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## **SOCIAL PROTECTION AND SUSTAINABLE NATURAL RESOURCE MANAGEMENT: INITIAL FINDINGS AND GOOD PRACTICES FROM SMALL-SCALE FISHERIES**





## **SOCIAL PROTECTION AND SUSTAINABLE NATURAL RESOURCE MANAGEMENT: INITIAL FINDINGS AND GOOD PRACTICES FROM SMALL-SCALE FISHERIES**

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## PREPARATION OF THIS DOCUMENT

This publication was prepared in order to explore the potential interactions between social protection and sustainable small-scale fisheries management and development. Christophe Béné, Stephen Devereux and Keetie Roelen of the Centre for Social Protection, Institute of Development Studies, the United Kingdom of Great Britain and Northern Ireland, prepared the publication, which was commissioned and edited by Nicole Franz, Daniela Kalikoski, Florence Poulain and Susana Siar of the FAO Fisheries and Aquaculture Department.

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### ABSTRACT

Using small-scale fisheries as an illustrative case, this publication explores how social protection interventions can be used to reduce the vulnerability and strengthen the resilience of households and communities that depend principally on renewable natural resources to sustain their livelihoods and food security. It identifies and reviews existing social protection policies, schemes and instruments with regard to their potential role in supporting the transition to sustainable natural resource management in fisheries, including the identification of universal and targeted social protection schemes and instruments that fisheries-dependent communities have access to, as well as how these groups are defined within the context of those policies. It gives special attention to social protection in the context of households' disaster resilience. By providing an overview of the different sources of vulnerability and concrete examples of exclusion affecting actors in the fisheries sector, this publication also increases awareness of the vulnerability of small-scale fishers and fishworkers to natural and human-induced hazards as well as other social, economic or political risks. It shows that small-scale fishers and fishworkers are typically inadequately or totally unprotected. Very important is the recognition that social vulnerabilities are as significant as economic vulnerabilities, and that innovative interventions are needed to provide protections across the specific set of challenges that fishers face in each national and local context.



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**ABBREVIATIONS AND ACRONYMS**

ASC	Aquaculture Stewardship Council
ASP	adaptive social protection
BFAR	Bureau of Fisheries and Aquatic Resources
CAMCODE	Cambodia Code of Conduct for Responsible Fisheries
CSR	corporate social responsibility
IAPs	Institutos de Aposentadorias e Pensões
IBAMA	Instituto Brasileiro do Meio Ambiente e dos Recursos Naturais Renováveis
ICSF	International Collective in Support of Fishworkers
IDAF	Integrated Development of Artisanal Fisheries in West Africa
IDP	internally displaced person
ILO	International Labour Organization
IMO	International Maritime Organization
INPS	Instituto Nacional de Previdência Social
INSS	Instituto Nacional de Seguro Social
KFWC	Kerala Fishermen Welfare Corporation
LCB	Lake Chad Basin
LMICs	low- and middle-income countries
MLRA	Marine Living Resources Act
MSC	Marine Stewardship Council
MTE	Ministério do Trabalho e Emprego
NGO	non-governmental organization
NPA	national plan of action
NTFP	non-timber forest product
SC	scheduled caste
SINE	Sistema Nacional de Emprego
SPF	social protection floor
SRM	social risk management
ST	scheduled tribe
TAC	total allowable catch
TSP	transformative social protection
UNCLOS	United Nations Convention on the Law of the Sea
UNDP	United Nations Development Programme
UNEP	United Nations Environment Programme
UNIAP	United Nations Inter-Agency Project on Human Trafficking
WTO	World Trade Organization
WWF	World Wildlife Fund

## **1. INTRODUCTION**

### **1.1. Background**

#### ***1.1.1 Motivation***

FAO's reviewed Strategic Framework recognizes the key importance of social protection for improving food security and nutrition and reducing rural poverty. As outlined in a paper prepared for the FAO Council (FAO, 2013), one fundamental role of social protection is to support efforts towards more sustainable management of natural resources. This requires social protection measures and programmes that build, strengthen and protect assets and livelihoods in order to lower vulnerability to natural and other hazards and increase resilience and sustainable economic, social and environmental development. Therefore, policy coherence is important to ensure that social protection measures and programmes achieve the envisaged goals. The Council paper stresses that policies that recognize and enhance these synergies at the outset, from policy development to programme planning and implementation, offer the greatest potential for positive impacts on both social and environmental resilience.

The Council paper concludes that FAO's work in social protection focuses on supporting governments and other partners to maximize synergies between social protection and agricultural policies and in articulating a coordinated strategy for rural development. This involves developing human and institutional capacities to manage policy processes in a more coherent manner, providing policy advice and support to programme implementation, generating actionable knowledge, facilitating and engaging in policy dialogue among stakeholders, and developing and sharing tools for policy analysis.

The present publication is a first attempt under the new Strategic Framework<sup>1</sup> to contextualize social protection in capture fisheries. Fisheries do not exist in isolation. Recent policy developments, such as the endorsement of the Voluntary Guidelines for Securing Sustainable Small-Scale Fisheries in the Context of Food Security and Poverty Eradication (which include a specific chapter on social development, employment and decent work as well as on disaster risks and climate change), demonstrate the recognition of the need for an integrated approach to sustainable development.

Within this context, this publication aims to stimulate thinking and further research on how social protection can contribute to sustainable natural resource management and sustainable development in small-scale fisheries.

#### ***1.1.2 Objective and approach***

The objective of this publication is to explore how social protection interventions can be used to reduce the vulnerability and strengthen the resilience of households and communities that depend principally on renewable natural resources to sustain their livelihoods and food security. These include fishing communities and fish farmers but also forestry-dependent and other (mainly rural) communities whose economic activities are strongly linked to the exploitation of natural resources.

This publication uses coastal and inland fisherfolk and other operators engaged in related activities (specifically fish processors and fish traders) as a 'generic' case study. The reason for this focus on these particular socio-economic groups is that they provide an illustrative case that is rich and varied enough, in terms of both livelihood strategies and exposure to various risks, to offer an appropriate frame for this analysis.

The publication identifies and reviews existing social protection policies, schemes and instruments with regard to their potential role in supporting the transition to sustainable natural resource management in fisheries, including the identification of universal and targeted social protection

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<sup>1</sup> This work is carried out under FAO's new Strategic Objective 3 (Reduce rural poverty), Outcome 3 (Social protection), as well as Strategic Objective 5 (Increase the resilience of livelihoods to threats and crises), Outcome 3 (Prevention and impact mitigation measures that reduce risks for agriculture, food and nutrition).

schemes and instruments that fisheries-dependent communities have access to, as well as how these groups are defined within the context of those policies. Special attention is given to social protection in the context of households' disaster resilience.

The publication aims to provide practical examples for those working in different areas of social protection but with limited experience and knowledge of the fisheries sector. However, the paper is also intended for those working in the fisheries sector who need some guidance on social protection in general, and on how social protection can be used to reduce and respond to the sources of vulnerability and exclusion affecting individuals and households involved in fishing-related activities. By providing an overview of the different sources of vulnerability and concrete examples of exclusion affecting actors in the fisheries sector, the publication also intends to increase awareness of the vulnerability of small-scale fishers and fishworkers to natural and human-induced hazards as well as other social, economic or political risks.

## **1.2 Definitions and concepts**

### ***1.2.1 Fisheries, fishing-related activities and fisheries-dependent communities***

A fishery is defined in terms of the “people involved, species or type of fish, area of water or seabed, method of fishing, class of boats, purpose of the activities or a combination of the foregoing features”.<sup>2</sup> Fisheries comprise marine fisheries operating along the coast, lagoons and offshore as well as inland (freshwater) activities, on lakes, rivers, reservoirs, floodplains, permanent or seasonal waterbodies.

Fish are harvested for their value (commercial, subsistence or recreational). As an economic activity, a fishery is characterized by its operational scale, ranging from small-scale to large-scale activities. What differentiates a small-scale fishery from a larger one is not necessarily clear, and “scale” is often partly contextual; a small-scale fishery in one country may be considered a medium-scale fishery in another. However, it is possible to identify some generic scale characteristics. Small-scale fisheries are characterized by “low capital input” activities, low capital investments and equipment, labour-intensive operations, and, generally, relatively low productivity. They also usually operate as semi-subsistence, family-based enterprises, where a share of the catch is kept for self-consumption (Garcia *et al.*, 2008; FAO 2012a).

This publication defines small-scale and artisanal fisheries as follows: fishing households, as opposed to large commercial companies, using relatively small amounts of capital and energy, relatively small fishing vessels, if any, making short fishing trips, and depending on marine, coastal or inland resources.

Finally, many social scientists who work on fisheries note that fishing (large- as well as small-scale) is also a particular way of living (Pollnac, Pomeroy and Harkes, 2001; Pollnac and Poggie, 2008; Smith and Clay, 2010; Coulthard, Johnson and McGregor, 2011; Armitage *et al.*, 2013). Fishing communities are characterized by a distinct and very strong sense of cultural identity and social bonds (McGoodwin, 2001).

Fishing (i.e. the physical activity that leads to the production – capture and landing – of fish) is not the only economic activity that is conventionally included in the category of “fishing-related activities”. Fish processing, which embraces the different activities related to the conservation and transformation of fish with the aim to improve the shelf-life and value added of the product, is also usually included.

The second major fishing-related activity that is conventionally considered is trading. This refers to any activity related to the trade/commercialization of fish (retail, wholesale, etc.). In low- and middle-

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<sup>2</sup> FAO glossary: [www.fao.org/fi/glossary/default.asp](http://www.fao.org/fi/glossary/default.asp)

income countries (LMICs),<sup>3</sup> the distinction between processing and trading is sometimes artificial, especially when both activities are implemented by the same person/enterprise. However, in the context of more formal economies, this distinction is much greater, with people involved in processing activities often being low-paid casual labour / pieceworkers.

In that general context, a small-scale fishing community “is a community 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” (adapted from MDT, 2014, p. 5).

The exact number of fishers in the world is difficult to assess precisely. FAO (2014a) estimates that almost 40 million people are engaged in the sector. Almost 90 percent of the world’s estimated full-time or part-time fishers<sup>4</sup> are estimated to derive their livelihood from small-scale activities (World Bank/FAO/WorldFish, 2012). The large majority live and operate in LMICs (FAO, 2014a). This includes self-employed fishers (who own their boat and/or fishing gear) and boat crew members (who are contracted by boat owners to operate their boats), as well as households who engage in fishing as part of a larger portfolio of (often on-farm) livelihood activities. Such households are referred to as “fisher-farmers”, or “farmer-fishers”.

The other stages of the value chain (fish processing and trading) are estimated to employ almost three times as many people as the production stage (World Bank/FAO/WorldFish 2012). However, these estimates are probably underestimates as they derive from official statistics where small-scale operators are rarely well accounted for (Béné, 2006; Mills *et al.*, 2011a). Overall, small-scale fisheries and related activities are therefore an important, but underestimated, source of employment, food security and income, particularly in LMICs and in rural (coastal and inland) areas (Neiland and Béné, 2004; Allison, Horemans and Béné, 2006; Menezes, Eide and Raakjer, 2011). Altogether it is estimated that about 520 million people (fishers, fish traders, workers in fish processing factories, and their families) depend on fish-related activities as a source of income (HLPE, 2014).

### 1.2.2 Social protection

The 2010 European Report on Development defined social protection as: “A specific set of actions to address the vulnerability of people’s life through **social insurance**, offering protection against risk and adversity throughout life; through **social assistance**, offering payments and in kind transfers to support and enable the poor; and through **inclusion efforts** that enhance the capability of the marginalised to access social insurance and assistance” (European Communities, 2010, p. 1). This is a useful definition for the purposes of this publication, because these three elements map neatly onto the three components of the analytical framework, as elaborated below: social insurance addresses vulnerability; social assistance addresses poverty; and inclusion efforts address marginalization and social exclusion of fisherfolk. Some social protection interventions also aim to “graduate” people out of poverty altogether. Table 1 provides selected examples of social protection interventions.

The primary function of social protection is to protect poor and vulnerable people against risks, either idiosyncratic (e.g. illness or disability) or covariate (e.g. climate shocks or price spikes). People whose livelihoods depend on natural resources, including fisheries, are vulnerable to a diverse range of both idiosyncratic and covariate risks.

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<sup>3</sup> In this publication, the term “LMICs” is preferred to the more value-laden “developing countries”, and “industrialized countries” is preferred to “developed countries”.

<sup>4</sup> In this publication, as is UN practice, the more gender-neutral term “fishers” (as opposed to “fishermen”) is used, along with other gender-neutral terms such as “fisherfolk” and “fishing community”.

TABLE 1  
Examples of social protection interventions

Social protection category	Examples of interventions
▪ Social insurance	▪ Social security: unemployment insurance, contributory pensions, worker's compensation, maternity leave
▪ Social assistance	▪ Unconditional cash transfers, conditional cash transfers, school feeding programmes, food vouchers
▪ Social inclusion	▪ Anti-discrimination measures (e.g. disability), affirmative action campaigns (e.g. ethnic minorities), gender equity

Several conceptual frameworks for social protection have been proposed, each of which has some relevance to the subject of this report. Four frameworks are briefly introduced here.

**Social risk management (SRM)** classifies the range of idiosyncratic and covariate risks that individuals, households and communities face, and analyses their impacts on livelihoods. It also identifies possible informal (private) and formal (public) responses in three categories: risk reduction (*ex ante* strategies that reduce the possibility of a shock occurring); risk mitigation (pre-emptive interventions, such as insurance, that aim to decrease the potential impact of a shock on income or livelihoods); and risk coping (*ex post* mechanisms that ensure households can cope with the adverse consequences following a shock) (Holzmann and Jorgensen, 2001). The SRM framework is particularly useful for analysing the economic consequences associated with natural, economic and health-related shocks, but it is less useful for offering responses to social and political risks and vulnerabilities.

**Transformative social protection (TSP)** introduces a focus on social justice and argues that social protection should address the underlying drivers of vulnerability, not just the symptoms of poverty. It includes four elements (Devereux and Sabates-Wheeler, 2004):

- **protection:** social assistance measures that ensure subsistence, such as cash transfers;
- **prevention:** social insurance measures that stop people from falling into destitution;
- **promotion:** measures that enhance livelihoods, such as asset transfers or public works;
- **transformation:** measures that enhance social justice and economic or social rights.

TSP is particularly helpful in responding to social risks and vulnerabilities at the meso level. Legislative frameworks, awareness campaigns, training and sensitization should help to address the social exclusion and marginalization of fishers and those involved in fisheries-related activities. It would also support the development of legislation for work and safety standards on commercial vessels, thereby reducing the risk of injury and accidents.

**Adaptive social protection (ASP)** applies social protection to environmental shocks and stresses, especially those related to climate change (Davies *et al.* 2009; 2013). It links social protection, climate change adaptation and disaster risk reduction, combining interventions that mitigate shocks and stresses in the short term with adaptive strategies that build resilient livelihoods in the longer term, reducing dependence on climate-sensitive livelihood activities. Examples of appropriate interventions include weather-indexed insurance, scalable safety nets and risk management funds. It is effective at addressing a specific set of risks and vulnerabilities. It has been linked to a “no regrets” approach, meaning “actions taken by households, communities and institutions that can be justified from economic, social or environmental perspectives, whether hazard events or climate change take place or not” (Siegel, Gatsinzi and Kettlewell, 2011, p. 72). It is especially relevant to natural-resource-based livelihoods, such as fishing, which are highly vulnerable to climate variability.

The **social protection floor** (SPF) operationalizes a human rights-based approach to social protection. The SPF points towards four “essential guarantees” that guarantee access to health care and income security throughout the life cycle (ILO, 2012): (i) all residents have access to essential health care services; (ii) all children have income security, through transfers in cash or kind, to access nutrition, education and care; (iii) all those in active age groups who cannot earn sufficient income on the labour markets should enjoy minimum income security through social assistance transfers; and (iv) all residents in old age and with disabilities have income security through pensions or transfers in kind. The SPF allows for a progressive realization of coverage, first reaching as many people as possible and offering them a basic level of security through in-kind transfers or non-contributory social assistance, then steadily improving the quality of provision. Contributory social insurance, such as provident funds or other forms of insurance, is the next step for those who can afford this. The SPF provides a useful entry point for ensuring coverage of social protection efforts across all fishery communities and those involved in fisheries-related activities, thereby addressing their social exclusion and political marginalization.

### 1.3 Methodology

The analysis and arguments in this publication derive from a desk-based literature review. The analysis builds on the latest existing knowledge and available materials in the fields of fisheries, social protection, and disaster risk reduction, drawing on published articles and reports, website-downloadable documents and “grey literature” from donors, governments and non-governmental organizations (NGOs) (Table 2). Combinations of key words including “fisher\*”, “social”, “risks”, “protection”, “vulnerability” and “exclusion” were used for the initial literature scanning. The main findings and conclusions from these documents are then combined with, and complemented by, first-hand experiences derived from the recent or current involvement of the three authors of this publication in various programmes and policy interventions in different parts of the world (Africa, Asia, Europe) and with different institutions: European Union (Member Organization), United Nations (UN) organizations, World Bank, NGOs, national governments).

TABLE 2  
Summary of the types of documents, sources and regions covered by the study

Type of documents used	Sources	Regions covered
<ul style="list-style-type: none"> <li>▪ Peer-reviewed articles</li> <li>▪ NGO and CSO reports</li> <li>▪ Working papers and conference papers</li> <li>▪ International organization documents and reports</li> <li>▪ Newsletters</li> </ul>	<ul style="list-style-type: none"> <li>▪ Scientific journals</li> <li>▪ NGOs and governmental organizations</li> <li>▪ International organizations (e.g. FAO, ILO)</li> <li>▪ Bilateral and multilateral development agencies</li> </ul>	<ul style="list-style-type: none"> <li>▪ South and Southeast Asia</li> <li>▪ Africa</li> <li>▪ South, Latin and North America</li> <li>▪ Europe</li> <li>▪ Pacific</li> </ul>

### 1.4 Target groups

Although fishing-dependent communities are found everywhere in the world, this publication focuses on those operating in the global South, for two main reasons. First, as mentioned above, the vast majority of people engaged in fishing and fishing-related activities operate in LMICs. By focusing on these countries, almost 90 percent of the people who depend on fishing-related activities for their livelihood are therefore considered. Second, and perhaps more importantly, the status of these households in relation to access to social protection is fundamentally different. The vast majority of individuals working in the fisheries sector in industrialized countries are employed (or self-employed) within a formal contractual arrangement, and as such have access to and benefit from a wide variety of social protection benefits and services (e.g. health insurance, disability insurance, access to health services, pensions), either directly through their employers or indirectly through the contribution of the welfare state or the private insurance market. With a few exceptions, (e.g. Brazil, India) the vast majority of people operating in the fisheries sector in the global South do not have access to these

services. They operate mainly in the informal sector and therefore have limited access to – and/or cannot afford – private insurance. This report focuses on these individuals and households.

The analysis is not restricted to fishers and their families. Instead, it extends to the other main socio-economic groups that are directly involved in fisheries-related activities, that is, fish processing and fish trading. Altogether, five groups are considered in this analysis (Table 3).

TABLE 3  
Main socio-economic groups considered in this study

Producing	Processing	Trading
▪ small-scale fishers	▪ small-scale fish processors	▪ fish retailers
▪ boat crew members	▪ processing factory workers	

Concerning the members of these groups, one can say:

- **Small-scale fishers** are overwhelmingly male and are engaged in fishing activities in both coastal and inland fisheries in LMICs. These small-scale fisheries are often family-based operations.
- **Boat crew members** are employed on industrial, semi-industrial and family-owned vessels. Some of the larger vessels come from industrialized countries where social protection schemes already exist, but a significant number of vessels are also from LMICs.
- **Small-scale fish processors** and **fish retailers** are, in their large majority, women, often wives, widows or partners of fishers. These activities are often totally informal and unregulated.
- **Processing factory workers** are predominantly women in LMICs where such factories operate.

