries restrictions during the spawning season. Incentivization through fisheries programmes combined with social protection measures also turns fishers from “recipients” to “stewards”, a fundamental shift in human development philosophy. Such a paradigm change may also prompt the question of whether a line should exist at all between the realm of fisheries interventions and that of social protection. The example of the People’s Republic of Bangladesh suggests that striving towards “ultimate coherence” may involve exploring beyond the traditional boundaries of social protection and considering a paradigm change from “protection” to “incentivization”.

BOX 7

An incentive-based fisheries management cum social protection scheme

The hilsa fishery (*Ilish* in Bengali), which holds religious and cultural significance and is the fish of choice for most people in the People's Republic of Bangladesh, is crucial for food security and nutrition. Once abundant, it started declining from the 1970s due to overfishing and disruption to its habitat, spawning grounds and migration patterns. In 2003, in response to reported stock declines, the government began introducing various regulations for the protection of *jatka* (juvenile hilsa), such as ring-fencing five sites in the country's coastal rivers as hilsa sanctuaries where fishing is restricted during the breeding and spawning season; banning *jatka* fishing and related activities from November to July across the country; and banning monofilament gillnets. In recognition of the socio-economic hardships imposed by these regulations, the hilsa fishery was protected by the Government with an incentive-based management approach complemented by social protection measures. Thus, to compensate for loss of earnings due to fishing restrictions, the government started providing affected fishing communities (187 000 households identified as vulnerable) with 30 kg of rice per household per month. This was coupled with awareness-raising initiatives to inform about the benefits of fisheries restrictions during the spawning season, and assets for developing alternative income-generating activities (e.g. small livestock and poultry, sewing machines, cash for net making, plant nurseries, kitchen gardening and cage culture). The compensation scheme is fully funded by the Government of the People's Republic of Bangladesh and has taken about 5.5 percent of the total Department of Fisheries' development budget. With the aim of expanding to up to 287 000 hilsa fisher households, an innovative approach is being explored to finance the scheme through the establishment of a National Hilsa Conservation Fund and earmarking a percentage of government earnings from hilsa exports.

Benefits, challenges and lessons

Benefits to the hilsa stock have been observed (e.g. changes in size, sex ratios and composition of large hilsa, abundance of breeding and spawning and spent hilsa, and increased egg/fry production). Fishers have become more self-reliant and better able to break their dependence on rural moneylenders and, having used the ban period and the incentive scheme as an opportunity to diversify their income-generating activities, spend more time with their families, take care of children's education and welfare, and improve their overall well-being. However, there has not been any counterfactual or before-and-after impact evaluation of the intervention on the sustainability of the fishery, nor on the extent to which fishers' behaviour has changed and livelihoods and well-being increased. Inequalities in targeting and benefits, both within communities and households (unequal food distribution among family members) were also reported. Strengthening institutional capacities and local legitimacy, assessing the preference of fishing communities for certain types of compensation, empowering local fishers to monitor and enforce compliance and ensuring sustainable financing through the proposed Hilsa Conservation Trust Fund are critical to the effective and sustainable implementation of the scheme over the long term, and to its replication in other parts of the world.

Source: Dewhurst-Richman *et al.* (2016); Mohammed and Wahab (2013); IEED (2020).

3.1.3 Coordinate and align multiple programmes and policies

Fisheries policies and social protection interventions can be coordinated to reach the same households but through different independent interventions. This cross-sectoral programme coordination and alignment can be managed through integrated single

registries or interoperable fishers and social registries by ensuring that interventions are consistent and that, as much as possible, conflicts are addressed or avoided. This is the case in the Kingdom of Morocco where fisheries policies and social protection are deliberately aligned to promote a number of complementary outcomes; where formalization can function as an incentive for social fund registration. Indeed, annual fishing licenses are conditional on proof of registration for social security. These interventions can also create incentives for environmental protection and fisheries conservation, as much as continued opportunities for valorization and social fund contribution are dependent on adequate fish stocks. In the Republic of Paraguay, there is a similar mechanism called the National Fishers' Assistance Program which compensates fishers unable to work during the closed season with a non-contributory transfer, but only if they are listed within the General Fishermen Registry (FNS, 2020; MDS, 2014). Likewise, in the Republic of Colombia, a bill currently under consideration (SEDEVEDA) proposes the creation of unemployment insurance for small-scale fishers that compensates the sector for economic activities that cease during the closed season, for the amount up to the legal monthly minimum wage (FAO, 2019d). This mitigates the conditions of socio-economic vulnerability of small-scale fishers. For their part, beneficiaries will carry out activities during the closure for the benefit of the improvement of the essential habitats of the prohibited fishing species, such as cleaning of pipes or fishing areas, assistance with training in fishing regulations, or alternative productive activities that have been identified. These interventions will be further aligned and coordinated with some requirements for the fishers:

- registration within the General Fisheries Registry by the National Aquaculture and Fisheries Authority;
- demonstration to the authority that they are engaged in artisanal fishing as a main source of subsistence; and
- proof that at least 70 percent of their catches do not correspond to the prohibited species.