This focus on different socio-economic groups that depend on fisheries across the value chain presents a way of broadening the debate beyond just the “fishing communities”, as most of the current narratives focus on small-scale fisheries or may look at other groups (such as traders) in isolation from one another. It is also important to note that people who depend on fishing for a living include not only working individuals but also their families, who are equally affected by livelihood shocks and threats in the fishing sector, and are equally in need of support from social protection systems.

This publication identifies the different types of vulnerabilities and risks (shocks and stressors) but also sources of marginalization for each of these groups (see below), and describes their impacts on the livelihoods and well-being of affected individuals and their families. A distinction is also made between geographical location, in particular rural and peri-urban locations, and between inland and coastal operations.

## 1.5 Analytical framework

The framework used in this study to analyse the situation of fisheries-dependent communities is derived from the poverty–vulnerability–marginalization framework as proposed in Allison, Horemans and Béné (2006) and Allison, Béné and Andrew (2011). In this framework, poverty (understood in a conventional way, i.e. low income and limited ownership of capital assets) is complemented by two additional key concepts – vulnerability and marginalization – to better capture the nature of the adverse processes and mechanisms that affect fisheries-dependent households and communities.

### 1.5.1 Poverty

Material dimensions of poverty are still central to defining and measuring “development”. Poverty understood in a conventional way (lack of sufficient means to sustain a decent standard of living, as defined by national poverty lines, human development indices or their own metrics) is therefore a

useful concept for assessing the impact of economic policy and for targeting social protection measures, even while recognizing that there are other non-material dimensions of poverty that can be important and are not necessarily directly linked to the material ones.

The debate about the (income) poverty of small-scale fishers has been a long one. According to FAO (2005a), 20 percent of those employed in fisheries globally are thought to earn less than USD1 per day. A large part of the literature still reflects the conventional perception that fishers are often among “the poorest of the poor”, even if a growing body of empirical evidence recognizes the necessity to embrace a more nuanced understanding of the situation (e.g. Allison, Béné and Andrew, 2011). The link between fisheries and income poverty is complex (Béné and Friend, 2011; Jentoft and Eide, 2011), and in many instances fishing communities may be as well-off as, or even better-off (in terms of income) than, neighbouring (farming) communities. In effect, their general level of “poverty” is often more closely related to the severe degree of geographical and/or political isolation that characterizes many full-time fishing or mixed fishing–farming communities. What is probably correct to emphasize is that because their overall revenues depend for a large part on their catches – which are usually highly variable – fishers’ incomes are generally uneven and unpredictable, leading some scholars to raise the question of whether fishers are poor, or vulnerable to poverty (see e.g. Béné, 2009).

### **1.5.2 Vulnerability**

In the development literature, vulnerability is presented as a function of the risks to which people may be exposed (exposure), the sensitivity of their particular livelihoods to those risks (sensitivity), and their ability (or inability) to adapt to, cope with or recover from the impacts of external shocks (adaptive capacity) (IPCC, 2001). In the case of fisheries, the sensitivity of fisheries-dependent households and communities to changes and risks is related to their dependence on fishery resources but also to other socio-institutional factors such as their dependence on other (productive) capitals over which they have limited control. At the same time, their adaptive capacity may depend on their ability to adjust to, or avoid, risks (e.g. by drawing on assets such as savings for education and other livelihood activities). The exposure and sensitivity of fisheries-dependent communities to risks are relatively high (in comparison with other socio-economic groups) and their adaptive capacity is still relatively low. Fisherfolk may be exposed to physical risks depending on the nature of the fishery resources itself but also their harvesting methods, and the socio-economic context in which these methods operate (see e.g. ILO, 2000; Lincoln *et al.*, 2002), climate-induced risks (e.g. rising sea levels, impacts of flood or tropical storms), climate change-induced fluctuation in the fish stocks (Allison *et al.*, 2009), health risks (e.g. bilharzia, malaria), market risks (e.g. currency devaluations, increase in fuel prices), and political and security risks (e.g. theft, interethnic or intercountry conflict), among many others.

### **1.5.3 Marginalization and social exclusion**

The third key concept in this analytical framework – marginalization, or social exclusion – describes a process by which certain groups are systematically disadvantaged because they are discriminated against on the basis of their ethnicity, race, religion, sexual orientation, caste, gender, age, education, class, disability, HIV status, migrant status or where they live (Atkinson, 1998; DFID, 2005). Discrimination can occur in public institutions, such as the legal system or education and health services, as well as in social institutions (including within the household itself). Discrimination also often occurs in the private sector, notably in the labour market. In fisheries, evidence suggests that small-scale fisherfolk are often excluded from processes of development planning at the macroeconomic level (Thorpe, 2004), either because they are mobile (including unregistered, international migrants) or living in marginal or remote areas, or simply because their role and contribution to the economy is poorly known and underappreciated (Kolding, Béné and Bavinck, 2014). At the micro level, social discrimination often works against the poor and uneducated, including fishing communities. Toufique (1997) showed how discrimination and power asymmetries in rural communities in Bangladesh led to economic exclusion and prevented the poorest from accessing fishing grounds.

## **1.6 Structure of the paper**

The rest of this paper is structured as follows. Chapter 2 uses the analytical framework described above to produce a “typology” of vulnerabilities and exclusions, identifying the various drivers and sources of risks and marginalization that affect the lives and livelihoods of people engaged in fishing-related activities.

The analysis of social protection frameworks proposed in Chapter 1, and of vulnerabilities and marginalization in Chapter 2, provides the information and tools necessary to identify the types of social protection interventions that are most appropriate to reduce the livelihood vulnerabilities faced by operators in the fisheries sector. Chapter 3 presents and discusses specific social protection instruments, key findings and good practices. It highlights the functions of these social protection interventions and the general contexts within which they are usually implemented, before discussing their relevance in the specific context of the livelihood groups considered in this study. Chapter 4 proposes some conclusions. A road map for follow-up actions is provided in Appendix 1.

## 2. VULNERABILITY AND MARGINALIZATION OF FISHERIES-DEPENDENT COMMUNITIES

The objective of this chapter is to review the different types of vulnerabilities and exclusions that affect fisheries-dependent households and communities, identifying the various drivers and sources of risk and marginalization that affect their lives and livelihoods (Box 1). However, instead of providing a “shopping list” of shocks and stressors and sources of vulnerability as they affect people, these are clustered by their nature (environmental variability, economic and market-related exclusions, etc.) in a way this is not simply descriptive but relates to the categories of risk and marginalization that are relevant to the social protection literature, for example idiosyncratic risks (such as disability or illness) versus covariate risks (such as price spikes or climate shocks). For this purpose the SRM framework is adapted, as proposed by the World Bank (2001), and initially developed from Sinha and Lipton (1999).

The typology of risks (Table 4) recognizes that risks and shocks can be classified by the level at which they occur (micro, meso, macro) and by the nature of the event (natural, economic, political, etc.). Micro shocks, often referred to as idiosyncratic, affect specific individuals or households. Meso shocks strike groups of households or an entire community or village. These shocks are common (or covariate) to all or most households in the group/community. Shocks can also occur at higher – provincial, national or international – levels. This distinction by level of risk is critical. A shock that affects an entire village, for example, cannot be insured solely within the village. It requires pooling with areas that are less subject to the risk. In practice, many shocks have both idiosyncratic and covariate aspects, although most empirical studies find that the idiosyncratic part is usually large.

### BOX 1

#### Source of risk and marginalization affecting fisheries-dependent households and communities

Because they live on the coast and their livelihoods depend directly on these coastal ecosystems, fishing communities appear to be particularly vulnerable to extreme events such as tsunamis, cyclones, tropical storms and floods. However, analysis shows that these communities are threatened not only by natural hazards but also by human-induced events and social, institutional and/or economic changes beyond their control. They face a multitude of problems that increase their vulnerability to hazards, such as pollution, environmental degradation, overexploitation of resources, high levels of accidents at sea and conflicts with industrial fishing operations. Many coastal communities are also particularly vulnerable to risks resulting from poverty (e.g. lack of access to public services) and food insecurity.

It is important to keep in mind that the examples provided in this chapter are meant to be an illustrative list rather than a comprehensive review of all factors affecting the lives of those who depend on fisheries-related activities.

TABLE 4

#### A typology of risks facing small-scale fishers and fishery-related workers

Risks/shocks	Covariate		
	Idiosyncratic	Risks and shocks affecting groups or communities (meso level)	Risks and shocks affecting regions or nations (macro level)
Natural/ environmental	<i>Freak waves</i> <i>Water spouts</i> <i>Interactions with dangerous marine/aquatic animals</i>	<i>Threats to fish stocks</i>	Climate and non climate related disasters: <ul style="list-style-type: none"> <li>• <i>tsunamis</i></li> <li>• <i>floods</i></li> <li>• <i>high winds/ hurricanes</i></li> </ul>
Economic	<i>Unemployment</i> <i>Loss of fishing equipment</i> <i>Lack of access to other livelihoods</i>	<i>Price volatility</i> <i>Overfishing</i> <i>High prices for inputs</i> <i>Low prices for fish sales</i>	<i>International regulations on fishing</i> <i>Trade bans (e.g. Thailand, shrimp in the United Kingdom / United States of America)</i>

	<b>Idiosyncratic</b>	<b>Covariate</b>	
<b>Risks/shocks</b>	<b>Risks and shocks affecting individuals &amp; households (micro level)</b>	<b>Risks and shocks affecting groups or communities (meso level)</b>	<b>Risks and shocks affecting regions or nations (macro level)</b>
Health	Injury Illness ( <i>particularly water-borne diseases</i> ) Demographic risks: <ul style="list-style-type: none"> <li>• disability</li> <li>• old age</li> <li>• death</li> </ul>	Epidemic	<i>Patents and cost structures affecting access to drugs, vaccinations, etc.</i>
Social	<i>Fishing crew forced labour</i> Crime Domestic violence <i>Drug and alcohol abuse</i> <i>Child labour</i>	<i>Forced labour in fish-processing factories</i> <i>Social exclusion</i> <i>Exploitative working conditions</i> <i>Community disputes over resources</i>	<i>Migrants' rights</i> <i>Illegal transnational fishing</i> <i>Piracy</i> <i>Maritime transnational crime</i>
Political	<i>Discrimination on grounds of ethnicity, nationality, gender, religion or party political affiliation</i>	<i>Political marginalization</i>	<i>Maritime security, piracy; international maritime boundary disputes</i>

*Note:* Italicized text is new; other text comes from World Bank (2001).

*Source:* Adapted from Sinha and Lipton (1999) and World Bank (2001, p. 136)

## 2.1 Natural/environmental risks and shocks

### 2.1.1 Meso level: threats to fish stocks

Overfishing of fish stocks is often presented as a major source of vulnerability that is “internally driven” and eventually affects the income and well-being of fisheries-dependent communities, and reduces their ability to face other shocks and stressors. It is correct to stress that fisheries – as most natural-resource-dependent activities – are by nature limited by the growth rate of their resource base. A great part of fisheries management tools are therefore aimed at reducing the risk of overfishing. However, it is also now widely recognized that “too many fishers” is only one part of the problem, and not necessarily the most important. For inland fisheries<sup>5</sup> in particular, the main reason for the continual degradation of the natural resource base is not the increase in fishing effort but the impact of external drivers such as alteration of river flow regimes, modifications to the floodplain environment, water abstraction and damming for power generation and irrigation, pollution and eutrophication (Dugan *et al.*, 2007; Welcomme *et al.*, 2010). In most countries, the failure of the State to provide appropriate compensation programmes for local populations who depend on the sustainability of inland water ecosystems is a major source of vulnerability (Friend, Arthur and Keskinen, 2009).

For communities or groups of actors that depend on coastal fishing activities, the consequence of the substantial increase in fishing effort that has occurred in the last 50 years may be more prevalent than for inland fisheries, and there is no doubt that for some local fisheries the risk of overfishing is real (Rothschild *et al.*, 1994; Rose *et al.*, 2000). However, many other processes have been contributing to the degradation of the resource base and threatening the sustainability of the sector. These include

<sup>5</sup> Today in LMICs, an estimated 56 million people are directly involved in fish-related activities in inland small-scale fisheries (World Bank/FAO/World Fish, 2012). This number – which includes people working in fishing and associated activities such as fish processing and trading – is larger than the estimated 50 million people who depend on the same types of activities in coastal and marine fisheries.

economic development, coastal pollution and urbanization, impact of larger-scale industrial fishing activities, etc. (Halpern *et al.*, 2008; Welcomme *et al.*, 2010).

### 2.1.2 Macro level: natural and other disasters

Fishers, fisher-farmers and their communities around the world are particularly vulnerable to disasters. This is because of their location, the characteristics of their livelihood activities, and their overall high levels of exposure to natural hazards, livelihood shocks and climate change impacts. Exposure and vulnerability to these hazards are increasing (FAO 2012a, p.114).

#### BOX 2

##### The 2004 tsunami

On Sunday, 26 December 2004, the third-largest earthquake ever recorded on a seismograph occurred off the west coast of North Sumatra, Indonesia. The sudden vertical rise of the sea bed by several metres displaced massive volumes of water, triggering a series of devastating tsunamis along the coasts of most landmasses bordering the Indian Ocean, with waves up to 30 m high. More than 230 000 people died that day, making this one of the deadliest natural disasters in recorded history. In addition to those who died, 500 000 people were injured, and 5 million lost their homes and/or access to food and water.

Among those who died or were severely affected were many fisherfolk. In Aceh Province, Indonesia, for example, more than 9 000 fishers died and it is estimated that more than 10 000 boats, 6 700 engines and 20 000 items of fishing gear. This induced a major blow to the fisheries resource-based economy within the 1 380 coastal villages directly affected throughout the province (Tewfik *et al.*, 2008). Loss and/or serious damage to landing sites, processing facilities and transportation infrastructure exacerbated the disruption caused by loss of life and fishing assets. The direct damage to the capture fisheries sector of Aceh was estimated to be in excess of USD102 million, with a further USD410 million estimated in economic losses owing to disruption of fishing activities (BAPPENAS, 2005). As a direct result of the tsunami, an additional 600 000 people fell below the poverty line in Aceh (BRR, 2005).

The human, social, economic and environmental impacts of these disasters are significant, with disproportionate effects in the South and on vulnerable groups. Between 2000 and 2004, of the 262 million people affected annually by disasters related to weather and climate, more than 98 percent lived in low-income countries and the vast majority were dependent mainly on agriculture and fisheries for their livelihoods (FAO, 2008).

The types of shocks that affect the fisheries sector include natural disasters (such as storms, cyclones or hurricanes with associated flooding and tidal surges, tsunamis, droughts, floods, earthquakes and landslides). They also include man-made disasters (such as oil and chemical spills and nuclear or radioactive material) and economic disasters (such as price spikes) or armed conflicts. In addition to the tragic loss of life, the effects of disasters on the fisheries sector can include the loss of livelihood assets such as boats, gear, post-harvest and processing facilities, and landing sites. In the longer term, the impacts of disasters can be reduced or mitigated by effective response activities. However, damage caused by disasters can have social and economic impacts throughout and well beyond the sector (e.g. in terms of reduced employment and food availability).

Because of some particularly dramatic events, such as the December 2004 tsunami in Asia (Box 2), the vulnerability of coastal fishing communities is now internationally recognized.

The super-typhoon Haiyan, which struck the central Philippines on 8 November 2013, is a more recent example of the devastating impact that disasters can have on the lives and livelihoods of those who depend on fisheries. Overall, more than 6 200 people died and 14.1 million were displaced by Haiyan (locally known as Yolanda). The typhoon flattened crucial infrastructure, including jetties and launching ramps, onshore cold storage and ice-making facilities, boat repair and maintenance

workshops, processing factories and markets.<sup>6</sup> With up to 400 000 fisherfolk affected and an estimated 30 000 fishing vessels damaged or destroyed, the fisheries sector was one of the most severely affected. The Philippines Bureau of Fisheries and Aquatic Resources (BFAR) estimated that 21 of the country's 72 fishing provinces were affected by the storm.<sup>7</sup>

Inland fishing communities, living away from the coast but in the vicinity of waterbodies such as lakes, rivers, floodplains or marshes, are also likely to be increasingly exposed to natural disasters such as flood, flash-flood, or drought. The example of the communities of the Lake Chad Basin (LCB) is instructive in this regard. In this region, climatic changes will become more frequent, and periods of rainfall will be less predictable (primarily periods between rainfall events causing flooding or drought) and will be associated with increased temperatures. As a consequence, experts have predicted the occurrence of higher levels of domestic and transboundary migration within the populations of the LCB (De Young *et al.* 2012). This is seen in pastoralists migrating to Lake Chad for water, and fishers migrating to follow fish stocks. This change is causing increased levels of tension among communities owing to land-use conflicts and habitat destruction. It will also affect families and communities as societal constructs are weakened. Increased migration can cause increased spread of diseases such as HIV/AIDS (through the breakdown of social cohesion) and meningitis (through disruption of vaccination programmes). Climatic changes may contribute to a rise in water-borne diseases such as cholera (De Young *et al.* 2012).

It is important to emphasize that disasters have different impacts on women and men in small-scale fishing and aquaculture communities. In Guimaras, the Philippines, the large oil spill in 2006 from the sinking of the tanker *Solar I* affected the coastal livelihoods of almost 20 000 people. The food security of women was more seriously affected than that of men. The disaster temporarily wiped out women's inshore fishing and onshore activities (Defiesta, 2013). Emergency responses gave relief and rehabilitation work preferentially to men, relegating women and girls to greater reliance on household and outside work, and exposing them to greater domestic violence at home and to sexual harassment in the emergency shelters (Badayos-Jover, 2013). Overall, this coastal disaster exacerbated women's local economic marginalization.

In summary, irrespective of whether inland or coastal fisheries are considered, there is little doubt that, overall, fisheries-dependent communities are among the socio-economic groups that are particularly exposed to natural disasters. At the larger, global scale, the fact that the large majority of the fisheries-dependent communities are found in South and Southeast Asia where the impact of climate change is expected to be the most severe,<sup>8</sup> adds to the argument about the relevance of the issue.

## 2.2 Economic risks and shocks

### 2.2.1 *Micro level: economic vulnerability at the household level*

As many other (relatively poor and often uneducated) individuals in LMICs, fishers and other fisheries-dependent actors (e.g. female fish traders) face severe challenges in relation to their weak integration into the formal economic and markets spheres. Their linkages with the opportunities offered by the international fish trade are, in particular, relatively restricted for small-scale operators, unless they can organize themselves and/or benefit from the support of cooperatives or professional organizations (Ha, Bush and van Dijk, 2013). However, empirical evidence suggests that these success stories are the exception rather than the norm (Mathew, 2011; FAO, 2014a).

Fishers and other fishing-dependent operators also face high levels of (partial) unemployment, and are severely limited in their ability to invest, by the endemic lack of access to formal credit that

<sup>6</sup> Key aquaculture infrastructure was also destroyed, including oyster rafts and crab, shrimp and mussel farms, as well as fish cages, hatcheries and fish ponds.

<sup>7</sup> Furthermore, preliminary assessments by the Philippines Department of Agriculture indicate that small-scale fishers were the worst affected. Larger commercial boats suffered less damage (see: [www.irinnews.org/report/99413/philippine-fishermen-need-support-after-typhoon-haiyan](http://www.irinnews.org/report/99413/philippine-fishermen-need-support-after-typhoon-haiyan)).

<sup>8</sup> Bangladesh, the Philippines and Cambodia are listed among the ten countries most vulnerable to climate change (Petherick, 2012).

characterizes the economies of many LMICs. Whether or not these fishing-dependent operators are economically more (or less) vulnerable than other socio-economic groups based on these issues is, however, difficult to establish. It seems in fact that any attempt to propose some form of generalization on these issues is more misleading than useful – as the context- and local-specificity of the situation makes these attempts at generalization almost impossible.

What is clearer, however, is that fishers are particularly vulnerable to the theft or accidental/operational loss of their fishing gear.<sup>9</sup> This high vulnerability to losing fishing gear derives from a combination of factors. First, is the relative severity of these types of shocks. To make a comparison with farming systems, losing fishing gear or a boat would be equivalent to a farmer losing a plough or land. Yet, while it is not so frequent for farmers to lose their land, it is relatively frequent for fishers to lose some of their fishing gear or even their boats. A recent survey in small-scale fishing communities living along the southern coast of Sri Lanka reveals that every fisher in these communities had experienced fishing gear loss at least once in the previous five years (Amarasinghe, 2013, unpublished data).