In coordination with the unemployment insurance, the bill proposes the creation of a subsidized social security regime for small-scale fishers, taking into account that small-scale fishers have high vulnerability rates, and their access to social protection, education and healthcare have been historically limited (FAO, 2019d).

One of the best-known examples of alignment and coordinated interventions is the *Seguro Defeso* scheme in the Federative Republic of Brazil. The *Defeso* subsidy was created by federal fisheries law in 2003, for small-scale artisanal professional fishers who fish as individuals or families in the General Fishing Registry. The subsidy is an unemployment benefit equal to the official minimum wage during the months of the closed season for shrimp and lobster, and in both marine and freshwater fisheries (Freitas, *et al.*, 2010; Milani and Fontoura, 2007; Scharer, Ribeiro and Nascimento, 2011; Souza *et al.*, 2009). Law violators are subject to fines and loss of their fishing licenses (FAO, 2017b). Empirical evidence about the impacts of the *Defeso* scheme is nonetheless mixed and controversial (Begossi *et al.*, 2011). A recent critique argues that it creates perverse incentives and has attracted many new entrants (small-scale fishers as well as non-fishers) to the industry, primarily to claim *Defeso* payments, making the *Seguro Defeso* extremely expensive in fiscal terms. Similarly, since the closed season enforcement capacity is limited in many inland and coastal areas, the overfishing of protected species might actually have increased rather than declined. During the past few years, the General Fisheries Registry has undergone reform and therefore new fishers have not been able to register, which results in the neglect of many in the target audience. Nevertheless, the *Defeso* system sets a precedent in aligning and coordinating legislation and practice for compensating marine resource protection by artisanal fishers.

Additional examples of coordinated and aligned interventions include the ongoing efforts in several countries to link school feeding and public procurement programmes. In the Federative Republic of Brazil the government coordinates and aligns school feeding programmes and public food procurement to purchase food within the national family farmer category, by prioritizing the most vulnerable producers, farmers and fishers' organizations, including women, indigenous peoples and *Quilombolas*⁶. One of the intentions of this coordinated intervention is to promote small-scale fishers' production by providing them with a guaranteed market and adequate support, while simultaneously contributing to better education, health and nutrition among vulnerable children. Similarly, in 2014, the government of the Oriental Republic of Uruguay earmarked a proportion of its food procurement to be sourced from family farmers and fishers. The Law No. 19.299 established a quota of 30 percent for centralized food purchases and 100 percent for decentralized ones. The initiative is targeted at family fishers' organizations as well as small-scale food processing. The government procures a wide range of foods, including fish (Miranda and Klug, 2018).

Table 5. Aligning multiple programmes and policies

Align multiple programmes and policies	Example	
		<ul style="list-style-type: none"> Align fisheries policies to social protection interventions; Linking school-feeding with public procurement programmes to include local fish products.

3.2 Design and operational arrangements that can support coherence

This section describes some considerations of design and operational arrangements that may prove useful for improving coherence in programme or policy work. They include:

- understanding the complexity of socio-economic and ecological systems;
- identifying feasible entry points to establish synergies;
- selecting the best instruments or combination of instruments;
- enhancing fisheries-dependent communities' co-management processes;
- striving for harmonized targeting systems;
- determining the appropriate transfer size;
- ensuring congruence with seasonality;
- ensuring timely and predictable delivery of transfers;
- monitoring, evaluation and enforcement systems;
- investigating mechanisms for sustainable financing.

Understanding the complexity of socio-economic and ecological systems

At the design stage, it is important for stakeholders to properly identify ecological and biological characteristics of the fisheries at stake, possibly down to the species level, as well as to identify the social, cultural and economic characteristics of the fishing communities to be targeted, including their level of dependence on the fisheries, degree of marginalization, vulnerabilities and means to cope. It must be recognized that a blanket approach may not be suitable, and that sub-groups of stakeholders and fisheries may require differentiated treatment. To this extent, ensure that current data is available on fisheries-dependent communities to inform the legislation and policy design required to extend benefits. In particular, ensure data is available on the scale of fisheries-dependent communities' activity, including production, income and potential contributions, as well as demographic information on workers in the sector to facilitate actuarial modelling and costing and the design of appropriate institutions for registration, paying contributions and distributing benefits. Better

⁶ *Quilombolas* are communities of descendants of Afro-Brazilian people who escaped colonial slavery.

data on accidents and fatalities is also necessary to improve the offer of affordable and adequate social protection programmes for fisheries-dependent communities. Lastly, ensure research and data is available on the most vulnerable and invisible segments of the fisheries-dependent communities who usually work informally, such as boat crew members; fish processors, especially women; and gleaners, who are generally excluded from social protection systems. This data will inform future social protection design aimed at reducing poverty and limiting reliance on adverse coping strategies, such as unsustainable fisheries practices.

Identifying feasible entry points to establish synergies

Entry points will differ across countries, depending on local needs and existing operational systems. Working out a feasible approach to bring together programmes can be informed by mapping existing policies and strategies, programmes and identifying coherence gaps; and assessing whether ongoing programmes should be revised, merged or better harmonized and coordinated. Gaps in the current implementation of social protection schemes should first be identified, along with their causes, before moving to the elaboration of a new initiative. The design stage is extremely important for stakeholders in social protection and fisheries to build a joint understanding of their common objectives and how best to achieve them by reconciling the socio-economic aspects of fisheries-dependent communities with poverty and natural resources management (co-management) aspects. Designing a scheme that is sustainable, equitable and economically efficient is likely to lead to trade-offs for some social groups or the ecosystem. This will also allow the identification of the approaches that are the most appropriate to address particular vulnerabilities of the entire fisheries value chain. If sustainability of the resource and equity across beneficiaries are to be simultaneously achieved, the principles guiding the approach chosen towards this goal should be clearly spelt out: who will be targeted, how benefits will be shared, how costs will be shared. Agreeing on these at the outset will minimize the likelihood of conflicts arising later in implementation. The *Diagnostic Tool* is useful for assessing the existing state of coherence within a country and for identifying potential entry points for strengthening it.

Selecting the best instruments or combination of instrument to be used

The choice of instruments or combination of instruments is informed by a number of factors. Among these are the planned objectives, the nature of the issues to be addressed, national development priorities and resources available. Instruments do not necessarily need to be combined into one programme. Fisheries policies can be designed to be more socially protective and promotive, and social protection interventions can be designed to support fisheries livelihoods and natural resource management. While different, the interventions may achieve the same objectives; reconciling the socio-economic aspects of fisheries-dependent communities with poverty and natural resources management (co-management) aspects. Finding out which instruments are most needed (e.g. compensation, incentives, etc.), taking into account sub-group needs (e.g. women, youth, elders), as well as geographic and ecological variations and climate change, can only be achieved through a bottom-up, participatory approach (e.g. co-management, human rights-based approach) that will pave the way for greater buy-in for implementation, compliance and enforcement of fisheries and social protection interventions. Bottom-up assessments should also explain which capacities need to be built to strengthen the potential for collective action in relation to the management of the fishery and for livelihood diversification.

Enhancing fisheries-dependent communities' co-management processes (including monitoring) of the current ecological station, thus creating possibilities of moving them from being opponents to collaborators

Co-management, collaborative and participatory processes of regulatory decision-making among stakeholders are needed to tackle government and key stakeholders. For instance, local conflicts between artisanal and industrial fishers; local rules over the use of fishing areas established by artisanal fishers; and the advent of protected areas that close access to some fishing areas used by artisanal fisheries.

Striving for harmonized targeting systems

Harmonized targeting of fisheries and social protection interventions can be a way to promote coherence. There are two main issues to consider with regard to targeting:

- i) Fisheries and social protection interventions may target different populations. This is due to the different targeting criteria and methods used, which in turn depend on the different objectives and strategic approaches of the two types of interventions.
- ii) There is fragmented coverage of the population across different programmes. This can be due to disconnected targeting objectives, lack of beneficiary lists or different lists across different programmes.

Investing time and resources in the development and adoption of a harmonized approach to targeting is critical for coherence and coordination across programmes. It can enhance programme coordination and efficiency, and ultimately contribute to poverty reduction and food security. In particular, an integrated single registry (or interoperable systems) allows programme planners to access information on potential and actual beneficiaries of various programmes, enabling referral of beneficiaries across programmes and between schemes as their circumstances change. In the Federative Republic of Brazil, for example, the Unified Registry for Social Programmes (known as *Cadastro Unico*) presents a key entry point for identifying low-income beneficiaries for various national social programmes (FAO, 2016).