In that context, the poor access to formal insurance schemes can be particularly debilitating. In Nigeria, along the shore of Lake Kanji, a recent participatory analysis revealed that lack of access to cash/money was perceived by the communities as the greatest source of vulnerability for their livelihoods (Mills *et al.*, 2011b). In these conditions, fishers are forced to turn to informal local credit providers, sometimes under usurious terms. At Lake Volta, credit for two weeks costs 25–40 percent and as much as 47 percent for a month (Pittaluga *et al.*, 2003). In addition to the challenge that this situation creates in the specific case when fishers need to replace lost fishing gear or a boat, these high rates of interest also make it very difficult and too risky, in particular for the poorest, to invest in new activities or even to expand their current activities, thus reducing their overall productivity and their capacity to escape poverty.

### **2.2.2 Meso level: economic vulnerability to price volatility**

Price volatility has been shown to have a strong impact on household and communities' economic vulnerability because it affects household incomes and purchasing power (Kearney, 2010). Simply put, it can transform vulnerable people into poor and hungry people (HLPE, 2011).

Being both food producers and food consumers, the different socio-economic groups involved in fisheries-related activities could be both losers and winners from a general increase in food prices. While an increase in fish prices would be expected to have positive effects on fisheries-dependent actors, rising food prices on the other hand usually affect many commodities at the same time, including staple foods (FAO, 2009a). This means that the benefit of a fish price increase may be rapidly cancelled out by a simultaneous increase in other food commodity prices. In addition, food price peaks are usually the result of a combination of factors, one of which is the price of energy and fuel (Woods *et al.*, 2010).

It appears that no rigorous analysis of the impact of the 2008–2010 food price spikes on fisheries-dependent communities has been implemented. In contrast, several NGO studies and media reports have highlighted the severe negative impact that the fuel price peak has induced on the fishing sector in both industrialized countries and LMICs. Abernethy *et al.* (2010), for example, showed that in the United Kingdom of Great Britain and Northern Ireland the price of fuel almost doubled between 2007 and 2008, whereas fish prices remained relatively stable throughout as a result of the price-setting power of seafood buyers. As a result, it was the fishers who absorbed the increased costs, resulting in significant loss of income, reduced job security, and problems in recruiting crew. All gear types were affected, but fishers using towed gears (e.g. trawlers) were most adversely affected. Such detailed

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<sup>9</sup> A distinction can be made between accidental or operational loss and theft. Theft of boats and engines (maritime and inland-water piracy) is a particular problem in insecure regions, where these boats and engines have uses and value beyond fishing. Gear destruction is a problem where there are intrasectoral conflicts within fisheries (e.g. passive/active gear, artisanal/industrial encroachment).

analysis is not available for small-scale fisheries in LMICs. However, there is little doubt that small-scale fisheries operating with outboard engines were probably severely affected.

### **2.2.3 Macro level: international instruments on fishing**

At the international level, substantial progress has been made in recent decades to raise the profile of small-scale fisheries. The role of a few champions within FAO and elsewhere has been instrumental in this regard, resulting in the recognition of the importance of the sector through, for example, international instruments and commitments such as the Voluntary Guidelines on Responsible Governance of Tenure of Land, Fisheries and Forests in the Context of National Food Security (Tenure Guidelines [FAO, 2012b]) and the Voluntary Guidelines for Securing Sustainable Small-Scale Fisheries in the Context of Food Security and Poverty Eradication (SSF Guidelines, FAO, 2015). Yet, as pointed out in the report of the High Level Panel of Experts prepared for the Committee on World Food Security on the “Role of fisheries and aquaculture to food security and nutrition”, small-scale fisheries are still seriously under-represented in the governance bodies of most of the ocean initiatives driven by international institutions and organizations (HLPE, 2014). As a consequence, many of the decisions or advocacy narratives that emerge from these initiatives are often framed in response to processes or issues involving large-scale industrial activities and/or industrialized country operators, and are generally blind to the needs of small-scale fisheries.

## **2.3 Health risks and shocks**

### **2.3.1 Micro level: physical injuries**

Fishing is considered the world’s most dangerous professional occupation. Based on statistics for the period 1976–1995, Roberts (2002) showed that fishers and crew members are 52.4 times more likely to have a fatal accident at work compared with other workers in the United Kingdom of Great Britain and Northern Ireland. Although the number of work-related deaths has decreased in recent decades, in relative terms the occupation of fishing remains as hazardous as before. The United Kingdom figures are likely to be a scanty estimate of the death toll in some other parts of the world. In Kerala, India, for example – one of the very few places in the South where some form of social protection schemes have been institutionalized since the 1980s – statistics indicate that between 1986 and 1998, 1 096 official compensations for death were paid, suggesting that one fisher dies at sea every four days in that state alone (Kurien and Paul, 2000).

In a study undertaken by the Programme for Integrated Development of Artisanal Fisheries in West Africa (IDAF) in seven West African countries from 1991 to 1994, incidents with trawls of industrial vessels becoming in fishing nets of smaller boats/canoes and dragging them away were among the main accidents at sea (IDAF, 1995). During the four years of the study, 518 accidents were reported, 340 people were killed and 285 injured. More recently, the International Collective in Support of Fishworkers (ICSF) estimated that more than 24 000 fishers die at sea every year (ICSF, 2001). The reasons for these casualties include capsizing, foundering, fires or explosions and collisions (Petursdottir, Hannibalsson and Turner, 2001).

On fishing boats, particularly small vessels, crews have to work at sea, on deck in all weathers, frequently with open hatches, in order to locate, gather and process their catches. Working conditions and efficiency have improved in many ways with increased mechanization. However, new dangers have arisen, and the strain on crews remains considerable, not least because of reductions in crew size to cut costs. Overall, little progress has been made in improving the safety of fishers, despite attempts by FAO, the International Labour Organization (ILO) and others to raise awareness of the severity of the problem.

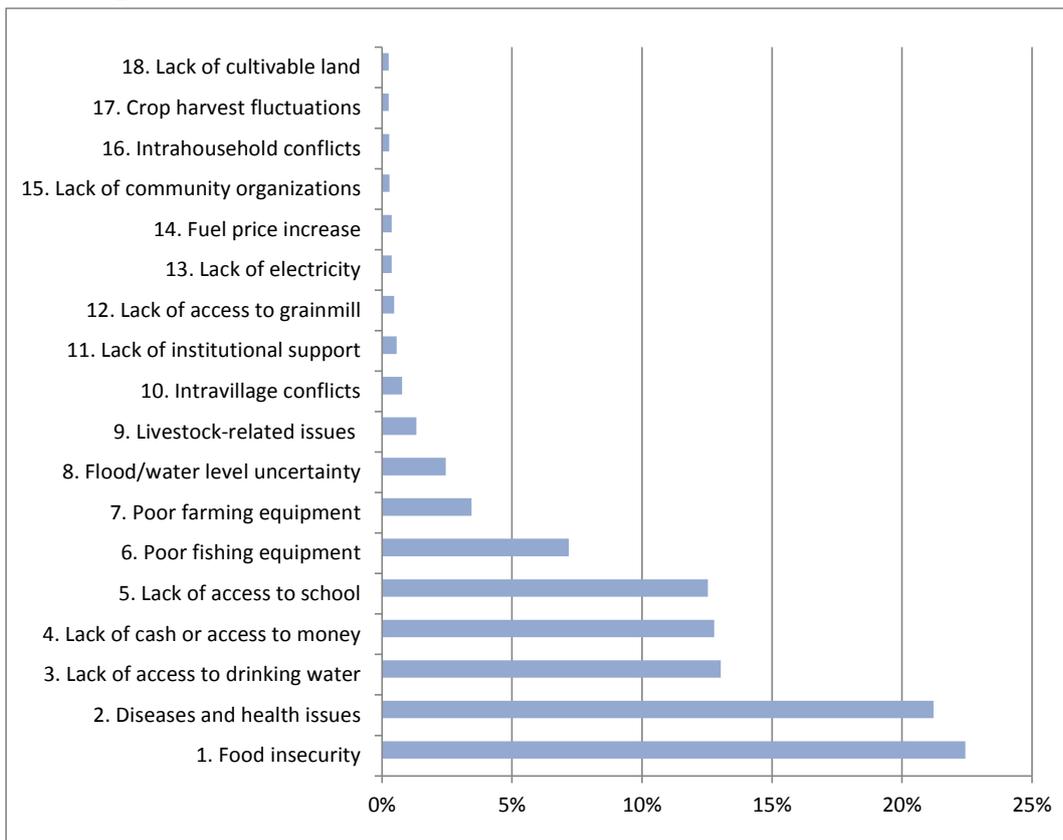
What this discussion on the prevalence or likelihood of accidents at sea does not reflect appropriately, however, is that beyond a far higher **exposure** to hazard, the fishers and crew members who die, or are injured, are also far more vulnerable in LMICs than in industrialized countries. This is essentially because of the informal status of the sector and/or the lack of formal insurance systems that would allow these fishers and their families to be protected from these shocks. The consequence of this is that

any of these accidents can have immediate but also longer-term repercussions on the lives and livelihood of these households. In effect, the consequences of loss of life fall heavily on the dependants. In many low-income countries, the consequences can be devastating. Widows often have a low social standing, and where there is no welfare state to support families and no alternative source of income, widows and their children may face destitution.

### 2.3.2 Micro level: sickness

As any other individual or household, those engaging in fishing and/or related activities face health risks. Illness is usually recognized as one of the most prevalent sources of idiosyncratic shocks in low-income countries (see Dercon, Hoddinott and Woldehanna, 2005), and there is no reason to believe this is different for fishing communities. Figure 1 shows the results of a participatory vulnerability exercise conducted in a fisher-farmer community in the inner delta of the Niger River in Mali (Mills *et al.*, 2011b). It shows that for these households living in a remote rural area, shocks related to health issues are recognized to be the second-most important source of vulnerability – just after food insecurity.

**FIGURE 1**  
**Participatory vulnerability analysis conducted in a fisher-farmer community in the inner delta of the Niger River in Mali**



*Note:* Horizontal axis: weighted indicator reflecting the number of households declaring that they have been affected.

*Source:* Mills *et al.* (2011b)

Table 5 presents the different diseases observed in the whole Volta Basin over the period 1980-1996 (GEF-UNEP 2002). The table suggests that the populations of the whole basin (and not simply the fishing households) are highly exposed to these diseases. A closer look reveals, however, that a large proportion of these infections are water-borne diseases (schistosomiasis, onchocerciasis, filariasis, malaria), suggesting that populations living in close proximity to water-bodies are likely to be more exposed to these water-borne diseases than others. On the shores of Lake Volta, high incidences of

bilharzia and malaria have been continuously documented (Ofori-Danson, 2005). Similarly, around Bagré reservoir, Pittaluga *et al.* (2003) report that diseases were ranked by the communities as their primary source of livelihood threat. The most prevalent diseases around the reservoir were malaria, bronchopulmonary infections and gastroenteritis. In some specific locations, intestinal parasitoses were also observed due to the consumption of unclean water from ponds.

TABLE 5  
Water-borne and associated diseases and their vectors in the Volta Basin

Sub-basin	Schistosomiasis	Onchocerciasis	Guinea worm	Malaria	Filaria-sis	Cholera	Diarrhoea	Yaws
Black Volta	+	+	+	+	?	?	+	+
White Volta	+	+	+	+	+	+	+	+
Oti	-	+	+	+	?	?	+	+
Lower Volta	+	-	+	+	+	?	+	+

*Legend:* + = disease and vector recorded; - = disease vector not recorded; ? = no specific study undertaken.

Source: GEF-UNEP (2002).

Two additional elements further exacerbate this vulnerability of fishing communities to diseases. First is their overall poor, or even lack of, access to medication and health services that characterizes these communities. In these places, travelling to an urban centre for health treatment can be highly problematic. For example, in some parts of the Volta lakeshore it takes up to two and a half days travelling by boat to reach an urban centre with health and medication facilities (Béné and Russell, 2007). Second, fishing is a relatively intense physical activity. Often fishers have to operate manual (non-mechanical) fishing gear and/or (non-motorized) boats for hours, sometimes under rough weather conditions. Sickness and the physical weakness associated with illness severely reduce the capacity of fishers to operate effectively, and can therefore have a significant impact on household economic security.

In Brazil, a survey among fishers indicated that 36 percent of the respondents had stopped working at least once during the previous 12 months owing to health problems directly or indirectly linked to fisheries activities (Lourenço, Silva Henkel and Alves Maneschy, 2006).

### 2.3.3 Meso level: collective vulnerability to health risks

In addition to idiosyncratic shocks (sickness, death, injury), fishing and fisheries-related communities are recognized to be particularly exposed to health risks at the group or community level (epidemics). One especially conspicuous case is the high prevalence of HIV/AIDS in fishing communities. Research suggests that fishing communities in LMICs are among the socioprofessional groups with the highest levels of HIV/AIDS prevalence (Ainsworth and Semai, 2000; Allison and Seeley, 2004a; 2004b). A review of countries where data were available showed that HIV prevalence rates in fishers, boat crew members and fishing community members can be 4–14 times higher than the national average prevalence rate for adults (Kissling *et al.*, 2005).

In the fisheries sector, Allison and Seeley (2004a) attempted to identify risks factors known from the general literature on HIV/AIDS that would also apply to the specific populations of fisherfolk. One of these factors appears to be mobility. Many fisherfolk are geographically highly mobile, which makes them a particularly vulnerable group to HIV/AIDS, along with other mobile groups such as truck or bus drivers, seasonal workers and travelling traders (IOM, 2003; UNAIDS, 2001). Allison and Seeley also highlighted some more specific factors related to the particular economic and/or cultural characteristics of fishing communities. These include:

- Cash income: Fisherfolk may not be wealthy by absolute standards, but in very poor coastal or lakeshore villages, they may be among the few people with a source of daily cash, which they often spend on drink and leisure, in places where no better alternatives are available.
- Alcohol and sex: Among many health-related implications of drinking behaviour in fishing communities is its association with high-risk sexual activity. Heavy alcohol consumption reduces inhibitions and impairs decision-making. Increased sexual promiscuity and risky decisions over condom use are often associated with alcohol abuse.
- A subculture of risks: Social and cultural attitudes, beliefs and values play an important role in the perception of, and response to, the danger in fishing communities. In particular, the denial of danger, an emphasis on independence, and fatalism are common themes among fisherfolk (Poggie, Pollnac and Jones, 1995). It has been suggested that these attitudes may apply as much to attitudes about safe sex as to safe seafaring (SPC, 1999).

In addition to these factors, other behavioural elements such as transactional sex in relation to fish trading may contribute to exacerbate the risks and level of exposure of fishers and other actors as a group (such as fish traders) to HIV/AIDS and other sexually transmitted infections (Béné and Merten, 2008).

## **2.4. Social vulnerability of fishers and other actors in the value chain**

### **2.4.1. Micro level: fishing crew forced labour**

Some recent documentaries compare the current working conditions experienced by the crews of some fishing boats with modern-day slavery. A particular report derived from the work of two NGOs chasing industrial vessels operating illegally off the coast of West Africa has received much media coverage:

“The 36 crew members on the boat (...) came from China, Vietnam, Indonesia and Sierra Leone. Eight men shared a tiny windowless area of the fish-hold with four cardboard ‘bunks’ resting on planks. Four worked in the hold sorting and packing fish for the European market while four slept, and they would alternate, literally rolling out to allow the next to roll in.” (*The Guardian*, 2010).

While the case documented in that particular report may be extreme, it is well established that fishing boat crews often work in very difficult and sometimes abusive conditions, in violation of their labour (or even human) rights.<sup>10</sup>

As a consequence, some of these recent reports have led to calls for greater international attention to forced labour and human trafficking in the fishing sector (e.g. ILO, 2013a, 2013b).<sup>11</sup> These reports suggest that some fishers, many of them migrant workers, are vulnerable to human rights abuses, including forced labour, on board fishing vessels. Forced labour is different from substandard or exploitative working conditions. It can include restrictions on the freedom of movement of workers, withholding of wages or identity documents, physical or sexual violence, threats and intimidation or fraudulent debt from which workers cannot escape. Often, workers are deceived about the conditions of work and life on board fishing vessels; and in many instances, these exploitative situations are closely related to human trafficking. The majority of victims are men; some are below the age of 18 years.

In addition to human trafficking and forced labour, immigrant contract labour (women, men and children) is an increasing part of national fishing industries. In Thailand, for example, 75 percent of

<sup>10</sup> For a comprehensive review of the current evidence, see ILO (2013a).

<sup>11</sup> Working conditions for the mainly male workers on fishing vessels have received the attention of the ILO, which with FAO and the International Maritime Organization (IMO) approved the ILO Convention No. 188 on Work in the Fishing Sector (2007). However, seven years after its agreement, only five countries have so far ratified the convention.

male labourers on Thai fishing vessels are from Myanmar and Cambodia, and only 25 percent are Thai nationals (Chokesaguan, Ananpongsuk and Wanchana, 2009).

In these conditions, part of the problem is related to the migrant/foreign status of the crew members who operate on foreign vessels, sometimes illegally and therefore without any contractual/legal protection. Fishing operations take place across multiple maritime zones, and fishers must often rely on the protection of the country in which the vessel is registered. Some of these registries are established in countries that are unable or unwilling to adequately protect fishers, thus leaving them in a vulnerable position.

In other cases, however, the crew are nationals working on vessels of the same country. Yet, exploitative working conditions may still occur. Hara (2009) reports the case of crew members operating on vessels from the squid industry based at St. Francis Bay (South Africa), where the nature of the remunerative cost-sharing contract bonding the crew to the boat owner may lead to abuse:

“If a crew member does not catch enough to cover his costs and his portion of the general costs, he earns nothing for that given fishing trip and in fact ends up owing the vessel owner money that must be paid in the next or subsequent fishing trips. Vessel owners justify this cost sharing system on the basis that crew members should be viewed as private producers who sell their catch to the vessel owners [...] Even though the impression created is that crew members are supposed to sell the product to vessel owner, the crew members alleged that vessel owners determine the price at which they will pay for the catch without negotiating with the crew members. Apparently, the price being paid to crew members for the catch had remained the same in the last 5 years [...] Additionally, crew members complained that the weights of their individual catches are usually under-reported by skippers, resulting in underpayment. They further pointed out that it was very difficult to question such underhand practices as skippers have the powers to expel [the crew member] from ‘their’ boat.” (Hara, 2009, p. 516).

#### **2.4.2 Micro level: child labour**

About 60 percent of all children engaged in child labour<sup>12</sup> are active in the agriculture sector, including fisheries and aquaculture, forestry and livestock. In fisheries and aquaculture, children engage in a wide variety of activities in capture fishing, aquaculture and all associated operations (processing, marketing and other post-harvest activities), as well as in upstream industries including net-making and boatbuilding (FAO and ILO, 2013). Although information tends to come from specific case studies and surveys, or may even be anecdotal (Mathew 2010), estimates from four LMICs (Bangladesh, El Salvador, Ghana and the Philippines) indicate that child labour in fisheries represents 2–5 percent of the total number of child labourers in those countries, and, most strikingly, children (up to 91 percent of whom were boys) constituted 9–12 percent of the total fisheries labour force (Allison, Béné and Andrew, 2011). A survey of child labour on the Baluchistan coast of Pakistan revealed a 30 percent incidence of child labour, with children accounting for 27 percent of workers employed in the fishing sector (Hai, Fatima and Sadaqat, 2010). According to a survey on Lake Volta in Ghana, at least one child (boy) is employed in the crew on all boats, including small boats holding only two people. However, it is difficult to assess how many of these children should be classified as child labourers and how many are doing tasks appropriate for their age for a limited time (Zdunnek *et al.*, 2008).