Determining the appropriate transfer size

Commensurate transfer size does not necessarily mean “bigger”, but rather that the benefit size corresponds with the objectives of the programme. For example, if social transfers, compensation or PES are intended to have natural resource management impacts, transfers will only succeed if the replacement rate is relatively high. This does not necessarily mean that payments are bigger, but rather that the payments offered are close enough to the income lost from adhering to fishery regulations.

Ensuring congruence with seasonality

Cycles in fisheries, fish migrations and seasonality of determinate species have important implications for the timing of interventions designed to support fisheries-dependent activities and consumption. Public works programmes can be timed to avoid the withdrawal of small-scale fishers from fishery activities, while allowing them to smooth consumption during periods of seasonal underemployment or due to the government's fisheries policies. It is also important to promote flexibility of social security contribution payment options, potentially including an annual lump sum or other deviations from the regular contribution, to accommodate the irregularity of income in fisheries-dependent communities and prevent exclusion from benefits. A shift towards annual or trimestral payments could potentially resolve these issues in some cases.

Ensuring the timely and predictable delivery of transfers

Social transfers that are provided frequently and predictably can facilitate consumption-smoothing, expenditure-planning and risk-taking in anticipation of future payments. For example, ensuring that the payments are predictable over long periods is essential for fisheries management-cum-social protection to yield benefits.

Developing a monitoring, evaluation and enforcement system

Developing a monitoring, evaluation and enforcement system that can facilitate synergies by providing evidence on the coverage and impact of coherent interventions undertaken by different actors. The state of fisheries resources can evolve fast and with it the economic and social status of communities depending on them. Robust monitoring and evaluation systems need to be designed to not only pick up these changes, but to enable the adjustment of measures accordingly, promoting adaptation to changing circumstances and enhancing the overall resilience of the entire social-ecological system. Baselines need to be created and the data generated through regular monitoring could engender evidence (e.g. counterfactual and before-and-after studies) required to fill the very important knowledge gap on the impacts of social protection on fishers' well-being and fisheries sustainability, for the benefit of fishers and the scientific and development communities alike. It also enables programme planners to monitor interventions effectively, ensure that programmes are reaching intended beneficiaries, avoid unintended effects, and better manage trade-offs between natural resources management and fisheries-dependent economic inclusion objectives. For example, compensation payments and incentives need to be monitored to ensure that agreed behavioural changes (e.g. not fishing during the closed season) are actually undertaken. A good enforcement system has to be developed by LMIC governments. If regulations are not enforced by fisheries authorities and governments, the overfishing of protected species might actually increase rather than decrease.

Investigating mechanisms for sustainable financing

In concert with government sources, financing could come from a contribution of the buyers to ecosystem services (e.g. through a tax on fish bought) towards a social protection and fisheries conservation fund for the fishers and for the stewardship and management of the fishery (e.g. continued enforcement). The difficulties in establishing such funds should not be underestimated. Established criteria for the design of conservation trust funds, which guided the creation of the Hilsa Conservation Fund (Dewhurst-Richman *et al.* 2016) could be used as a starting point. Other types of funds, such as endowment funds, where the financial assets of the fund are invested and only the dividends are used to finance activities, is another option. Potential anchoring of these with government budgetary cycles to obtain top-up funds should be explored. Emerging experiences in the implementation of PES-like schemes in coastal areas around the world (Mohammed, 2014; Barr and Reid, 2013) could also provide interesting insights in this regard. Regardless of its form, the financing mechanism will need to be institutionalized and managed in accordance with the principles of good governance.

References

- Acheson, J.M. 2003. *Capturing the commons: Devising institutions to manage the Maine lobster industry*. University of New England. 483 pp. (also available at <http://dlc.dlib.indiana.edu/dlc/bitstream/handle/10535/29/Capturing-the-commons-devising-institutions-to-manage-the-maine-lobster-industry.pdf;sequence=1>).
- Allieu, A.M. & Ocampo, A. 2019. *On the path to universal coverage for rural populations: removing barriers of access to social protection*. Rome, FAO. (also available at <http://www.fao.org/3/ca7246en/ca7246en.pdf>).
- 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. (also available at <http://www.fao.org/3/CA0356EN/ca0356en.pdf>).
- Barr, R. & Reid, J. 2013. *How to make marine PES work*. Conservation Policy in Brief. No. 15. Sebastopol, Conservation Strategy Fund. (also available at http://conservation-strategy.org/sites/default/files/field-file/CSFPolicyBrief_15_en.pdf).
- Begossi, A., May, P., Lopes, P., Chimella de Oliveira, L. & Renato, S. 2011. Compensation for environmental services from artisanal fisheries in SE Brazil: Policy and technical strategies. *Ecological Economics* 71(1): 25–32.
- Béné, C. 2006. *Small-scale fisheries: Assessing their contribution to rural livelihoods in developing countries*. FAO Fisheries Circular No. 1008. Rome, FAO.
- Béné, C., Devereux, S. & Roelen, K. 2015. *Social protection and sustainable natural resource management: Initial findings and good practices from small-scale fisheries*. FAO Fisheries and Aquaculture Circular No. 1106. Rome, FAO. (also available at www.fao.org/3/a-i4620e.pdf).
- Béné, C. & Friend, R. 2011. Poverty in small-scale inland fisheries: Old issues, new analysis. *Progress in Development Studies*, 11(2): 119–144.
- Berkes, F. 2007. Adaptive co-management and complexity: exploring the many faces of co-management. In D. Armitage, F. Berkes, & N. Doubleday, eds. *Adaptive co-management*, pp. 19–37. Vancouver, University of British Columbia Press.
- Charles, A., Kalikoski, D. & Macnaughton, A. 2019. *Addressing the climate change and poverty nexus: a coordinated approach in the context of the 2030 agenda and the Paris Agreement*. Rome, FAO. (also available at <http://www.fao.org/3/ca6968en/CA6968EN.pdf>).
- Chen, S., De Bruyne, C. & Bollempalli, M. 2020. Blue economy: Community case studies addressing the poverty–environment nexus in ocean and coastal management. *Sustainability*, 12: 4654.
- Dewhurst-Richman, N., Mohammed, E.Y., Ali, M.L., Hassan, K., Wahab, M.A., Ahmed, Z.F., Islam, M.M., et. al. 2016. *Balancing carrots and sticks: incentives for sustainable hilsa fishery management in Bangladesh*. London, International Institute for Environment and Development. (also available at <http://pubs.iied.org/pdfs/16619IIED.pdf>).
- Dorward, A., Sabates-Wheeler, R., MacAuslan, I., Buckley, C., Kydd, J. & Chirwa, E. 2006. *Promoting agriculture for social protection or social protection for agriculture: Strategic policy and research issues*. Brighton, Department for International Development. (also available at <https://www.gov.uk/research-for-development-outputs/promoting-agriculture-for-social-protection-or-social-protection-for-agriculture-policy-and-research-issues>).
- EC (European Commission). 2019. *Social transfers to protect natural resources: How can social transfers discourage over-fishing and promote more sustainable practices?* Brussels, European Commission.