#### **2.4.3 Meso level: forced labour in fish processing factories**

Fishing crews are not the only group that may be subject to labour abuse in the fishing value chain. Recent reports from NGOs and UN agencies suggest that workers from fish processing factories may also be exposed to potential abuse. A 2011 United Nations Inter-Agency Project on Human Trafficking (UNIAP) concluded that more than one-third of seafood processing workers from

<sup>12</sup> Child labour is defined by the ILO on the basis of a child’s age, the hours and conditions of work, activities performed and hazards involved. Child labour is work that interferes with compulsory education and damages health and personal development (FAO and ILO, 2013).

Myanmar working in Samut Sakhon (Thailand's main seafood processing region) had been trafficked into forced labour (UNIAP, 2012). The Thai shrimp industry is highly profitable and sophisticated, with technologically advanced methods and a reliable, efficient export process. However, the labour-intensive pre-processing stage of production is largely unregulated and, therefore, not subject to the controls or inspections governing other parts of the industry. The shrimp industry is heavily reliant on migrant workers. Workers from neighbouring countries – Myanmar, the Lao People's Democratic Republic and Cambodia – make up 5–10 percent of Thailand's workforce and as much as 90 percent of the workforce in the seafood processing industry. Confiscation of identification documents, withholding of pay, forced detention and bonded labour and child labour have been widely reported (MMN, 2008; EJF, 2013).

## **2.5 Political marginalization**

Political marginalization has been a recurrent issue in the fisheries literature for decades. In the 1980s, Platteau (1989) was already discussing the case of small-scale fishing communities that were presented or perceived by policy-makers and planners, at both the national and international levels, as backward, informal and marginal economic actors that were doomed to disappear with economic development and modernization. In India, Kurien and Paul (2000) recall how the traditional fisheries sector was presented by one of the members of the National Planning Committee just after independence as “largely of a primitive character, carried on by ignorant, unorganised and ill-equipped fishermen” (see Kurien, 1985, A72).

A few years later, Pauly (1997) was referring to the “political isolation” of small-scale fishing communities, linking it on that particular occasion to their “geographical isolation”. Being physically/geographically or “verbally” excluded from the development model adopted by central planners and economists has played a key role in the struggles that have characterized the development path of small-scale fisheries in the past. Thorpe and colleagues (2004, 2005) demonstrated how (with a few notable exceptions such as Ghana or Senegal) fisheries have been neglected in macroeconomic planning in general and in successive generations of productive safety net programmes in the 2000s in particular. In an earlier analysis, Mahon (1997) had already pointed out how these small-scale fisheries are systematically overlooked by research. More recently, Kolding, Béné and Bavinck (2014) have highlighted the deficiencies of knowledge and data that characterize the sector and prevent decision-makers from appreciating the social, economic, and cultural importance of small-scale fisheries and their place in the wider (informal and formal) economies of the LMICs where they are operating.

The fact that a growing number of these small-scale fishing communities are now found in peri-urban or even urban areas, and yet are still not more effectively embedded in the formal economy, suggests that the “geographical” dimension of exclusion may not be as predominant as the “political” one.

The consequences of this marginalization percolate into almost every aspect of the lives of people who are engaged in fisheries-related activities, and have ramifications for many of the issues already discussed in this publication. Lack of, or poor access to, public services (education, health), difficulties in accessing formal credit, poor infrastructure (roads, electricity), exposure to labour abuse, the lack of statistics and data (compared for example with farming communities) – all these factors that derive from the weak political voice of socio-economic groups involved in fisheries-related activities also contribute to their economic, environmental and social vulnerabilities (Allison and Ellis, 2001; Berkes *et al.*, 2001; Neiland and Béné, 2004; Béné, 2009; Jentoft and Eide, 2011). The example of river fisheries communities and their continuous struggle to be recognized and heard in the recurrent debate around dams and larger economic development is a good illustration of this harsh reality (Dugan *et al.*, 2007; Sneddon and Fox, 2007; Friend, 2009).

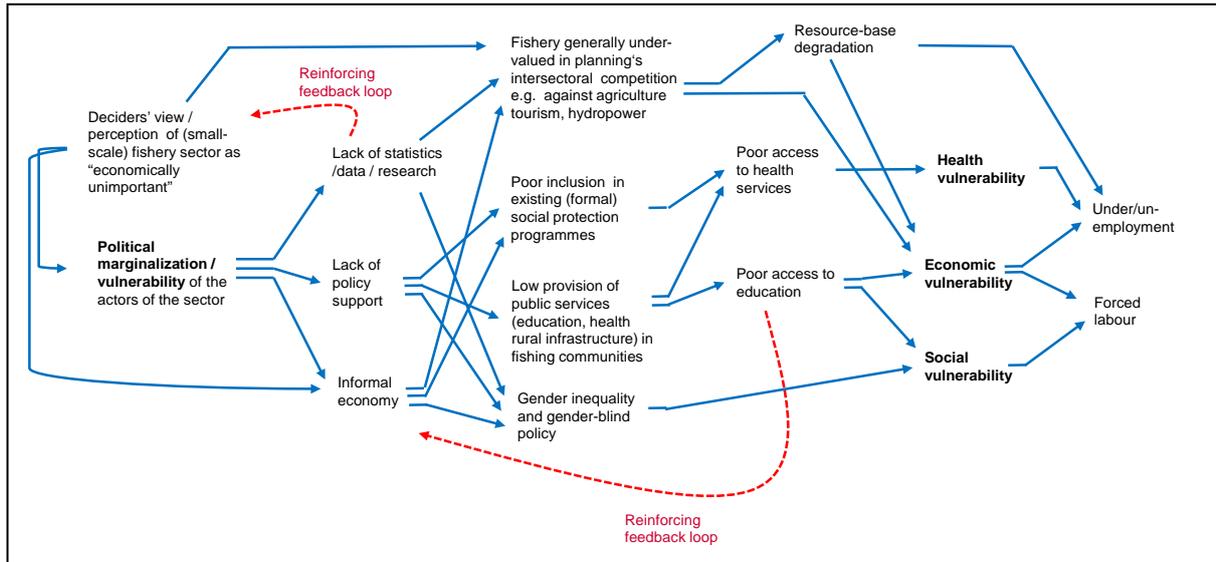
## **2.6 Putting the pieces together**

The different sources of vulnerability described in this chapter are not disconnected from one another. In fact, it is possible to link them all into a coherent narrative.

The visual representation of this pathway is shown in Figure 2. The diagram demonstrates the key generic role that political vulnerability plays in creating and maintaining a combination of unsupportive conditions, leading to poor integration of the sector into national or even subnational planning processes, low provision of public services such as education and health, and de facto exclusion from existing social protection programmes. The diagram also highlights how this lack of access to existing social protection programmes leads indirectly to the three other main sources of vulnerability affecting fishing and fish-dependent workers: health, economic and social vulnerabilities.

FIGURE 2

**Vulnerability pathways diagram linking the different sources of vulnerabilities affecting fishing and fish-dependent groups**



### 3. SOCIAL PROTECTION AND RELATED INTERVENTIONS

This chapter reviews different responses to the range of risks and threats faced by people pursuing livelihoods related to small-scale fishing activities (as presented in Chapter 2). This overview includes social protection and other interventions that are theoretically appropriate, as well as case studies of actual programmes, where these examples are available in the literature. These are summarized in Table 6.

TABLE 6  
Social protection and related responses to risks and shocks affecting fishers

Generic risks and shocks	Specific risks and shocks	Response in support to social protection	Social protection case studies
Natural/ environmental	Climate or weather-related, and other (non-climate) disasters	Emergency relief Cash transfers In-kind transfers Technical support and replacement of equipment (e.g. boat aid) and infrastructure Cash or food for work Livelihoods training Compensation schemes	Haiyan typhoon (the Philippines) December 2004 tsunami (Aceh [Indonesia], Maldives)
	Decline in fish stocks  Oil or chemical spills (technological threat)	Income assistance Retraining  Cash transfer, Cash or food for work Livelihoods training Compensation schemes	Northern Cod Adjustment and Recovery Program (Canada) Abalone fishing ban (South Africa)
Economic	Unemployment	Preferential fishing zones  Unemployment benefit during closed season	Small-Scale Fisheries Policy (South Africa)  Defeso programme (Brazil)
	Theft or loss of fishing equipment	Informal insurance mechanisms	Lofanga and Uiha fisheries (Tonga, Polynesia)
	Price volatility: • High prices for inputs • Low prices for fish sales	Fishery subsidies (fuel)	China United Kingdom
	Inappropriate international regulations on fishing		
Health	Ill health: • Illness (epidemic including HIV-AIDS, water-borne disease) • Injury	Cooperative strengthening and financial inclusion	Poverty Eradication Programme (Kenya)
	Demographic risks: • Disability • Old age • Death	Social security systems	National Institute for Social Security (Brazil) Kerala Fishermen Welfare Corporation (India)

Generic risks and shocks	Specific risks and shocks	Response in support to social protection	Social protection case studies
Social	Fishing crew forced labour	Voluntary Guidelines for Small-Scale Fisheries (FAO)  ILO instruments	
	Forced labour in fish processing factories		
	Child labour	Working in Fishing Convention 188 (ILO)	National Plan of Action on Eliminating Child Labour in the Fisheries Sector (Cambodia)
Political	Political marginalization	2004 Voluntary Guidelines on the Progressive Realization of the Right to Adequate Food (UN)	South African artisanal fishers legal action against the Marine Living Resources Act

### 3.1 Social protection in response to natural/environmental risks

#### 3.1.1 Threats from risks and shocks

Oil or chemical spills (technological threat) represent a significant risk for coastal fishing communities. The case of the *Exxon Valdez* incident, when 40 million litres of oil were spilled by a supertanker in Alaska, the United States is America, is a vivid illustration of this risk. While the costs of the accident were enormous – the state of Alaska estimated total damage to the natural environment at USD3 billion – this event turned out to generate positive income returns for the inhabitants of the area, through the different forms of interventions and compensations that were put in place to mitigate the impact of the disaster. First, local residents were employed in the clean-up operations and local fishing boats were rented for transport. The remuneration paid to local communities for these services far exceeded the economic losses to fisheries; for example, the total wages paid in the community increased by almost 300 percent in the summer after the accident compared with 1988. Exxon has also paid financial compensation to many residents, although the amounts of these settlements remain confidential<sup>13</sup> (Westlund *et al.*, 2007).

In general, cash transfers or opportunities to earn cash or food for work are recognized to complement well other types of post-disaster efforts, including housing and infrastructure reconstruction (Vakis, 2006). Consequently, some of the most commonly used instruments for post-disaster support by major international actors are unconditional cash transfers and cash-for-work. Eligibility for cash support can be either universal – all households in the affected areas – or targeted. Three types of eligibility criteria for post-disaster cash transfers are often used (see Heltberg, 2007): (i) death or injury of a family member; (ii) loss of assets or house; or (iii) poverty. Which targeting approach is best depends on several considerations: the purpose of the assistance (short-term recovery and food security or combating long-term vulnerability); the scope of the disaster (small and localized or large); and on what indicators can best be verified. Targeting those affected by loss of assets (e.g. house, productive assets – in our case fishing boats and gears and equipment, for instance) has merit in the immediate aftermath of a small-to-medium-sized disaster where the objective often is to help all those affected,

<sup>13</sup> In spite of the immediate economic return, the event had negative psychological, social and cultural impacts. The huge flow of money itself created considerable friction, and there was a decline in traditional social relations and health status; a decrease in subsistence production; increased drinking, drug abuse and domestic violence; and increased post-traumatic stress, anxiety disorders and depression. Native people suffered disproportionately, and their subsistence ways of life were seriously disturbed when important foods such as salmon, harbour seals, herring, crabs and clams became scarce or were poisoned because of the oil spill.

regardless of their predisaster income status; it can be a relatively simple, cheap, quick and transparent method. On the other hand, targeting the poor has merit in very large disasters where budget constraints may lead to a need to target, and in the medium term where the objective shifts to helping only that subsection of the population that is at risk of becoming chronically poor without help. However, setting up a poverty targeting system can be costly, time-consuming, and demanding on scarce managerial resources.

Cash-for-work has the dual objectives of income support and the completion of essential works such as clearing debris and re-establishing roads and water schemes. Cash-for-work schemes can promote dignity (through empowerment and giving communities a choice) and hope. They are best suited to the short-term relief phase when livelihood destruction has left many people unemployed. Once people are busy rebuilding their livelihoods, a work requirement can become a distraction. In South Asia, public works are used routinely in rural areas of Afghanistan, Bangladesh and India, both during disasters and in normal times. India and Bangladesh in particular have long experience of using public works to respond to disasters (Davies *et al.*, 2013). Their governments (with donor support in Bangladesh) have permanent cash-for-work and food-for-work programmes that can be expanded in response to national and local disasters.

### **Helping non-fishers to bounce back**

In the case of fisheries, the common-pool resources nature of the activity offers important opportunities. In periods of post-disasters (or post-conflict), when access to input or output markets are poor or non-existent, natural-resource-based activities such as hunting, collecting non-timber forest products (NTFPs), or fishing do not simply contribute to subsistence and direct food security. By providing building material for shelter, housing and farming utensils, they can actually be the critical initial basis on which people rely to rebuild their livelihoods and the local economy. When livestock has died (e.g. drowned by flood), lands are in fallow or crops have been destroyed or need several months – or years (for some tree crops) – before being harvested, the only sources of cash for affected rural households are often these natural resource-based activities. In the Democratic Republic of the Congo (DRC), data show that in some very remote rural areas along the Congo River which were totally isolated as a consequence of war, 61 percent of the cash income of the local population is derived from fishing, and 59 percent of subsistence farmers in those regions depend totally on fishing activities as their unique source of cash. That “bank in the water” function (Béné *et al.*, 2009) is sometimes the only source of cash on which people can rely to re-invest and rebuild their livelihoods after a disaster or conflict has forced them to flee from their farming land or has destroyed their normal economic activities. This subsistence fishing is also a source of highly valuable animal proteins, micronutrients, minerals, and essential fatty acids (Box 3).

#### **BOX 3**

#### **Role of fish and fisheries for internally displaced persons: the case of the Sudd**

Relief agencies active in the area of the Sudd (South Sudan) have become aware of the importance of fisheries from a nutritional point of view and, since the mid-1990s, improved nutritional levels have been observed in areas where fishing and processing inputs and basic technical assistance have been provided as part of relief assistance. Field observations have indicated that, in locations where fishing equipment has been lacking or not distributed in sufficient quantities, people have relied more heavily on traditional sources of animal protein to bridge the hunger gap existing before the first harvest. Insects (termites, dried locusts), bleeding cattle, dried wild meat or the use of poison to obtain fish are the most common traditional food sources during this period. On the other hand, in locations that received fishing equipment, fish (especially fresh and sundried) takes precedence as a primary source of cheap animal protein. Internally displaced persons (IDPs) and other vulnerable population groups with access to fishing equipment have also been able to rebuild lost assets and gain access to other goods and services. It would appear that fishing and its associated activities constitute an important source of both income and food supplies.

*Source:* Westlund *et al.*, (2007)

### Helping fishers to bounce back

In the case of the recent Haiyan typhoon in the Philippines, this critical role has been explicitly recognized: “Unlike other sectors, you don’t have to wait before you can harvest anything. For rice, you need to wait for the next planting season; for coconuts, you have to wait four to six years. Even if you plant vegetables, you need to wait at least 22 days.” “Fishing is the only sector you can go back to at any time. As long as fishermen have boats, they can fish right away, and feed themselves and their families.” (Asis Perez, director of the BFAR [IRIN, 2014]).

In this context, a key intervention is the rehabilitation of fishing activities.<sup>14</sup> In the weeks that followed the Haiyan typhoon, the BFAR launched a programme that aimed to provide 10 000 boats<sup>15</sup> to 20 000 families (one boat for two families) in the typhoon-affected areas over a three-month period. The National Programme for Municipal Fisherfolk Registration, which provides a database of fishers, has been used to determine and monitor the beneficiaries of the programme, as one fear is that the reconstruction programme could contribute to, or even exacerbate, the current overcapacity that threatens the resources: “Coordination and monitoring are very important to make sure that the boats are given to the actual fisherman, and we do not replace more boats than what we had before” (R. Lee, fishery industry officer, FAO Regional Office for Asia and the Pacific [IRIN, 2014]). “We have seen this before in large-scale disasters and we have to ensure that we do not increase fishing capacity [as part of the rehabilitation efforts], which can lead to overfishing and depletion of fish stocks.”

In another example where such fears had been voiced (e.g. Pauly, 2005), an assessment of the fishing fleet structure before and after the December 2004 tsunami in Aceh, including the associated pattern of boat aid in 15 coastal communities, showed that aid was not allocated proportionally to losses incurred by communities (but was reflecting the proximity to roads and larger towns where aid was easier/faster to deliver) and was in many cases below what could be seen as a trend towards overcapacity. In effect, the distribution of aid appeared to have been done without consideration of the former structure of the fleet, which changed significantly over time (pre- and post-tsunami), and resulted in a new fleet of reduced diversity with a strong focus on the smaller boat categories. If such a situation perpetuates too long after the initial post-disaster period, it may further exacerbate the pre-existing economic and geographic marginalization of some of these communities, and reduce the capacities of the fleets to diversify and develop multispecies harvesting strategies, thus increasing the risk of ecologically unsustainable exploitation in near-shore areas (Tewfik *et al.*, 2008).

### Building back better

Beyond these mainly intrasectoral considerations, rehabilitation programmes are increasingly adopting a “building back better” approach, a key principle of which is the recognition of the importance of cross- or inter-sectoral interventions. In the case of Haiyan, for example, FAO has been working closely with the local authorities to restore fisheries-related livelihoods, while paving the way for more sustainable development. “The rehabilitation process of the fisheries sector presents the opportunity to introduce improved practices and help small-scale traders and fish processors add more value to their production,” said José Luis Fernandez, FAO Representative to the Philippines. Because mangroves play a key role in stabilizing coastlines against weather shocks and contributing to aquaculture and fisheries, FAO has been working with local communities and organizations to promote the rehabilitation of natural mangrove forests. Training is also a great part of these “building back better” interventions. Women, who are essential to post-harvest activities such as conserving, selling and trading fish, have been trained on how to add extra value to their products. Similarly, boatbuilders have received training on the construction and maintenance of a newly developed hybrid wood-and-fibreglass boat, which is expected to provide a more environmentally sustainable and cost-effective

<sup>14</sup> Other examples, organized by technical areas (gear, vessels, post harvest, etc.) can be found in Cattermoul B. *et al.* (2014).

<sup>15</sup> Following the BFAR’s recommendations, FAO developed a new prototype that replicates the design of local boats or *bangcas* but uses fibreglass instead of hardwood. This will help preserve hardwood trees and prevent illegal logging. The new boat has built-in buoyancy tanks and other features for floatability and durability. Boat builders, NGO workers, local government technical staff and BFAR personnel have been trained in building and repairing the new hybrid boats. This knowledge has, in turn, been passed on to 3 000 boat builders and carpenters.

option for fishers (see footnote 14). In all, the programme has been extending support to 19 000 families in the target regions, which has benefited some 95 000 people.

Reflecting on another assessment of post-disaster interventions after the December 2004 tsunami, Heltberg (2007) reports that in Maldives the population affected by the disaster received swift, comprehensive and effective support in cash and kind:

- Cash: Almost all affected households were given a one-off cash transfer as a basic safety net, amounting to MVR500, 1 000 or 1 500 (USD39–117) per household member, depending on the damage (corresponding to 2–6 weeks of average consumption). Relief teams comprising army and government staff distributed the cash in January 2005. More than 53 000 people were helped within one month of the tsunami, and a further 5 000 people who were missed out in the first round received help later. In all, 20 percent of the country's population received the tsunami cash grant.
- In-kind: Affected islands were also provided with free rations of bottled water as well as rice, sugar, flour, milk, cooking oil, dhal, baby food and other foods, and clothes by the government and others (Ministry of Planning and National Development, 2006).