- El Peruano. 2017. Ley N° 30636 – *Ley que crea el Seguro Obligatorio del Pescador Artesanal (SOPA)*. [online]. [Cited 23 February 2021] <http://extwprlegs1.fao.org/docs/pdf/per173442.pdf>
- Emerton, L. 2013. Using valuation to make the case for PCMES: Promoting investments in marine and coastal ecosystems as development infrastructure. In E.Y. Mohammed, ed. *Economic incentives for marine and coastal conservation: Prospects, challenges and policy implications*. London, Routledge.
- FAO. 1995. *Code of conduct for responsible fisheries*. In FAO [online]. Rome. [Cited 7 February 2021]. <http://www.fao.org/iuu-fishing/international-framework/code-of-conduct-for-responsible-fisheries/en/>
- FAO. 2012. *Responsible governance of tenure: A technical guide for investors*. Technical Guide No. 7. Rome. (also available at www.fao.org/docrep/016/i2801e/i2801e.pdf).
- FAO. 2015. *Voluntary Guidelines for securing sustainable small-scale fisheries in the context of food security and poverty eradication. Second edition*. Rome. (also available at <http://www.fao.org/3/i8347en/I8347EN.pdf>).
- FAO. 2016. *Strengthening coherence between agriculture and social protection to combat poverty and hunger in Africa. Framework for analysis and action*. Rome. (also available at <http://www.fao.org/3/a-i5386e.pdf>).
- FAO. 2017a. *FAO social protection framework. Promoting rural development for all*. Rome. (also available at <http://www.fao.org/3/a-i7016e.pdf>).
- FAO. 2017b. *Social protection to foster sustainable management of natural resources and reduce poverty in fisheries-dependent communities. Report of the FAO Technical Workshop, 17–18 November 2015, Rome*. FAO Fisheries and Aquaculture Proceedings No. 51. Rome. (also available at <http://www.fao.org/3/a-i6880e.pdf>).
- FAO. 2017c. *The economic case for the expansion of social protection programmes*. Rome. (also available at <http://www.fao.org/3/a-i7311e.pdf>).
- FAO. 2017d. *FAO working for SDG 14. Healthy oceans for food security, nutrition and resilient communities*. Rome. (also available at <http://www.fao.org/3/a-i7298e.pdf>).
- FAO. 2018a. *Eliminating child labour in fisheries and aquaculture – Promoting decent work and sustainable fish value chains*. Rome. (also available at <http://www.fao.org/3/CA0177EN/ca0177en.pdf>).
- FAO. 2018b. *Achieving blue growth. Building vibrant fisheries and aquaculture communities*. Rome. (also available at <http://www.fao.org/3/CA0268EN/ca0268en.pdf>).
- FAO. 2019a. *Promoting greater coherence between small-scale fisheries and social protection policies, mechanisms and programs in Cambodia*. Rome/Penang. (also available at <http://www.fao.org/3/ca4836en/ca4836en.pdf>).
- FAO. 2019b. Westlund, L. & Zelasney, J., eds. *Securing sustainable small-scale fisheries: sharing good practices from around the world*. FAO Fisheries and Aquaculture Technical Paper No. 644. Rome. 184 pp. (also available at <http://www.fao.org/3/CA3041EN/ca3041en.pdf>).
- FAO. 2019c. *Social protection for small-scale fisheries in the Mediterranean region. A review*. Rome. (also available at <http://www.fao.org/3/ca4711en/ca4711en.pdf>).
- FAO. 2019d. *Social protection in small-scale fisheries and aquaculture in Latin America and the Caribbean*. Santiago de Chile. (also available at <http://www.fao.org/3/ca3177en/CA3177EN.pdf>).
- FAO. 2020a. *FAO term portal*. In FAO [online]. Rome. [Cited 7 February 2021]. <http://www.fao.org/faoterm/en/?defaultCollId=21>
- FAO. 2020b. *The state of world fisheries and Aquaculture 2020. Sustainability in action*. Rome. (also available at <https://doi.org/10.4060/ca9229en>).
- FAO. 2021. Ecosystem approach to fisheries (EAF). In: *FAO Fisheries Division* [online]. Rome. [Cited 30 April 2021]. <http://www.fao.org/fishery/topic/16034/>
- FNS (Food and Nutrition Platform). 2020. *Programa de Asistencia A Pescadores*. In SAN [online]. Rome. [Cited 23 February 2021]. <https://plataformacelac.org/en/programa/225>

- Freitas, R.R., Reis, V.L. & Apel, M. 2010. *Governança de recursos pesqueiros na Bacia do Rio Acre com ênfase na Tríplice Fronteira (Brasil, Peru e Bolívia)*. Florianópolis, Brazil, ANPPAS.
- García, S.M., Allison, E.H., Andrew, N.J., Béné, C., Bianchi, G., de Graaf, G.J., Kalikoski, D., Mahon, R. & Orensanz, J.M. 2008. *Towards integrated assessment and advice in small-scale fisheries*. FAO Fisheries and Aquaculture Technical Paper No. 515. Rome, FAO. 84 pp. (also available at <http://www.fao.org/3/i0326e/i0326e00.htm>).
- Gavrilovic, M., Knowles, M. & Davis, B. 2015. *Supporting the national social support policy in Malawi: Linking agriculture and social protection*. PtoP (From Protection to Production) report. Rome, FAO.
- GFCM. 2020. *Fisheries and aquaculture in the Mediterranean and the Black Sea: A preliminary analysis of the impacts of the COVID-19 crisis*. Rome, FAO on behalf of the Secretariat of the General Fisheries Commission for the Mediterranean. (also available at <https://doi.org/10.4060/ca9090en>).
- Gómez-Baggethun, E., De Groot, R., Lomas, P.L. & Montes, C., 2010. The history of ecosystem services in economic theory and practice: from early notions to markets and payment schemes. *Ecological economics*, 69(6): 1209–1218.
- Hauck, M. & Sowman, M. 2004. *Waves of change: Coastal and fisheries co-management in South Africa*. Johannesburg, Juta Academic.
- IIED (International Institute for Environment and Development). 2020. *Investing in hilsa fishery as economic infrastructure for Bangladesh*. In IIED [online]. London. [Cited 19 February 2020]. <https://www.iied.org/investing-hilsa-fishery-economic-infrastructure-for-bangladesh>
- ILO (International Labour Organization). 2007. Work in fishing convention, 2007 (No. 188). In ILO [online]. Geneva. [Cited 7 February 2020]. https://www.ilo.org/dyn/normlex/en/f?p=NORMLEXPUB:12100:0::NO::P12100_ILO_CODE:C188
- ILO. 2017. *World social protection report 2017–19. Universal social protection to achieve the sustainable development goals*. Geneva, ILO. (also available at https://www.ilo.org/wcmsp5/groups/public/---dgreports/---dcomm/---publ/documents/publication/wcms_604882.pdf).
- INSS (Instituto Nacional do Seguro Social de Brasil). 2020. *Seguro-Desemprego Do Pescador Artesanal*. [online]. [Cited 19 February 2020]. <https://www.inss.gov.br/beneficios/seguro-desemprego-do-pescador-artesanal/>
- Jack, B.K., Kousky, C. & Sims, K.R. 2008. Designing payments for ecosystem services: Lessons from previous experience with incentive-based mechanisms. *Proceedings of the National Academy of Sciences*, 105(28): 9465–9470.
- Jentoft, S. 2003. Co-management – The way forward. In D.C. Wilson, J.R. Nielsen & P. Degnbol, eds. *The Fisheries co-management experience. Accomplishments, challenges and prospects*. Springer. (also available at <https://www.springer.com/gp/book/9781402014277>).
- Milani, P.C.C. & Fontoura, N.F. 2007. *Diagnostico da pesca artesanal na Lagoa do Casamento, sistema nordeste da Laguna dos Patos: uma proposta de manejo*. *Biociencias* 15: 82–125.
- Ministerio de Desarrollo Social (MDS). 2014. *Programa de Asistencia a Pescadores del Territorio Nacional* [online]. [Cited 23 February 2021]. <https://www.mds.gov.py/index.php/programas/asistencia-pescadores>
- Miranda, A. & Klug, I. 2018. *Strengthening sector policies for better food security and nutrition results*. Policy Guidance Note. Public Food Procurement.
- Mohammed E. 2012. *Payments for coastal and marine ecosystem services: prospects and principles*. International Institute for Environment and Development Briefing. London, IIED. (also available at <http://pubs.iied.org/17132IIED/>).
- Mohammed, E.Y. 2014. *Economic incentives for marine and coastal conservation prospects: Challenges and policy implications*. London, Routledge.
- Mohammed, E.Y. & Wahab, A. 2013. *Direct economic incentives for sustainable fisheries management: the case of Hilsa conservation in Bangladesh*. International Institute for Environment and Development. London, IIED.

- Moreno, G.** 2011. *Octopus (Octopus cyanea) from Madagascar and Tanzania in international markets. Survey about market potential for MSC-certified octopus in international markets.* Marine Stewardship Council.
- Obura, D.** 2017. *Reviving the Western Indian Ocean economy. Actions for a sustainable future.* WWF International, Gland, Switzerland. 64 pp. (also available at <https://sustainabledevelopment.un.org/content/documents/13692WWF2.pdf>).
- OECD (Organisation for Economic Cooperation and Development).** 2015. *Policy coherence for sustainable development.* Paris, OECD. (also available at <http://www.oecd.org/development/pcd/Note%20on%20Shaping%20Targets.pdf>).
- Pinedo, D. & Soria, C.** 2008. *El manejo de las pesquerías en ríos tropicales de Sudamérica.* Bogota, Mayol Ediciones SA. (also available at <https://prd-idrc.azureedge.net/sites/default/files/openebooks/420-8/>).
- Sarmiento, F.** 2017. Ley No. 30 636, *Seguro Obligatorio Del Pescador Artesanal.* Ministerio de la Producción. Documento sin publicar.
- Scharer, R., Ribeiro, X.R. & Nascimento, J.R.** 2011. *Resultados economicos da pesca da lagosta Com cangalhas na prainha do Canto Verde em 2010.* Mimeo, unpublished.
- Seixas, C., Mente-Vera, C., Ferreira, R.G., Moura, R.L., Curado, I.B., Pezzuti, J., The, A.P.G. & Francini-Filho, R.B.** 2009. Co-managing commons: advancing aquatic resources management in Brazil. In P.F.M. Lopes & A. Begossi, eds. *Current trends in human ecology*, pp 183–204. Newcastle upon Tyne, Cambridge Scholars Publishing.
- Sepúlveda, M. & Nyst, C.** 2012. *The human rights approach to social protection.* Finland, Ministry for Foreign Affairs. (also available at <http://ssrn.com/abstract=2114384>).
- Siluvaitasan, A.S. & Stokke, K.** 2006. Fisheries under fire: impacts of war and challenges of reconstruction and development in Jaffna fisheries, Sri Lanka. *Norwegian Journal of Geography*, 60(3): 240–248.
- Sinha, S., Lipton, M., Church, J., Leavy, J., Litchfield, J., Ronchi, L., Straub, R. & Shahin, Y.** 1999. *Damaging fluctuations, risk and poverty: A review.* Background Paper for the World Development Report. Brighton, UK.
- Slater, R., Ulrichs, M., Harman, L. & Wiggins, S.** 2016a. *Coherence between agriculture and social protection: Methods notes.* Rome, FAO.
- Solórzano-Chavez, E., Solís-Rivera, V. & Ayales-Cruz, I.** 2016. *Empleo rural decente en el sector de pesca artesanal y de pesca semi-industrial en Costa Rica. Caso de estudio.* Rome, FAO. 68 pp. (also available at <http://www.fao.org/3/i6519s/i6519s.pdf>).
- Souza, K.M., Silva, N.J.R., Lopes, R.G., Arfelli, C.A.** 2009. *Análise da política pública do defeso do camarão-sete-barbas (Xiphopenaeus kroyeri) na comunidade pesqueira do Perequê (Guarujá, São Paulo, Brazil).* *Leopoldianum*, 97: 61–71.
- Teh, L.C.L., Ota, Y., Cisneros-Montemayor, A.M., Harrington, L. & Swartz, W.** 2020. Are fishers poor? Getting to the muddy bottom of marine fisheries income statistics. *Fish and Fisheries*, 2(3): 471–482.
- Thorpe, A., Reid, C., van Anrooy, R. & Brugere, C.** 2004. Strategy, African poverty reduction development, programmes and the fisheries sector: Current situation and opportunities. *African Development Review*, 16(2): 328–362.
- Tietze, U & van Anrooy, R.** 2019. *Guidelines for increasing access of small-scale fisheries to insurance services in Asia. A handbook for insurance and fisheries stakeholders. In support of the implementation of the Voluntary Guidelines for Securing Sustainable Small-Scale Fisheries in the Context of Food Security and Poverty Eradication.* Rome. (also available at <http://www.fao.org/3/ca5129en/ca5129en.pdf>).
- Tirivayi, N., Knowles, M. & Davis, B.** 2013. *The interaction between social protection and agriculture. A review of evidence.* PtoP (From Protection to Production programme)/ UNICEF. Rome, FAO. (also available at <http://www.fao.org/3/a-i3563e.pdf>).
- UN Atlas of the Oceans.** 2002–2016. UN Atlas of the Oceans. [Online]. [Cited 11 March 2021]. <http://www.oceansatlas.org/>
- World Bank.** 2001. *World Development Report 2000/2001: Attacking poverty.* New York, USA, Oxford University Press.