A more detailed analysis, through a survey carried out in Maldives six months after the tsunami, shows that the support was fairly adequate and helped people cope and recover. Targeting appears to have been good and few people, if any, were excluded. The cash grants infused purchasing power into the affected islands and helped revive retail trade. The food rations were seen as largely adequate: about 80 percent of highly affected households answered that the amounts of rice, sugar and bottled water provided were adequate. Thanks to the support, incidents of food shortage fell rapidly after peaking in late December 2004, and by February 2005 rates of food insecurity were back to pre-tsunami levels. Moreover, six months after the tsunami, household income was already higher than before (Heltberg, 2007).

A critical lesson that emerges from these implementation experiences is that speed is of essence. Maldives devised its cash transfer from scratch and delivered it to most affected citizens within less than a month of the tsunami, in what was probably record time. This was possible only because its design and delivery were kept very simple. Task teams visited all the affected islands, the eligibility criterion was damage to the house, which was visually confirmed by the task teams on their first day on the island, and the next day the teams gathered the population and made the payments in cash, maintaining a basic list of beneficiaries. This approach effectively ensured that the emergency intervention was sufficient to rehabilitate tsunami-affected livelihoods, and longer-term social protection was not needed.

In other countries (e.g. India, Sri Lanka, Indonesia), the scale of the region impacted by the tsunami and the severity of the devastation drastically impeded the ability of the national and international humanitarian aid agencies to deliver their support as efficiently as in Maldives.

### **3.1.2 Fish stock decline**

By their nature, fisheries are limited and too heavy fishing resulting from too many small-scale fishers, or fewer but high-capacity industrial vessels, can threaten the ecological sustainability of the resource, leading to a gradual reduction of the overall and individual fisher's catch, or even the more or less rapid collapse of the whole fishery.

Although the exact cause of the collapse of the Northern Cod Stock in 1992 is probably a combination of economic (overfishing) and ecological (environmental) factors, the resulting fall in the biomass to a critically low level (Walters and Maguire, 1996) forced the Canadian government to impose a complete moratorium, ending the region's 500-year run with the Northern Cod. The moratorium marked the largest industrial closure in Canadian fishery history, and it was expressed most acutely in Newfoundland, the region where the largest number of cod-fishing operators was located (Dolan *et al.*,

2005). More than 35 000 fishers and plant workers from more than 400 coastal communities became unemployed overnight (Gien, 2000). In response to dire warnings of social and economic consequences, the federal government intervened, initially providing income assistance through the Northern Cod Adjustment and Recovery Program, and later through the Atlantic Groundfish Strategy, which included money specifically for the retraining of those workers displaced by the closing of the fishery (Hamilton and Butler, 2001).

Newfoundland has since experienced a dramatic environmental, industrial, economic, and social restructuring, including considerable outmigration, but also increased economic diversification, an increased emphasis on education, and the emergence of a thriving invertebrates fishing industry (as the predatory groundfish population declined, snow crab and northern shrimp proliferated, providing the basis for a new industry that is roughly equivalent in economic value to the cod fishery it replaced [Hamilton and Butler, 2001]).

The case of the Newfoundland cod fisheries suggests that, when the political will and financial resources exist, it is possible to establish a coherent and supportive programme to buoy up the communities that have been affected by the collapse of their main source of livelihood, and soften the impact of the crisis. This case study also highlights the importance of an integrated approach to livelihood shocks, where social protection is a central component but there is no expectation that, for example, cash transfers alone will solve all livelihood problems. However, the capacities of LMIC governments are not equivalent to those of the federal government of Canada and the relative “success story”<sup>16</sup> of the Northern Cod Adjustment and Recovery Program should probably be seen as an exception rather than the norm.

Arguably a more typical case is the abalone fishery in South Africa, where the government responded to perceived overfishing with interventions designed to protect the natural resource stock – quotas and eventually a total ban – but the consequence was an escalation in illegal fishing (Box 4).

#### BOX 4

##### **Abalone fishing in South Africa**

During the apartheid period, abalone (*Haliotis* spp.) fishing in South Africa was dominated by five white-owned companies, but in 1998 the government allocated 10 percent of the overall abalone total allowable catch (TAC) quota to subsistence fishers, mainly from historically disadvantaged coastal communities. The allocation of rights was controversial, however, and many small-scale fishers practised “protest fishing” – harvesting abalone without a licence – which grew into an organized illegal fishery. By the late 1990s, when global abalone prices escalated by a factor of 12 for South African exporters, illegal abalone fishing was out of control and the fishery was believed to be unsustainable. In 2007, the government closed the abalone fishery in an attempt to protect the resource against total depletion and an irreversible collapse. The government also announced a “social plan” to minimize the impact of the ban on the livelihoods of affected fishers, but this was done without consultation, and was rejected by the fishers, who took the government to court in an unsuccessful bid to reverse the moratorium for licence-holders. This experience illustrates the importance of involving intended beneficiaries in the conceptualization and design of social protection programmes.

Source: Raemaekers *et al.* (2011).

## **3.2 Social protection in relation to economic risks**

### **3.2.1 Unemployment**

One reason why small-scale fishers are vulnerable to unemployment or underemployment is that they may be forced out of the sector, either by large-scale commercial operators with whom they are competing for the same resource, or by the fisheries restrictions/regulations that are introduced to

<sup>16</sup> Hamilton and Butler (2001) showed that, as the ecosystem transformed, the human population declined owing to outmigration, and social indicators showed signs of distress.

protect fish stocks (see section above). Perhaps drawing on their abalone fisheries experience, South Africa's Small-Scale Fisheries Policy of 2012 has introduced an innovative way of protecting small-scale fishers against this risk: "The setting aside of preferential fishing zones for small-scale fishers, where they will be able to harvest or catch multiple species throughout the year. These zones will be out of bounds for big commercial fishing" (MDT, 2014, p. 2).

However, in cases where regulation of fishing inevitably forces some fishers out of the sector (unemployed or seasonally underemployed), unemployment insurance or safety nets such as seasonal public works programmes – which typically target crop farmers rather than fishers – are rarely available to affected families. Employment guarantee schemes, such as the 100 days of work guaranteed to every rural household in India on demand, are an exception to the extent that fishing families are included as eligible households and are entitled to claim this "right to work".

One innovative intervention that aims to protect both fish stocks and livelihoods of fishers is the Defeso programme in Brazil.<sup>17</sup> The idea behind the Defeso programme was to use social protection instruments not as an *ex post* (protective) response to mitigate the impact on livelihoods of overfishing or collapse of fish stocks, but as an *ex ante* (preventive) tool to try to reduce the risk of overfishing in the first place. The federal government therefore aimed at establishing a closed season – with the objective of protecting fish stocks that are considered overfished – but setting up at the same time a compensating mechanism for the local fishers who are recognized to have few other sources of income.

The Defeso transfer was thus created by federal law for small-scale professional fishers who fish as individuals or families. By law, professional fishers are entitled to receive an unemployment benefit equal to the official minimum wage (about USD340 in 2012) during the months of the closed season. This law prohibits fishing for the listed species during the closed season, and violators are subject to fines and loss of their fishing licences. In the State of Amazonas, for example, the number of people receiving the Defeso subsidy increased significantly, from 13 794 fishers in 2005 to 71 586 in 2012 (Ministério da Pesca e Aquicultura, 2013). This led some to question the soundness of the programme and to claim that the establishment of the Defeso effectively created an incentive for non-fishers to enter the sector in order to benefit from the programme. In social protection terms, the Defeso programme effectively introduced unemployment insurance for seasonally unemployed fishers, but it may have generated a form of dependence. There are also questions about the ability of the agency in charge to enforce the closed season. If these assertions are correct, then the Defeso would actually lead to the opposite outcome to what it is trying to achieve. Both of these adverse outcomes could be avoided with more effective implementation.

### 3.2.2 *Shocks at household level*

Risks to household incomes are widespread in LMICs – crops and businesses fail, jobs are lost, livestock die, prices fluctuate, family members fall ill, etc. If perfect insurance were available, income shocks would not translate into fluctuations in per capita consumption. However, such perfect insurance arrangements are rarely available in LMICs, especially in rural areas. Many households in these regions therefore engage in informal interhousehold insurance arrangements (as documented by Udry [1994], Townsend [1995], Fafchamps and Lund [2003], and many others). Most of these studies refer to crop farming examples. In the fisheries literature, few academic studies are available. Platteau and Abraham (1987) discuss the occurrence of informal (local) insurance-motivated credit arrangements, using Indian fishing communities as their case studies. They discuss these mainly in the context of fluctuating income resulting from: (i) days of "unemployment" (where the weather makes working at sea too dangerous, e.g. during the monsoons in Asia that prevent fishers from putting out at sea); or (ii) unsuccessful fishing trips where catches are so low that the revenues generated are insufficient to cover costs plus basic consumption needs.

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<sup>17</sup> The Defeso programme was first established in the estuary of the Patos lagoon in southern Brazil as an achievement from the Forum of Patos Lagoon. It then was scaled up to other regions in the country.

Beyond this academic exercise, empirical knowledge exists, which highlights the widespread and quasi-universal nature of these types of informal arrangements among small-scale operators engaged in fishing, fish processing or fish trading. Intermittent lending by individuals on a non-profit basis is very common among fisherfolk, irrespective of their socioprofessional status. It is done among family members, friends and people involved in the same activity, but skippers also lend to crew members, and fish processors or traders lend to their assistants. These loans are used to finance day-to-day needs such as raising working capital, paying a medical bill or school fees, or daily savings with a deposit collector. Repayment terms are flexible and often left to the borrower. However, whether these informal arrangements affect the way fishers operate in relation to the conservation or management of the resource is not discussed.

One study that does attempt to make an explicit link in the literature between (informal) insurance and resource conservation is that by Bender *et al.* (2002). These authors analyse the indirect effects of informal insurance on open-access renewable resource use, based on empirical data from two neighbouring island fisheries – Lofanga and Uiha – in Tonga. Based on these two cases, they suggest that the presence of an informal insurance system in one of the two communities (Lofanga) sets incentives for the Lofangan fishers that induce a sustainable use of their coastal fisheries. The conclusion from the analysis is that informal insurance rules can be a substitute for rules governing fishing activities. The authors rely essentially on a comparative analysis of the Lofangan fishery with their neighbouring island, Uiha, where fishery resources are overfished. The two islands feature a similar parametric situation, including natural regeneration, thus fulfilling the *ceteris paribus* condition (Bender *et al.*, 2002, p. 428). However, they differ with respect to a solidarity network in the two island communities. While fishers from Uiha have partially withdrawn from the traditional Tongan informal insurance system, fishers from Lofanga still remain embedded in a solidarity network, which insures them against random income shocks and offers a form of “pension” scheme. While rules or norms governing fishing activities do not exist in either Uiha or Lofanga, (consequently making both fisheries *de facto* open access), Lofanga fishers have to obey rules administering their premium payments into the insurance system. A Lofangan fisher is expected to share his catch according to the following rules: if his catch just suffices for him and his immediate family’s needs he is allowed to keep it all. If he catches more, he is expected to share.

Ultimately, causality (as contended by Bender and her colleagues) between the existence of the redistributive system and the ability of the Lofanga community to maintain their resource base in a healthier status than the neighbouring community is difficult to demonstrate rigorously.

### 3.2.3 *Price volatility*

In the aftermath of the 2008–09 fuel price crisis, several central governments in both industrialized countries and LMICs decided to introduce or increase direct and/or indirect subsidies as an attempt to buffer the effect of the crisis on the economic activities of various sectors. Fisheries have generally benefited from these programmes. In China, for example, fisheries, along with state-owned forestry companies and public transport, benefited from these schemes, while grain farmers received subsidies to offset higher prices of diesel, chemical fertilizer and other agricultural production materials. In the case of fisheries, oil companies were not allowed to raise the price of diesel.

Although fuel subsidies are not the only type of financial support that fishers receive, they do represent the largest share of those subsidies. While many LMICs subsidize fuel (Sumaila *et al.*, 2008), about two-thirds of those fuel subsidies are in fact provided in industrialized countries – Japan, China and the United States of America being by far the largest providers of subsidies in the fisheries sector.

The deleterious effect of fishery subsidies as a contributor to fisheries overcapacity has been raised in many international fora, including the World Summit on Sustainable Development of the United Nations (2002) in Johannesburg, the Ministerial Conference of the World Trade Organization (WTO) (2001) in Doha, and the Millennium Ecosystem Report of the United Nations Environment Programme (UNEP) (2005), at Rio+20 in 2012. The link between overcapacity and the degraded

ecological status of many stocks is also unquestionable (FAO, 2012a). What is far less clear is the overall effect of these fuel subsidies on the welfare and food security of the millions of small-scale operators in LMICs. While the subsidies received by large-scale industrial fleets – against which small-scale operators often compete for coastal resources and fishing grounds – are without doubt adversely affecting these small-scale operators, the impacts of the subsidies received directly by these small-scale operators are more complex to assess. Some of these may contribute to global overall fisheries overcapacity, but others may be instrumental in supporting small-scale operators during harsh periods, as in 2008–09, preventing them from falling deeper into poverty and food insecurity. Until a more rigorous assessment is done, general statements often found in the literature that fuel subsidies are “harmful” are overly simplistic and do not necessarily capture the important local-specificity of the issue. Similarly, in the context of this debate on subsidies, the rationale for considering “Rural fishers’ community development programs”<sup>18</sup> as “ambiguous” (Sumaila *et al.*, 2013, p. 25), based only on a 1992 World Bank report, remains unclear and debatable.

### 3.2.4 *Economic exclusion through food standard regulation and certification*

The fishery sector is facing major economic changes driven essentially by the increasing global demand for fish and the subsequent growth in international fish trade. This in turn leads to the emergence of large-scale actors, often better equipped and organized to comply with the stringent constraints imposed by industrialized countries’ (food standard) regulations and by the emerging certification schemes, than are traditional small-scale operators, with important economic and social consequences, from economic development to changes in work organization and job availability.

In addition to the Marine Stewardship Council (MSC) and its counterpart, the Aquaculture Stewardship Council (ASC), a number of certification-like schemes exist, such as the WWF Sustainable Seafood Consumer Guides, the Friends of the Sea Sustainable Seafood, and the Greenpeace Sustainable Seafood Scorecards. Many of these schemes bring out country-specific consumer guides that are mainly targeted towards environmental sustainability (Arthur *et al.*, 2013; HLPE, 2014). As the guides are also central to sustainable seafood advocacy campaigns, their methods and scores may be influenced by campaign needs. They are therefore also moving slowly into criteria that concern social responsibility because their major clients, such as the giant supermarket chains, are concerned about their reputations for corporate social responsibility (CSR). As such, they progressively also include fairness in supply chain labour (HLPE, 2014), which is a positive move in relation to issues such as forced labour (see below).

However, certification is not scale-neutral. In fact, when fish certification schemes were introduced, early concerns were already expressed about the risk that it would then favour large-scale fish distributors at the expense of small-scale producers and traders (e.g. IUCN, 1998). Indeed, because small-scale operators (fishers, fish processors, fish traders) often lack the necessary awareness, organizational capacity and marketing skills to participate in these certification schemes, they often end up excluded from these export markets (Ponte, Raakjær and Campling, 2007; Béné, Lawton and Allison, 2010). Under the certification system of MSC, for example, certified fisheries are predominantly from industrialized countries. A few LMICs’ fisheries have become certified, but these are predominately larger-scale operations, e.g. Maldives pole and line skipjack tuna fisheries, South Africa hake, Fiji albacore tuna longline, which have often benefitted from important financial investments (HLPE, 2014). More rarely, small-scale fisheries in LMICs manage to achieve certification, with the exception of the Viet Nam Ben Tre clam fishery, or the Mexican red rock lobster fishery (MSC, 2013).

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<sup>18</sup> Sumaila *et al.* (2013, p. 25) define these as “programs that are geared towards rural fisher development with an overall objective of poverty alleviation and food sufficiency. These programs include multiple stakeholder participation within local communities involving cooperatives, with assistance from donor agencies and NGOs for integrated livelihood development policy objectives”.

### 3.3 Social protection in relation to health risks

#### 3.3.1 *Illness*

Along with other demographic sources of vulnerability (old age, disability, death – see next section), illness is a fundamental risk for small-scale fishers and other actors (small-scale fish processors, fish traders) engaged in these (mainly) informal activities. Part of the issue is related to the geographic or political marginalization of these communities, and their subsequent lack of access to health facilities and services. Part of it is also related to behavioural issues. Drug and alcohol abuse, sexual promiscuity and transactional sex arrangements are not uncommon in certain fishing communities, leading to abnormally high prevalence levels of sexually transmitted diseases. As mentioned above, fishing communities have been recognized to be specifically vulnerable to HIV/AIDS (Kissling *et al.*, 2005). In this context, a number of programmes and interventions have been implemented – especially at the end of the 1990s and up to the mid-2000s – in an attempt to address the impact of HIV/AIDS in these communities. A large proportion of these interventions also sought to use gender as a key entry point in their approach. One particular case study is presented below, highlighting the fact that a crucial element in the preconditions for success of these interventions is the integrated nature of the approach.

The case study is the Poverty Eradication Programme that was initiated by the ILO in the Isiolo, Narok and Suba Districts of Kenya in 2000. Although the programme identified that Suba had a poverty prevalence rate of 78 percent, the fishing industry in the area was reportedly doing exceptionally well, with 20–25 million Kenyan shillings (about USD 220 000) being exchanged per month in the fishing area of the district. Yet, despite this apparent wealth, poverty was noticeably prevalent and there was a high number of deaths among young girls and fishers. Examining the situation in greater detail, the ILO discovered that, although the local community in Mbita attributed these deaths to what it termed “Ukimwi disease”, it was clear that HIV/AIDS was highly prevalent among these two groups. It appeared that many girls and young women were engaging in transactional sex with the local fishers.

Working along with the communities of Suba, Mfangano islands, Mbita market, Kaksingri, Kamasingri, and the International Center of Insect Physiology and Ecology, the ILO took these issues to the local and district community leaders to expel the stigma associated around HIV/AIDS and to find ways of dealing with this issue. Transactional sex activities coupled with the lacks of means to save money in banks meant that the income that the fishers were earning from fishing was often being spent on sex at the expense of the fishers’ own families.

After a series of participatory assessments and an evaluation made by an HIV/AIDS expert from the UNDP, a set of intersectoral and integrated responses were proposed:

- A district AIDS committee was created to educate the local communities on the issue of HIV/AIDS. Local educators’ responsibility was to educate members of their communities, thus creating strong bonds and awareness between sufferers and the local people.
- Using the ILO code of practice on HIV/AIDS and the World of Work, the ILO encouraged the creation of the Mbita Fishing Cooperative to provide advice, counselling and facilitate treatment of disease.
- The renovation of an unused fish processing and storage complex into a fishing centre. This strengthened the fishing cooperative, and through the creation of cooperative committees that were responsible for selling the fish, fishers were able to ask for higher prices for their fish than had previously been possible.
- The creation of a credit and savings union to encourage fishers to bank the extra money they received from this new system. The National Bank of Kenya facilitated this process by coming to Mbita twice a week to collect these savings.

- Creation of community gardens to grow produce that would provide necessary nutritional supplements for those suffering from HIV/AIDS and help diversify their reliance on fish

Some of the key findings from this initiative are:

- Behaviour change can be achieved through community-based sensitization and awareness programmes.
- Although the issue is global, it is critical to acknowledge and address local specificities. Effective community response can be achieved if stakeholders and communities are involved in the identification of the problem, and in problem solving.
- Fisheries policies need to include strategies for responding to HIV/AIDS in the fishing sector.
- Facilitating financial inclusion, which is an objective of many social protection programmes, is equally important for fishers as for other poor and vulnerable groups.

### 3.3.2 Demographic risks

In industrialized countries, social protection systems are widely established. All countries in Western Europe, for example, have some form of formal (public and private) social security programmes. In contrast, very few LMICs have managed to develop extensive formal social protection systems, particularly for their fishers. Brazil and the state of Kerala in India are two exceptions. This section presents these two cases in greater detail.<sup>19</sup>

#### BOX 5

##### **Emergence of a social security system for small-scale fishers in Brazil**

During the first phases of industrialization, especially in the southeast regions of São Paulo and Rio de Janeiro, the Brazilian government introduced programmes to cover some categories of public sector workers, particularly in strategic sectors such as railroads and harbours that were crucial for the export industry, centred around coffee and sugar. Later, in the 1930s, the government established several pension and retirement institutes (called *Institutos de Aposentadorias e Pensões* [IAPs]) for different categories of urban workers. However, rural workers, those in the autonomous and informal sectors, and domestic workers (mostly women working as housemaids) were not covered. Although Brazil was predominantly rural at the time, these sectors did not represent politically articulate and powerful enough pressure groups to be forced into the reckoning by the State. It was during Brazil's military regime (1964–1984) that the social security system expanded and became consolidated, integrating the rural sector as well. Decree No. 72 of 21 November 1966 abolished the IAPs, merging the old structures into the National Institute for Social Security (*Instituto Nacional de Previdência Social* [INPS]), associated with the Ministry of Social Security and Labour. The constitutional reformulation of Article 195 in 1988 created a “special category” in the social welfare system. Artisanal fishers, their spouses and children above 16 years are classified in that special category. Later, through Law 8.287 of 20 December 1991, the unemployment insurance scheme was created for the small-scale fishers. Leaders of fishers' organizations consider these measures “victories” resulting from their mobilization around the issue of social security. By the 1990s, Brazil's rural labour force, including small-scale fishers, had been completely incorporated into the official social security system. This case study illustrates a positive process of extending social security coverage to occupation categories that are traditionally excluded, and the importance of political will and civil society activism in achieving this outcome.

*Source:* Lourenço, Silva Henkel and Alves Maneschy (2006).

Social protection systems in Brazil and India were progressively established in the 1970s (see Box 5 for Brazil). These systems differ in the type of interventions, their quality and coverage. In India, social security in general, and protective social security in particular, remained at a low level until the early 1980s. Compensation for loss of life of fishers while fishing was the only significant protective

<sup>19</sup> These case studies are mainly derived from Kurien and Paul (2000) for Kerala, and Lourenço, Silva Henkel and Alves Maneschy (2006) for Brazil.

social security during this period, but the compensation given was very meagre (Kurien and Paul, 2000). Other minor schemes related to compensation for accidents and for loss of fishing gear. The primary step to institutionalize large-scale social security provisions was the characteristic feature of the post-1980 period. The first development in this line was the starting of the Kerala Fishermen Welfare Corporation (KFWC). Five of the seven schemes of the KFWC were promotional in nature. The housing scheme was the prominent one. On the educational front, the most important programme was the educational scholarship scheme introduced by the Fisheries Department. Under this scheme, all children of registered fishers could avail themselves, during their period of education, of a lump sum grant, stipend, and pocket money at par with that provided to scheduled caste / scheduled tribe (SC/ST) students (Kurien and Paul, 2000). In 1985, the Kerala Fishermen Welfare Fund Act was passed. Soon thereafter, the Kerala Fishermen Welfare Fund Board (hereafter referred to as Matsyaboard) ushered in a new phase and pace for social security assistance.

Every fisher registered under the Welfare Fund Act becomes a member and is entitled to all benefits from the variety of social security schemes initiated by Matsyaboard. Contributions to the Matsyaboard funds came from several parties: the government, the fishworkers and those who buy the fish (Kurien and Paul, 2000). Matsyaboard has introduced many welfare schemes over the years (Table 7). These cover most of the social security benefits prescribed by the ILO Convention 102. These include insurance benefits, sickness benefits, maternity benefits, health benefits and old age benefits. The old age pension is the most popular of the schemes and attracts the largest number of beneficiaries. Fishers aged 60 and above can access a pension under this scheme, on certain conditions. In 1998, the number of pensioners reached 27 000. Assistance is also given for treatment of different types of illness – from eye ailments and snake-bites to diseases such as cancer, brain tumours, heart conditions requiring surgery, and mental illness.

TABLE 7  
Social security schemes by Matsyaboard in Kerala, India

Schemes	Year started	Beneficiaries up to 1998	Total Disbursal (INR millions <sup>1</sup> )	Per capita benefit (INR)
<b>Promotional measures</b>				
1) Cash award for best students	1990/91	65	0.08	1 262
2) Scholarship for best students	1990/91	2 811	1.39	493
3) Family planning scheme	1990/91	2 791	1.39	498
4) Sanitation scheme	1996/97	1 753	2.18	1 244
<b>Total</b>			5.04	
<b>Protective measures</b>				
1. a) Death insurance	1986/87	1 096	24.42	22 281
1. b) Disability insurance	1986/87	106	1.17	11 038
2) Non-accident death compensation	1986/87	455	6.78	14 901
3) Financial assistance for daughters' wedding	1986/87	7 559	7.51	994
4) Financial assistance for funeral expenses of dependants	1986/87	5 678	1.66	292
5) Old age pension	1987/88		226.86	
6) Financial assistance for temporary disability	1987/88	7 946	2.88	7 362
7) Financial assistance to dependant on his death	1990/91	1 609	2.90	1 802
8) Financial assistance for fatal diseases	1990/91	319	1.92	6 019

Schemes	Year started	Beneficiaries up to 1998	Total Disbursal (INR millions <sup>1</sup> )	Per capita benefit (INR)
9) Chairman's (miscellaneous) relief fund	1990/91	310	0.25	806
10) Financial assistance for eye ailments	1995/96	?	0.43	?
11) Special assistance for Matsyaboard	1987/88	301	1.99	6 611
12) Maternity assistance	1996/97	25	0.01	520
<b>Total</b>			278.78	
<b>Grand total</b>			<b>283.82</b>	

Source: Kurien and Paul (2000).

<sup>1</sup> Indicative exchange rates for these periods are available at:

[http://en.wikipedia.org/wiki/Tables\\_of\\_historical\\_exchange\\_rates\\_to\\_the\\_india\\_rupee](http://en.wikipedia.org/wiki/Tables_of_historical_exchange_rates_to_the_india_rupee)

Despite the presence of these attractive schemes, timely disbursal of benefits often fails, owing to shortage of funds. A clear example is the large amount of arrears in the payment of old age pensions. At the time of the study (1999), 14 months of arrears remained to be distributed as old age pension (from January 1998 to February 1999), amounting to INR37.8 million. The other schemes are also not completely free from the problem of arrears. Matsyaboard is forced to prioritize applications in accordance with the availability of funds, and, hence, not all deserving applicants receive assistance when they need it. Even in the case of approved applications, there are arrears of INR2.60 million under these schemes. The main reason for the shortage of funds is the reluctance of the seafood exporters to contribute their share to the Welfare Fund.

TABLE 8

**Social security benefits according to categories of rural workers in Brazil**

Benefits	Categories		
	Employee/ independent worker	Individual	Special
Retirement by age	X	X	X
Sickness assistance	X	X	X
Retirement by invalidity	X	X	X
Assistance for work-related accident	X	X	X
Retirement due to accidental invalidity	X	-	X
Accident assistance	X	-	X
Maternity wage	X	X	X
Pension on death	X	X	X
Incarceration assistance	X	X	X
Retirement due to contribution time	X	X	X
Special retirement	X	-	-
Family wage	X	-	-

Source: Lourenço, Silva Henkel and Alves Maneschy (2006).

In Brazil, for purposes of social security, rural workers, including fishers, are classified into the following categories: (i) employee, (ii) individual contributor, (iii) temporary employee, and (iv) specially insured. Most artisanal<sup>20</sup> fishers are in the special insured category. Women fishworkers are eligible for welfare as individuals, regardless of whether their husbands are beneficiaries

<sup>20</sup> In certain countries (especially in Latin and South America), the term "artisanal fishers" is more widely used than "small-scale fishers". Although "small-scale fishers" is used throughout this publication, both terms are used here.

themselves or whether they are widow-pensioners (in the past, women would be entitled to benefits only if they were heads of the family). Children above 16 years also have the same rights, as long as they work in similar conditions. To access welfare benefits, fishers have to sign up with the National Institute of Social Welfare (Instituto Nacional de Seguro Social [INSS]) and pay a monthly contribution equivalent to 2.1 percent of their total income in 2006. Of this contribution, 2 percent went for social welfare and 0.1 percent to finance work-accident pensions. Of the 12 benefits available in general, fishworkers are entitled to 10, as shown in Table 8. During the period of eligibility, the beneficiary will receive the minimum wage each month.

### **The special unemployment insurance scheme**

This unemployment scheme is the Defeso programme (discussed above). It targets fishworkers who are categorized as “special insured” (Table 8) and is granted annually during the fishing closure season. Those entitled to the benefit receive one minimum wage for each month of the closed season, which generally lasts for four months. Thus, the programme also has an environmental conservation motive.

The Defeso is funded by the federal government’s Workers Support Fund. The Instituto Brasileiro do Meio Ambiente e dos Recursos Naturais Renováveis (IBAMA), the federal government institution related to the environment, is the agency mandated to establish the closed season and specify closure periods and prohibited areas and species. Anyone caught fishing forbidden species can be fined or have his or her gear confiscated. Data show that only in eight municipalities where more than half the fisher population lives were they covered by unemployment insurance. This reveals both a lack of awareness among fishing communities about their rights and duties, as well as the procedural difficulties facing potential insurance beneficiaries.

Lourenço, Silva Henkel and Alves Maneschy (2006) found that 48 percent of the fishers interviewed were not enrolled in the social security scheme. This suggests that a significant proportion of these fishers remain outside the protection network, making their financial situation more precarious. However, the situation is improving with increasing enrolments, primarily owing to the awareness-raising work done by institutions linked to the Ministério do Trabalho e Emprego (MTE), which is responsible for the registration of fishers.

According to a study by the Sistema Nacional de Emprego (SINE), older fishers tended to sign up for social welfare measures in larger numbers than the younger fishers, probably because of the retirement benefits:

“The young professionals theoretically should be more conscious of the need for subscription to the social welfare system and the associated benefits. However, 70.3 per cent of those interviewed, who were between 18 and 24 years old, were not subscribed. This points to a potentially disastrous situation, bearing in mind the usual incidence of health problems that disable work.” (SINE-PA, 2003, p. 126 – quoted in Lourenço, Silva Henkel and Alves Maneschy, 2006).

Despite great advances in social development for fishing communities, in practice, access to welfare benefits is still problematic. This challenge also faces social protection programmes in other countries, where there is often a time-delay between the extension of rights to certain forms of social assistance or social insurance and their take-up by all eligible citizens. Based on their interviews with fishers, local leaders, and representatives of support organizations, Lourenço, Silva Henkel and Alves Maneschy (2006) concluded that the main barriers to access include:

- **Low level of information:** A significant proportion of fishworkers are ignorant of their social rights, especially if they are not members of colônias or associations, which are key sources of information.
- **Lack of documents:** The lack of personal and professional documents is a prime reason for exclusion from welfare schemes. The SINE report found that 24 percent of those interviewed

did not have professional identity cards and about 36 percent had no documents required to claim any social security benefits.

- **Paucity of institutions:** Several towns lack any effective representation of the institutions involved in social welfare. As such, the fisherfolk have to travel far to obtain the necessary documentation, which involves time and money.
- **Excessive bureaucracy:** During interviews with professional leaders, the most common complaint related to the bureaucracy that the beneficiary has to navigate to gain access to the social security benefits. Besides, for health-related problems, a family member has to accompany the claimant on the trip. In addition to the expenses, this also implies a break in the income-generating activities of the escort, with negative consequences for the family.

### 3.4 Social protection in relation to social and political vulnerabilities

Many of the problems faced by small-scale fishers and fishing communities originate in their social and political marginalization. Applying an environmental governance framework, Ratner and Allison (2012) argue: that small-scale fishers are under-represented as stakeholders in decision-making that manages fisheries resources and broader policy processes that influence their livelihoods; that fishers have limited authority over resource access rules, management, enforcement, dispute resolution and benefit-sharing; and that state agencies and corporate actors are typically inadequately accountable to local fishing communities.

Having little political influence leaves fishers disempowered and vulnerable to exploitation or neglect by policy-makers. Although international conventions and guidelines provide some protection on paper, national governments do not always respect or enforce their provisions. This section discusses how these social and political vulnerabilities translate into problematic employment practices in the fishing sector.

#### 3.4.1 *Fishing crew forced labour*

At the international level, several initiatives offer potential building blocks on which progress can be made in relation to forced labour and decent working conditions. The 2007 Work in Fishing Convention No. 188 (and the associated Recommendation No. 199) developed by the ILO aims to ensure: decent conditions of work with regard to minimum requirements for work on board; conditions of service; accommodation and food; occupational safety and health protection; medical care and social security; and with special consideration given to the particular needs of rural fishing communities and small-scale fishers. In particular, Convention No. 188 specifically stipulates countries' obligation to develop regulations obliging vessel owners to establish "on-board procedures for the prevention of occupational accidents, injuries and diseases, taking into account the specific hazards and risks on the fishing vessel concerned" (Article 32).<sup>21</sup>

Since the Convention was proposed, the ILO has also been developing an Action Plan. The purpose of the Action Plan is to set out for the Governing Body, member States, and the ILO's social partners, what the ILO plans to do in the future to achieve widespread ratification and implementation of the Convention and take into account Recommendation No. 199. This Action Plan<sup>22</sup> is aimed at States that may wish to ratify the Convention, and States and others that may wish to assist the ILO in the promotion of the Convention.

At the national level, many countries have significantly reduced or eliminated forced labour and human trafficking through specific legislation and enforcement. More specifically related to fisheries, there is also the need to establish bilateral agreements between countries with regard to the way arrest and detention of the crews of foreign vessels are handled. Cases where fishers spend years in jails in a foreign country and are denied basic legal rights are relatively frequent in some parts of the world. For

<sup>21</sup> Convention No. 188 and Recommendation No 199 can be found at [http://ilo.org/global/industries-and-sectors/shipping-ports-fisheries-inland-waterways/WCMS\\_177280/lang--en/index.htm](http://ilo.org/global/industries-and-sectors/shipping-ports-fisheries-inland-waterways/WCMS_177280/lang--en/index.htm), respectively.

<sup>22</sup> Details available at [www.ilo.org/sector/Resources/publications/WCMS\\_161220/lang--en/index.htm](http://www.ilo.org/sector/Resources/publications/WCMS_161220/lang--en/index.htm)

example, trespassing and violation of respective national territorial waters between India and Pakistan (along the coastline of the State of Gujarat [India] and the Province of Sindh [Pakistan]) is commonplace. Most violations occur because of the absence of a physical boundary and a lack of navigational tools used by small-scale fishers.

The United Nations Convention on the Law of the Sea (UNCLOS) provides that, in cases of arrest or detention of foreign vessels, the coastal State shall promptly notify the flag State, through appropriate channels, of the action taken and any penalties subsequently imposed. Several agreements include specific provisions to protect the rights of the arrested vessel and its crew. For example, under a 1976 agreement between Tunisia and Italy, the vessel's captain is authorized to communicate with the relevant embassy. A number of agreements provide for the prompt release of detained vessels and arrested crew members upon the posting of a reasonable bond or other security. These include a 1977 agreement between the then Soviet Union and Japan, and all the governing international fishery agreements concluded by the United States of America with other States in 1976 and 1977 (FAO, 1983).

Unilaterally, Angola has decided that its enforcement and surveillance regime would be established in accordance with UNCLOS. As a consequence, its legislation specifically excludes imprisonment in the case of transgression by foreign fishing vessels in line with Art. 73 of UNCLOS and fully integrates the rules on hot pursuit as prescribed under Art. 111 of UNCLOS (Amador, 2006).

### **3.4.2 Child labour**

The eradication of harmful forms of child labour is an example of a transformative social protection measure. At the international level, the legal framework for addressing child labour in fisheries and aquaculture consists of a variety of conventions, international instruments and guidelines. Of particular importance is the 2007 Working in Fishing Convention (No. 188), mentioned above. This document stipulates age limits for work on board fishing vessels. The approach taken by Convention No. 188 is similar to that of Convention No. 138,<sup>23</sup> but is more specific to fishing. The Convention calls to determine, among other things, what activities on board fishing vessels are likely to jeopardize the health, safety or morals of young people, taking the risks involved into account as well as applicable international standards. The related ILO Recommendation No. 199 provides non-binding guidance on the implementation of Convention No. 188. Other important international documents include the Occupational Safety and Health risk assessments and the 1999 Worst Forms of Child Labour Convention (No. 182), which guide on how to define hazardous work in fisheries and aquaculture through a specific process.

Providing a collection of rights, duties and guidance, Convention No. 188 offers a policy and legal basis for tackling child labour, and distils some technical advice. Countries are encouraged to accede to, and implement, these instruments. However, while some instruments have been widely ratified, translated into national legislation and implemented, others have so far only seen limited applications.

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<sup>23</sup> The Minimum Age Convention 1973 (138) calls for national policies to eliminate child labour and the establishment of a general minimum working age of 15 years (allowing for certain exceptions under specific circumstances).

**BOX 6****Integrating child labour in fisheries and aquaculture policy in Cambodia**

The Government of Cambodia is an example of success in mainstreaming child labour issues in fisheries and aquaculture policy. The Fisheries Administration, which is part of the Ministry of Agriculture, Forestry and Fisheries, with support from the ILO and FAO, and in collaboration with the Ministry of Labour and Vocational Training, fisheries producers organizations, workers organizations and other key national institutions, started a process to enhance awareness and capacity on child labour and its worst forms in October 2011. This culminated a few months later in a national consultation to combat child labour in the fisheries sector, which focused on the identification of appropriate strategies and areas of action. The consultation elaborated a draft National Plan of Action (NPA) on Eliminating the Worst Forms of Child Labour in the Fisheries Sector of Cambodia. This draft NPA was endorsed by the Ministry of Agriculture, Forestry and Fisheries, and is in line with Cambodia's Strategic Planning Framework for Fisheries 2010–19 and with the National Action Plan on Child Labour. It outlines the specific steps and overall strategy to be followed by national stakeholders to address child labour in the fisheries and aquaculture sector, indicating specific responsibilities. The Government of Cambodia has also included child labour elimination targets in fishing communities as part of the ten-year Strategic Planning Framework for Fisheries and has incorporated child labour concerns in the Cambodia Code of Conduct for Responsible Fisheries (CAMCODE).

*Source:* FAO and ILO (2013).

At the national level, ratification and endorsement of international conventions and agreements are the starting point for action. These commitments need to be translated into national legislation, implemented and enforced (see Box 6). Governments are responsible for ensuring that appropriate frameworks and measures are in place, while effective compliance tends to be based on positive or negative incentives, such as penalties for non-compliance.

In terms of national legislation, the FAO–ILO guidance on addressing child labour in fisheries and aquaculture (FAO and ILO, 2013) provides some concrete examples. Côte d'Ivoire, for example, includes a specific reference (e.g. Article 11, Arrêté of 2012) which cites prohibited work in the 2012 Hazardous Work List (MEMEASS/CAB, 2012). Specifically, children under 18 years of age should not undertake fishing at sea, in the lagoon or in rivers, nor should they perform deep-sea diving in lagoon and coastal areas or rivers. The list also prohibits more general hazardous work relevant to fishing and aquaculture that can damage the development of the child, including the handling and application of chemical products. Another example of national legislation is the Hazardous Work List of Indonesia (Decision of the Ministry 2003, Attachment C-5), which cites tasks endangering the health and safety of children, including jobs in offshore fishing activities, fishing in deep/pelagic waters and jobs on ships. The document also includes jobs that expose children to general hazardous conditions that can be relevant to fisheries and aquaculture, such as jobs underwater, lifting heavy weights and operating machinery.

While appropriate policy, legal and institutional frameworks are fundamental for addressing child labour, such formal arrangements are likely to be insufficient at the local level, in the informal economy in particular, where poverty is an underlying issue and the traditional organization of work in fisheries and aquaculture includes child labour (FAO and ILO, 2013). In fact, many communities have limited awareness of the consequences of child labour and – because “children have always worked” – parents and community members may be ignorant about the issue and/or reluctant to recognize it as a problem. In addition, resistance to abiding by rules administered from above (central government), especially in remote areas, often makes these regulations ineffective. While the responsibility for ensuring enforcement of child labour legislation lies with national governments, strong collaboration at the local/community level is necessary to ensure widespread application.