Annex

Potential typology of risks at micro and macro level

	Idiosyncratic	Covariate
<i>Risks/shocks</i>	<i>Risks and shocks affecting individuals & households (micro)</i>	<i>Risks and shocks affecting groups, communities, regions or nations (macro)</i>
Health	<ul style="list-style-type: none"> injury illness (particularly waterborne diseases) disability, old age, death 	<ul style="list-style-type: none"> epidemic patents and cost structures affecting access to drugs, vaccinations, etc. government lockdown measures due to the pandemic COVID-19
Natural/ environmental	<ul style="list-style-type: none"> freak waves waterspouts or droughts interaction with dangerous marine/aquatic animals 	<ul style="list-style-type: none"> threats to fish stocks tsunamis or floods high winds/hurricanes ecosystem damages
Social	<ul style="list-style-type: none"> fishing crew forced labour crime domestic violence drug and alcohol abuse child labour 	<ul style="list-style-type: none"> forced labour in fish processing factories social exclusion exploitative working conditions community disputes over resources migrants' rights illegal transnational fishing piracy and maritime and transnational crime
Economic	<ul style="list-style-type: none"> unemployment loss of fishing equipment capsizing, grounding, collision and sinking vessels, fire on board oil spill or other pollution caused by fishing vessels lack of access to other livelihoods lack of alternative source of subsistence (e.g. alternative working activity) limited investments in potential alternative livelihoods 	<ul style="list-style-type: none"> price volatility overfishing high prices for inputs national and international regulations on fishing (e.g. no take zones, closed season, quotas or permits) trade bans (e.g. Thailand, shrimps in the United Kingdom/United States) low prices for fish sales competition over resources with other sectors such as tourism, agriculture, energy, mining and infrastructure development
Political	<ul style="list-style-type: none"> discrimination on grounds of ethnicity, nationality, gender, religion or party political affiliation 	<ul style="list-style-type: none"> political marginalization maritime security piracy crime theft and vandalism and international maritime boundary disputes

Source: Adapted from Sinha and Lipton, 1999; World Bank, 2001, p. 136.

Reproduced with permission of copyright owner. Further reproduction prohibited without permission.