### **3.4.3 Rights-based instruments**

In most countries, too little attention has been given to the ways that different individuals and groups (including poorer and marginalized people in the fisheries and supply chains) will gain, lose or be

excluded from access to and use of fisheries resources, to other productive supply chain assets, or to fish as a food commodity. In this regard, evidence suggests that rights-based instruments are important tools to help ensure that States fulfil their obligations.

In a context where small-scale fishers and fishworkers are faced with increasing competition for declining natural resources from more powerful large-scale fisheries and from competing sectors, the implementation of internationally agreed guidelines based on a human-rights-based approach can also help to ensure that critical considerations such as food security and nutrition and social development are realized (Box 7).

#### BOX 7

##### **The right to food in action in fisheries in South Africa**

A group of 5 000 artisanal fishers in South Africa launched a class action following the adoption of the Marine Living Resources Act (MLRA) of 1998. The fishers claimed that the national authorities failed to provide them with adequate fishing rights as they were not given legal recognition as artisanal fishers within the MLRA. They argued that the implementation of the MLRA violated their right to food as recognized in the South African Constitution of 1996. A decision issued by the court, as well as an agreement reached with national authorities, enabled the group of fishers to reach interim relief measures and initiate a negotiation process for a new fishing policy in which their conditions would be changed.

*Source:* Ekwall and Cruz (2009).

In terms of addressing political and social vulnerabilities more broadly, Ratner and Allison (2012, p. 373) propose nine principles to reform the governance of small-scale fisheries. Some of these principles aim to enhance the participation of fishers and their representatives in decision-making processes that affect their lives and livelihoods: e.g. build inclusive multistakeholder dialogue over reform goals, and strengthen bridging organizations. Other principles aim to empower fishers: support livelihood security and basic human rights; build corresponding mechanisms of accountability when transferring decision-making and use rights; and enable and protect civil society advocacy.

The Voluntary Guidelines for Securing Sustainable Small-Scale Fisheries in the Context of Food Security and Poverty Eradication (SSF Guidelines [FAO, 2015]), which complement and support, in addition to the Code of Conduct for Responsible Fisheries, other international instruments, in particular the Voluntary Guidelines on Responsible Governance of Tenure of Land, Fisheries and Forests in the Context of National Food Security (Tenure Guidelines [FAO, 2012b]) and the Voluntary Guidelines on the Progressive Realization of the Right to Adequate Food in the Context of National Food Security (FAO, 2005b), are a milestone in this regard. All six objectives of the SSF Guidelines provide important building blocks through which international actors, government and civil society organizations can contribute to the reduction of vulnerability for small-scale fishers and related workers. In particular, objectives a) “to enhance the contribution of small-scale fisheries to global food security and nutrition and to support the progressive realization of the right to adequate food” and objective b) “to contribute to the equitable development of small-scale fishing communities and poverty eradication and to improve the socio-economic situation of fishers and fish workers within the context of sustainable fisheries management” are especially relevant. As such, and although the SSF Guidelines are voluntary in nature, they should be used as strong advocacy tools for the civil society organizations supporting fishing communities in relation to their economic or social vulnerability. As an innovative feature for a fisheries instrument, there is a specific chapter dedicated to “Social development, employment and decent work”, in which paragraph 6.2 recognizes that “States should promote investment in human resource development such as health, education, literacy, digital inclusion and other skills of a technical nature that generate value-added of the fisheries resources as well as awareness raising”. Along the same lines, paragraph 6.3 calls on States to “promote social security protection for workers in small-scale fisheries. They should take into account the characteristics of small-scale fisheries and apply security schemes to the entire value chain”, and reference is made in several places in the document to forced labour as well as child labour, ensuring that these issues are considered. This provides an additional/complementary entry point for national

and international actors to contribute to the very important work initiated by the UN (and the ILO in particular) in relation to the fight against forced and child labour discussed above.

The Voluntary Guidelines on the Progressive Realization of the Right to Adequate Food in the Context of National Food Security make it clear that States should refrain from adopting any policy that affects the territories and activities of small-scale, artisanal and indigenous fishers unless their free, prior and informed consent is obtained (de Schutter, 2012).

In relation to user and access rights, the SSF Guidelines build closely on the 2012 Tenure Guidelines. The Tenure Guidelines provide guidance on how to secure rights, in particular for those who directly depend on the resources for their livelihoods. Article 8.3, on collective rights and common resources, is relevant to the design and assessment of policies and programmes, especially those that affect the access of fishing communities to natural resources.

#### 4. CONCLUSIONS

Small-scale fishers, boat crew members, fish processors, fish retailers and fish processing factory workers are a relatively neglected socio-economic group in terms of social and development policy. Within the line ministry (often the ministry of agriculture), these groups receive disproportionately less support and attention compared with other rural communities such as crop farmers and even pastoralists. This applies in particular to social protection policy. Very few countries have introduced social protection programmes that are specifically designed to meet the needs of fishers and fisheries-related workers. Even where broad-based social protection initiatives – such as formal social security systems – are in place, fisheries-related groups often face difficulties accessing them. This might be because the numbers of fisherfolk (estimated at 120 million worldwide) are relatively small (compared with farmers, for example), making them a politically less influential group within their home countries, and because the true contribution of small-scale fisheries is often not fully captured and appears negligible to national income compared with commercial fishing enterprises.

Nonetheless, small-scale fishing and fishing-related activities do provide a livelihood and a way of life for millions of people especially in LMICs, who face particular vulnerabilities that need and deserve specific attention. Fish also provides a very significant source of protein and nutrients for these living in LMICs. In terms of the poverty–vulnerability–marginalization framework, fishers are not necessarily always among the poorest of the poor, but they are highly vulnerable and they are more often than not politically marginalized and socially excluded. This publication has identified five dimensions of vulnerability facing small-scale fishers and fishworkers:

- **Natural/environmental vulnerabilities** include climate and weather-related disasters and extreme events (floods, high winds/hurricanes, drought), other (non-climate) disasters (tsunami, oil spill, etc.) and threats to fish stocks.
- **Economic vulnerabilities** include lack, or seasonality, of fishing activities, loss/theft of fishing equipment, price volatility and inappropriate international regulations on fishing.
- **Health-related vulnerabilities** include injury, illness (including epidemics such as HIV/AIDS) and demographic risks such as disability, old age and death.
- **Social vulnerabilities** include forced labour of fishing crews and processing factory workers, and child labour.
- **Political vulnerabilities** include marginalization from political processes or policy influence.

Such a wide range of vulnerabilities calls for a diverse set of tailored social protection and other policy responses.

In terms of natural and other disasters, humanitarian relief for fishers can be provided in the form of emergency food aid, blankets, medical supplies and so on, but also in the form of compensation, cash transfers, opportunities to earn cash or food for work, technical support and replacement of fishing equipment and infrastructure, to enable fishers to resume their normal livelihoods as soon as possible, as well as longer-term capacity development and empowering activities. Governments and international aid agencies should ensure that these rehabilitation programmes are driven by a “building back better” principle. Two key lessons from recent experiences are that a rapid response is essential to protect lives, and that support to rehabilitation of fishing-based livelihoods is crucial to preserving fishing communities and their way of life.

Declining fish stocks present challenges to public agencies that need to balance protecting the natural resource base and supporting the livelihoods of people who depend on those natural resources. Experience in this domain suggests that finding the right balance is not an easy task. While the long-term implications of overfishing (i.e. overexploitation of the stock) are often highlighted in both academic and policy documents and are relatively well understood, the long-term implications of neglecting the needs of fishing communities are less often recognized. Yet, a long list of empirical experience has shown that neglecting fisher and fishworker aspirations and needs unavoidably leads to

non-compliance with regulations, often exacerbating the existing situation. As McGregor (2012) summarized it: well-being losses + threats to a way of life + perceptions of injustice = conservation policy failure.

Small-scale fishers are vulnerable to unemployment owing to competition from commercial operators or regulations on their fishing activities, which might include a closed season that leaves them seasonally underemployed. A positive response to the threat of competition for small-scale fishers is to introduce preferential fishing zones from which commercial operators are excluded. When closed seasons are imposed in an attempt to protect fish stocks, cash transfers should be offered to the fishing households that depend on fishing, as a form of unemployment compensation. In order to be effective, such compensation programmes need to ensure that the implementing agencies have proper registration and enforcement capacities.

Fishers are vulnerable to loss of fishing equipment, which can happen for several reasons. Formal insurance is typically either not accessible (unavailable or unaffordable) to small-scale fishers, who therefore have to rely on informal insurance mechanisms, reciprocity arrangements or solidarity networks within their communities. Again, the strength of these mechanisms varies from community to community, but they can provide a very effective source of support when needed. Formal social protection providers could learn from these informal mechanisms when designing interventions that are well adapted to the traditional practices and values of fishing communities.

Another source of economic vulnerability to fishers' livelihoods is price volatility – rising prices for inputs such as fuel, or falling prices for particular species of fish. Following the fuel price crisis of 2008–09, several countries protected certain sectors, including fisheries, by introducing fuel price subsidies. However, concerns have been raised that subsidizing fuel contributes to fisheries overcapacity, and that commercial operators benefit disproportionately to the detriment of small-scale fishers. Another lesson, therefore, is not to treat the fisheries sector as homogeneous, but to recognize that small-scale fishers are often doubly disadvantaged, first by working in a marginal and neglected sector, and second by competing against much larger and more powerful commercial operators within the sector.

In terms of health-related risks, injury and illness represent a significant source of vulnerability in the fisheries sector, but fishers also face more regular demographic or life-cycle risks through old age and death. In most countries, fishers are self-employed or informally employed, and therefore fall outside the provisions of mainstream social security systems that rely on formal contractual relationships between employers and employees. Brazil is one exception in this context. Fishers organizations in Brazil mobilized to ensure that small-scale fishers became fully incorporated into the national social security system, including having entitlements to a special unemployment insurance during the fishing closure season, old age pension, maternity wage, and compensation for work-related accident or invalidity. The financial viability of these systems is however a major issue and limits significantly the actual impact of these programmes.

Concern about the social vulnerabilities facing small-scale fishers prompted the development, mainly led by the ILO, of several conventions, guidelines and action plans that aim to ensure decent working conditions and sustainable livelihoods in the fisheries sector. Prominent among these is the Working in Fishing Convention of 2007, which stipulates age limits for work on board fishing vessels, partly to try to eradicate harmful and hazardous forms of child labour in the sector. However, several recent examples have highlighted that transformative social protection measures are needed to address many of the vulnerabilities that small-scale fishers face, in a sector where forced labour, unethical and dangerous working conditions and child labour are still highly prevalent.

To conclude this review, it is apparent that small-scale fishers and fishworkers face multiple sources of vulnerability against which – despite the isolated good practice examples highlighted here – they are typically inadequately protected or totally unprotected. These isolated good practices are some positive exceptions to the rule, and they offer valuable examples of how social protection can support

sustainable natural resource use and small-scale fisheries development for other countries to draw on. In more industrialized countries, more comprehensive social protection benefits are available to fishers and fishworkers. Very important is the recognition that social vulnerabilities are as significant as economic vulnerabilities, and that innovative interventions are needed to provide protections across the specific set of challenges that fishers face in each national and local context.

## REFERENCES

- Abernethy, K.E., Trebilcock, P., Kebede, B., Allison, E.H. & Dulvy, N.K.** 2010. Fuelling the decline in UK fishing communities? *ICES Journal of Marine Science*, 67: 1076–1085.
- Ainsworth, M. & Semai, I.** 2000. Who is most likely to die of AIDS? Socioeconomic correlates of adult deaths in Kagera region, Tanzania. 13th International Conference on HIV/AIDS. Durban, South Africa, 8–14 July 2000.
- Allison, E.H. & Ellis, F.** 2001. The livelihoods approach and management of small-scale fisheries, *Marine Policy*, 25: 377–388
- Allison, E. & Seeley, J.** 2004a. HIV and AIDS among fisherfolk: a threat to 'responsible fisheries'? *Fish and Fisheries*, 5: 215–234.
- Allison, E. & Seeley, J.** 2004b. Another group at high risk for HIV. *Science*, 305: 1104.
- Allison, E.A., Horemans, B. & Béné, C.** 2006. Vulnerability reduction and social inclusion: strategies for reducing poverty among small-scale fisherfolk. Paper presented at the Wetlands, Water and Livelihoods Workshops. Wetland International. January 30 – February 2, St. Lucia, South Africa.
- Allison, E.H., Béné, C. & Andrew, N.L.** 2011. Poverty reduction as a means to enhance resilience in small-scale fisheries. In R.S. Pomeroy & N.L. Andrew, eds. *Small-scale fisheries management – frameworks and approaches for the developing world*, pp. 216–238. Oxfordshire, UK, CABI.
- Allison, E.H., Perry, A., Badjeck, M.-C., Adger, W.N., Andrew, N.L., Brown, K., Conway, D., Halls, A., Pilling, G.M., Reynolds, J.D. & Dulvy, N.K.** 2009. Vulnerability of national economies to potential impacts of climate change on fisheries. *Fish and Fisheries*, 8: 227–240.
- Amador, T.** 2006. *International and Regional Fisheries Agreements and Organisation in the SADC Region: Legal Assessment and Review*. Working Paper No. 49. SADC – Monitoring Control and Surveillance of Fishery Activities Program. 52 pp.
- Armitage, D., Béné, C., Charles, T., Johnson, D. & Allison, E.H.** 2013. The interplay of wellbeing and resilience concepts in applying a social-ecological systems perspective. *Ecology & Society*, 17(4): 15.
- Arthur, R., Béné, C., Leschen, W. & Little, D.** 2013. *Fisheries and aquaculture and their potential roles in development: an assessment of the current evidence*. London, Marine Resources Assessment Group Limited (MRAG). 88 pp. (also available at [http://r4d.dfid.gov.uk/pdf/outputs/fisheries/61091-Fisheries\\_and\\_Aqua\\_Evidence\\_Review.pdf](http://r4d.dfid.gov.uk/pdf/outputs/fisheries/61091-Fisheries_and_Aqua_Evidence_Review.pdf)).
- Atkinson, T.** 1998. *Exclusion, employment and opportunity*. Centre for Analysis of Social Exclusion Working Paper No. 4. London, UK, London School of Economics.
- Badan Rehabilitasi & Rekonstruksi (BRR).** 2005. *Aceh and Nias one year after the tsunami: the recovery effort and way forward*. A Joint Report of the BRR and International Partners. 205 pp.
- Badayos-Jover, M.B.P.** 2013. *Gendered concerns in coastal disasters: an analysis of women's political subordination and prospects for empowerment* [online]. Presented at 4th Global Symposium on Gender in Aquaculture and Fisheries, Yeosu, Republic of Korea, May 2013. [Cited 25 March 2015]. <http://genderaquafish.org/>
- Bender, A., Kagi, W. & Mohr, E.** 2002. Informal Insurance and sustainable management of common pool marine resources in Ha'apai, Tonga. *Economic Development and Cultural Change*, 50: 427–439.
- Béné, C.** 2006. *Small-scale fisheries: assessing their contribution to rural livelihoods in developing countries*. FAO Fisheries Circular No. 1008. Rome, FAO. 46 pp. (also available at <ftp://ftp.fao.org/docrep/fao/009/j7551e/j7551e00.pdf>).

- Béné, C.** 2009. Are fishers poor or vulnerable? Assessing economic vulnerability in small-scale fishing communities. *Journal of Development Studies*, 45(6): 911–933.
- Béné, C. & Friend, R.** 2011. Poverty in small-scale inland fisheries: old issues, new analysis. *Progress in Development Studies*, 11(2): 119–144.
- Béné, C. & Merten, S.** 2008. Women and fish-for-sex: transactional sex, HIV/AIDS and gender in African fisheries. *World Development*, 36(5): 875–899.
- Béné, C. & Russell, A.J.M.** 2007. *Diagnostic study of the Volta Basin fisheries Part 2 - Livelihoods and poverty analysis, current trends and projections*. Report commissioned by the Focal Basin Project - Volta. WorldFish Center Regional Offices for Africa and West Asia and Challenge Programme on Food and Water. 66 pp.
- Béné, C., Lawton, R. & Allison, E.H.** 2010. “Trade matters in the fight against poverty”: narratives, perceptions, and (lack of) evidence in the case of fish trade in Africa. *World Development*, 38(7): 933–954.
- Béné, C., Steel, E., Kambala Luadia, B. & Gordon, A.** 2009. Fish as the “bank in the water” – Evidence from chronic-poor communities in Congo. *Food Policy*, 34(1): 108–118.
- Berkes, F., Mahon, R., McConney, P., Pollnac, R. & Pomeroy, R.** 2001. *Managing small-scale fisheries, alternative directions and methods*. Ottawa, International Development Research Center.
- Cattermoul, B., Brown, D. & Poulain, F. (eds).** 2014. *Fisheries and aquaculture emergency response. guidance*. Rome, FAO. 167 pp.
- Chokesaguan, B., Ananpongsuk, S. & Wanchana, W.** 2009. Impact of fisheries management in improving safety at sea measures: a case study in Thailand. *Fish for the People*, 7(2): 29–35.
- Coulthard, S., Johnson, D. & McGregor, J.A.** 2011. Poverty, sustainability and human wellbeing: a social wellbeing approach to the global fisheries crisis. *Global Environmental Change*, 21(2): 453–463.
- Davies, M., Guenther, B., Leavy, J., Mitchell, T. & Tanner, T.** 2009. *Climate change adaptation, disaster risk reduction and social protection: complementary roles in agriculture and rural growth?* Working Paper 320. Brighton, UK, Institute of Development Studies.
- Davies, M., Béné, C., Arnall, A., Tanner, T., Newsham, A. & Coirolo, C.** 2013. Promoting resilient livelihoods through Adaptive Social Protection: lessons from 124 programmes in South Asia. *Development Policy Review*, 31(1): 27–58.
- De Young, C., Sheridan, S., Davies, S. & Hjort, A.** 2012. *Climate change implications for fishing communities in the Lake Chad Basin. FAO/Lake Chad Basin Commission Workshop, 18–20 November 2011, N’djamena, Chad*. FAO Fisheries and Aquaculture Proceedings No. 25. Rome, FAO. 84 pp. (also available at [www.fao.org/docrep/017/i3037e/i3037e00.htm](http://www.fao.org/docrep/017/i3037e/i3037e00.htm)).
- Defiesta, G.D.** 2013. *Economic marginalization of women during disasters: the case of Guimaras, Philippines oil spill* [online]. Presented at 4th Global Symposium on Gender in Aquaculture and Fisheries, Yeosu, Korea. May 2013. [Cited 25 March 2015]. [http://genderaquafish.files.wordpress.com/2013/04/ppt\\_5.pdf](http://genderaquafish.files.wordpress.com/2013/04/ppt_5.pdf)
- Department for International Development (DFID).** 2005. *Reducing poverty by tackling social exclusion* [online]. London. [www2.ohchr.org/english/issues/development/docs/social\\_exclusion.pdf](http://www2.ohchr.org/english/issues/development/docs/social_exclusion.pdf)
- Dercon, S., Hoddinott, J. & Woldehanna, T.** 2005. Shocks and consumption in 15 Ethiopian villages, 1999–2004. *Journal of African Economies*, 14(4): 559–585.
- De Schutter, O.** 2012. *Interim report of the Special Rapporteur on the right to food*. UN General Assembly, A/67/268

- Devereux, S. & Sabates-Wheeler, R.** 2004. *Transformative social protection*. IDS Working Paper 232. Brighton, UK, Institute of Development Studies.
- Dolan, A.H., Taylor, M., Neis, B., Ommer, R., Eyles, J., Schneider, D. & Montevecchi, B.** 2005. Restructuring and health in Canadian coastal communities. *EcoHealth*, 2: 195–208.
- Dugan, P., Sugunan, V., Welcomme, R., Béné, C., Brummett, R. & Beveridge, M.** 2007. Inland fisheries, aquaculture and water productivity. In D. Molden, ed. *Water for food, water for life – comprehensive assessment for agricultural water*, pp. 459–484. London, Earthscan.
- Ekwall, B. & Cruz, L.** 2009. The missing element. *SAMUDRA*, 53.
- Environmental Justice Foundation (EJF).** 2013. *The hidden cost: human rights abuses in Thailand's shrimp industry* [online]. London. <http://ejfoundation.org/node/864>
- European Communities.** 2010. *The 2010 European report on development: social protection for inclusive development*. San Domenico di Fiesole, Italy, Robert Schuman Centre for Advanced Studies, European University Institute.
- Fafchamps, M. & Lund, S.** 2003. Risk sharing networks in rural Philippines. *Journal of Development Economics*, 71: 261–287.
- FAO.** 1983 *Report of the Expert Consultation on the conditions of access to the fish resources of the exclusive economic zones. Rome, 11-15 April 1983. A preparatory meeting for the FAO World Conference on fisheries management and development*. FAO Fisheries Technical Report No. 293. Rome. 209 pp. (also available at [www.fao.org/docrep/x5608e/x5608e00.HTM](http://www.fao.org/docrep/x5608e/x5608e00.HTM)).
- FAO.** 2005a. *The State of World Fisheries and Aquaculture 2004*. Rome. 153 pp. (also available at [www.fao.org/docrep/007/y5600e/y5600e00.htm](http://www.fao.org/docrep/007/y5600e/y5600e00.htm)).
- FAO.** 2005b. *Voluntary Guidelines on the Progressive Realization of the Right to Adequate Food in the Context of National Food Security*. Rome. 37 pp. (also available at [www.fao.org/docrep/009/y7937e/y7937e00.htm](http://www.fao.org/docrep/009/y7937e/y7937e00.htm)).
- FAO.** 2008. *Options for decision makers* [online]. Expert meeting on climate change and disaster risk management, FAO headquarters, Rome, 28–29 February 2008. [Cited 25 March 2015]. [www.fao.org/fileadmin/user\\_upload/foodclimate/presentations/disaster/OptionsEM4.pdf](http://www.fao.org/fileadmin/user_upload/foodclimate/presentations/disaster/OptionsEM4.pdf)
- FAO.** 2009a. *The state of agricultural commodity markets: high food prices and the food crises – experiences and lessons learned*. Rome. 63 pp. (also available at [www.fao.org/3/a-i0854e.pdf](http://www.fao.org/3/a-i0854e.pdf)).
- FAO.** 2009b. *Guidelines for the ecolabelling of fish and fishery products from marine capture fisheries. Revision 1. Directives pour l'étiquetage écologique du poisson et des produits des pêches de capture marines. Révision 1. Directrices para el ecoetiquetado de pescado y productos pesqueros de la pesca de captura marina. Revisión 1*. Rome/Roma. 108 pp. (also available at [www.fao.org/docrep/012/i1119t/i1119t00.htm](http://www.fao.org/docrep/012/i1119t/i1119t00.htm)).
- FAO.** 2012a. *The State of World Fisheries and Aquaculture 2012*. Rome. 209 pp. (also available at [www.fao.org/docrep/016/i2727e/i2727e00.htm](http://www.fao.org/docrep/016/i2727e/i2727e00.htm)).
- FAO.** 2012b. *Voluntary Guidelines on Responsible Governance of Tenure of Land, Fisheries and Forests in the Contexts of National Food Security*. Rome. 40 pp. (also available at [www.fao.org/docrep/016/i2801e/i2801e.pdf](http://www.fao.org/docrep/016/i2801e/i2801e.pdf)).
- FAO.** 2012c. *Report of FAO Workshop on Future Directions for Gender in Aquaculture and Fisheries Action, Research and Development. Shanghai, China, 23–24 April 2011*. FAO Fisheries and Aquaculture Report No. 998. Rome. 28 pp. (also available at [www.fao.org/docrep/015/i2762e/i2762e00.htm](http://www.fao.org/docrep/015/i2762e/i2762e00.htm)).
- FAO.** 2013. *FAO's work in social protection* [online]. 148th Council Session. CL 148/12. [Cited 25 March 2015]. [www.fao.org/docrep/meeting/029/MI557E.pdf](http://www.fao.org/docrep/meeting/029/MI557E.pdf)
- FAO.** 2014a. *The State of World Fisheries and Aquaculture 2014*. Rome. 223 pp. (also available at [www.fao.org/3/a-i3720e/index.html](http://www.fao.org/3/a-i3720e/index.html)).

- FAO.** 2014b. *Securing sustainable small-scale fisheries: update on the development of the Voluntary Guidelines for Securing Sustainable Small-Scale Fisheries in the Context of Food Security and Poverty Eradication (SSF Guidelines)* [online]. COFI/2014/3. [Cited 25 March 2015]. [www.fao.org/cofi/23150-0423411126421a3feb059f7c1a6e5e92c.pdf](http://www.fao.org/cofi/23150-0423411126421a3feb059f7c1a6e5e92c.pdf)
- FAO.** 2015. *Voluntary Guidelines for Securing Sustainable Small-Scale Fisheries in the Context of Food Security and Poverty Eradication* [online]. Rome. [Cited 25 March 2015]. [www.fao.org/fishery/ssf/guidelines/en](http://www.fao.org/fishery/ssf/guidelines/en)
- FAO and ILO.** 2013. *Guidance on addressing child labour in fisheries and aquaculture* [online]. [Cited 25 March 2015]. [www.fao.org/docrep/018/i3318e/i3318e.pdf](http://www.fao.org/docrep/018/i3318e/i3318e.pdf)
- Friend, R.** 2009. Fishing for influence: Fisheries science and evidence in water resources development in the Mekong Basin. *Water Alternative*, 2(2): 167–182.
- Friend, R.M., Arthur, R.I. & Keskinen, M.** 2009. Songs of the doomed: the continuing neglect of fisheries in hydropower debate in the Mekong. In F. Molle, T. Foran and M. Kähkönen, eds. *Contested waterscapes in the Mekong region: hydropower, livelihoods and governance*, pp. 23–54. London, Earthscan.
- Garcia, S., Allison, E.H., Andrew, N., Béné, C., Bianchi, G., de Graaf, G., Kalikoski, D., Mahon, R. & Orensanz, J.M.** 2008. *Towards integrated assessment and advice in small-scale fisheries: principles and processes*. FAO Fisheries and Aquaculture Technical Paper No. 515. Rome, FAO. 84 pp. (also available at [www.fao.org/docrep/011/i0326e/i0326e00.htm](http://www.fao.org/docrep/011/i0326e/i0326e00.htm)).
- Gien, L.** 2000. Land and sea connection: the East Coast fishery closure, unemployment and health. *Canadian Journal of Public Health*, 91(2): 121–124.
- Global Environment Facility – United Nations Environment Programme (GEF-UNEP).** 2002. *A Volta Basin preliminary trans-boundary diagnostic analysis*. Washington, DC.
- Ha, T.T.T., Bush, S.R. & van Dijk, H.** 2013. The cluster panacea? Questioning the role of cooperative shrimp aquaculture in Vietnam. *Aquaculture*, 388–391: 89–98.
- Hai, A., Fatima, A. & Sadaqat, M.** 2010. Socio-economic conditions of child labor – a case study for the fishing sector on Balochistan coast. *International Journal of Social Economics*, 37(4): 316–338.
- Halpern, B.S., Walbridge, S., Selkoe, K., Kappel, C.V., Micheli, F., D'Agrosa, C., Bruno, J.F., Casey, K.S., Ebert, C., Fox, H.E., Fujita, R., Heinemann, D., Lenihan, H.S., Madin, E.M., Perry, M.T., Selig, E.R., Spalding, M., Steneck, R. & Watson, R.** 2008. A global map of human impact on marine ecosystems. *Science*, 319(5865): 948–952.
- Hamilton, L. & Butler, M.J.** 2001. Outport adaptations: social indicators through Newfoundland's cod crisis. *Human Ecology Review*, 8(2): 1–11.
- Hara, M.** 2009. Crew members in South Africa's squid industry; whether they have benefited from transformation and governance reforms. *Marine Policy*, 33(3): 513–519.
- Heltberg, R.** 2007 Helping South Asia cope better with natural disasters: the role of social protection. *Development Policy Review*, 25(6): 681–698.
- High Level Panel of Experts on Food Security and Nutrition of the Committee on World Food Security (HLPE).** 2011. *Price volatility and food security*. Rome, CFS.
- High Level Panel of Experts on Food Security and Nutrition of the Committee on World Food Security (HLPE).** 2014. *Sustainable fisheries and aquaculture for food security and nutrition*. Rome.
- Holzmann, R. & Jorgensen, S.** 2001. Social risk management: a new conceptual framework for social protection, and beyond. *International Tax and Public Finance*, 8: 529–556.

- IDAF.** 1995. *Data compendium on safety at sea for seven West African countries 1991–94*. Programme for Integrated Development of Artisanal Fisheries in West Africa. Technical Report 71. Benin, Cotonou, IDAF and FAO.
- Intergovernmental Panel on Climate Change (IPCC).** 2001. *Climate change 2001: Impacts, adaptation & vulnerability*. Contribution of Working Group II to the Third Assessment Report of the Intergovernmental Panel on Climate Change. Cambridge, UK, Cambridge University Press.
- International Collective in Support of Fishworkers (ICSF).** 2001. *The Chennai declaration on sea safety for artisanal and small-scale fishermen* [online]. Adopted on 12 October 2001. Chennai, India. [Cited 25 March 2015]. [www.icsf.net/jsp/publication/dossiers/Art9.pdf](http://www.icsf.net/jsp/publication/dossiers/Art9.pdf)
- International Labour Organization (ILO).** 2000. *Safety and health in the fishing industry – report for discussion at the Tripartite Meeting on Safety and Health in the Fishing Industry*. Geneva, Switzerland, International Labour Office.
- International Labour Organization (ILO).** 2007. *Decent working conditions, safety and social protection*. Work in Fishing Convention No. 188; Recommendation No. 199. Sectoral Activities Branch. Geneva, Switzerland. 24 pp.
- International Labour Organization (ILO).** 2012. Text of the recommendation concerning national floors of social protection. Geneva, Switzerland, International Labour Conference.
- International Labour Organization (ILO).** 2013a. *Caught at sea – forced labour and trafficking in fisheries*. International Labour Office Governance and Tripartism Department – Special Action Programme to Combat Forced Labour (SAP-FL) Sectoral Activities Department (SECTOR).
- International Labour Organization (ILO).** 2013b. *Forced labour and trafficking in fisheries*. Issue Brief, International Labour Office – Special Action Programme to Combat Forced Labour (SAP-FL) Sectoral Activities Department (SECTOR).
- International Organization for Migration (IOM).** 2003. *Mobile populations and HIV/AIDS in the southern African region: recommendations for action*. International Organisation for Migration/Southern African Regional Poverty Network. (available from [info@iom.int](mailto:info@iom.int)).
- International Union for Conservation of Nature (IUCN).** 1998. Summary. In M.J. Williams, ed. *A roadmap for the future for fisheries and conservation*, pp. vi–xi. Proceedings of the Fisheries Session, IUCN Marine and Coastal Workshop, 17–18 October 1996, Montreal, Canada. ICLARM Conference Proceedings 56.
- IRIN.** 2014. *Philippine fishermen need support after Typhoon Haiyan UN Office for the Coordination of Humanitarian Affairs* [online]. [Cited 25 March 2015]. [www.irinnews.org/report/99413/philippine-fishermen-need-support-after-typhoon-haiyan](http://www.irinnews.org/report/99413/philippine-fishermen-need-support-after-typhoon-haiyan)
- Jentoft, S. & Eide, A.** 2011. *Poverty mosaics: realities and prospects in small-scale fisheries*. Dordrecht, Netherlands, Springer.
- Kearney, J.** 2010. Food consumption trends and drivers. *Philosophical Transactions of the Royal Society*, B 365(1554): 2793–2807.
- Kissling, E., Allison, E. H., Seeley, J. A., Russell, S., Bachmann, M., Musgrave, S.D. & Heck, S.** 2005. Fisherfolk are among groups most at risk of HIV: Cross-country analysis of prevalence and numbers infected. *AIDS*, 19(17): 1939–1946.
- Kolding J., Béné C. & Bavinck, M.** 2014. Small-scale fisheries – importance, vulnerability and deficient knowledge. In S. Garcia, J. Rice & A. Charles, eds. *Governance for marine fisheries and biodiversity*. Wiley-Blackwell.
- Kurien, J.** 1985. Technical assistance projects and socio-economic change - Norwegian intervention in Kerala fisheries development. *Economic and Political Weekly*, 20(25&26): A70–A88.

- Kurien, J. & Paul, A.** 2000. *Nets for social safety. An analysis of the growth and changing composition of social security programmes in the fisheries sector of Kerala state, India*. India, International Collective in Support of Fishworkers. 76 pp.
- Lincoln, J.M., Hudson, D.S., Conway, G.A. & Pescatore, R.** 2002. *Proceedings of the international Fishing industry safety and health Conference*. U.S. Department of Health and Human Services – Public Health Service, Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health and the Occupational Health Program Department of Environmental Health Harvard School of Public Health.
- Lourenço, C.F., Silva Henkel, J. & Alves Maneschy, M.-C.** 2006. *Social security for fishworkers in Brazil: a case study of Pará*. Brazil, International Collective in Support of Fishworkers. 43 pp.
- Mahon, R.** 1997. Does fisheries science serve the needs of managers of small stocks in developing countries. *Canadian Journal of Fisheries and Aquatic Sciences*, 54: 2207–2213.
- Masifundise Development Trust (MDT).** 2014. *Small-scale fisheries (SSF) policy: a handbook for fishing communities in South Africa*. Cape Town, Masifundise Development Trust, Institute for Poverty, Land and Agrarian Studies (PLAAS) and Too Big To Ignore.
- Mathew, S.** 2010. *Children's work and labour in fisheries: a note on principles and criteria for employing children and policies and action for progressively eliminating the worst forms of child labour in fisheries and aquaculture*. Background paper prepared for the workshop on Child Labour in Fisheries and Aquaculture in cooperation with ILO, Rome, 14–16 April 2010. 13 pp.
- Mathew, S.** 2011. The costs of certification. In: *Dialogues, propositions, histories pour une citoyenneté mondiale 03 / 2011* [online]. [Cited 25 March 2015]. <http://base.d-ph.info/fr/fiches/dph/fiche-dph-8787.html>
- McGoodwin, J.R.** 2001. *Understanding the cultures of fishing communities: a key to fisheries management and food security*. FAO Fisheries Technical Paper No. 401. Rome, FAO. 287 pp. (also available at <http://www.fao.org/docrep/004/y1290e/y1290e00.htm>).
- McGregor, A.J.** 2012 *What is wellbeing, wellbeing and resilience*. Inception workshop for the ESRC-DFID funded project “Tangled in their own (safety)-nets? Resilience, adaptability, and transformability of small-scale fishing communities in the face of the World fisheries crisis”, Matara Sro Lanka, 12–17 October 2012.
- MEMEASS/CAB.** 2012. *Arrêté No. 009, Côte d'Ivoire* [online]. [Cited 25 March 2015]. [www.ilo.org/dyn/natlex/docs/MONOGRAPH/89333/102599/F2046941423/CIV-89333.pdf](http://www.ilo.org/dyn/natlex/docs/MONOGRAPH/89333/102599/F2046941423/CIV-89333.pdf)
- Menezes, A., Eide, A. & Raakjær, J.** 2011. Moving out of poverty: conditions for wealth creation in small-scale fisheries in Mozambique. In S. Jentoft & A. Eide, eds. *Poverty mosaics: realities and prospects in small-scale fisheries*, pp. 404–425. Springer.
- Mills, D. J., Westlund, L., de Graaf, G., Willmann, R., Kura, Y. & Kelleher, K.** 2011a. Underreported and undervalued: small-scale fisheries in the developing world. In N.L. Andrew & R. Pomeroy, eds. *Small-scale fisheries management: frameworks and approaches for the developing world*, pp. 1–15. CABI.
- Mills, D., Béné, C., Ovie, S., Tafida, A., Sinaba, F., Kodio, A., Russell, A., Andrew, N., Morand, P. & Lemoalle, J.** 2011b. Vulnerability in African small-scale fishing communities. *Journal of International Development*, 23, 308–313.
- Ministério da Pesca e Aquicultura.** 2013. Relatório de registros gerais da atividade pesqueira – dados anuais (Report of registration general of fishing activity – annual data). Internal report. Unpublished.
- Ministry of Planning and National Development.** 2006. *Tsunami Impact Assessment Survey 2005: a socio-economic countrywide assessment at household level, six months after the Tsunami*. Maldives, Ministry of Planning and National Development, and Malé, UNDP/UNFPA.

- MMN.** 2008. *Arrest, detention and deportation of migrants from Burma, Cambodia and Lao PDR in Thailand* [online]. p. 133. [Cited 25 March 2015]. [www.mekongmigration.org/publications/Resource\\_Book\\_ADD\\_p.127-153.pdf](http://www.mekongmigration.org/publications/Resource_Book_ADD_p.127-153.pdf)
- MSC.** 2013. Net gains: *Marine Stewardship Council and Developing World Fisheries*. [www.msc.org/documents/developing-world/net-gains-marine-stewardship-council-and-developing-world-fisheries/net-gains-marine-stewardship-council-and-developing-world-fisheries-english](http://www.msc.org/documents/developing-world/net-gains-marine-stewardship-council-and-developing-world-fisheries/net-gains-marine-stewardship-council-and-developing-world-fisheries-english)
- National Planning Indonesia Development Agency (BAPPENAS).** 2005. *Indonesia: Preliminary Damage and Loss Assessment, The December 26, 2004 Natural Disaster*. A Technical Report by BAPPENAS and International Donor Community, January 2005. 128 pp.
- Neiland, A.E. & Béné, C., eds.** 2004. *Poverty and small-scale fisheries in West Africa*. Kluwer Academic Publishers for FAO.
- Ofori-Danson, P.K.** 2005. An assessment of the purse-seine (winch-net) fishery in Lake Volta, Ghana. *Lakes & Reservoirs: Research and Management*, 10(3): 191–197.
- Pauly, D.** 1997. Small-scale fisheries in the tropics: marginality, marginalization, and some implications for fisheries management. In E. Pikitch, D. Huppert & M. Sissenwise, eds. *Global trends: fisheries management*, pp. 40–49. Bethesda, USA, American Fisheries Society Symposium.
- Pauly, D.** 2005. Rebuilding fisheries will add to Asia's problems. *Nature*, 433: 457. doi:10.1038/433457a.
- Petherick, A.** 2012. A note of caution. *Nature Climate Change*, 2: 144–145. doi: 10.1038/nclimate1423
- Petursdottir, G., Hannibalsson, O. & Turner, J.M.M.** 2001. *Safety at sea as an integral part of fisheries management*. FAO Fisheries Circular No. 966. Rome, FAO. 39 pp. [www.fao.org/docrep/003/x9656e/x9656e00.htm](http://www.fao.org/docrep/003/x9656e/x9656e00.htm)
- Pittaluga, F., Braimah, L.I., Bortey, A., Wadzah, N., Cromwell, A., Dacosta, M., Seghieri, C. & Salvati, N.** 2003. *Poverty profile of riverine communities of southern Lake Volta*. SFLP/FR/18. Cotonou, Benin, Sustainable Fisheries Livelihoods Programme, FAO. 76 pp.
- Platteau, J.-P.** 1989. Penetration of capitalism and persistence of small-scale organisational forms in Third World fisheries. *Development and Change*, 20: 621–651.
- Platteau, J.-P. & Abraham, A.** 1987. An inquiry into quasi-credit contracts: the role of reciprocal credit and interlinked deals in small-scale fishing communities. *Journal of Development Studies*, 23(4): 461–490.
- Poggie, J., Pollnac, R.B. & Jones, S.** 1995 Perceptions of vessel safety regulations: a southern New England fishery. *Marine Policy*, 19: 411–418.
- Pollnac, R.B. & Poggie, J. J.** 2008. Happiness, well-being and psychocultural adaptation to the stresses associated with marine fishing. *Human Ecology Review*, 15(2): 194–200.
- Pollnac, R., Pomeroy, R. & Harkes, I.** 2001. Fishery policy and job satisfaction in three southeast Asian fisheries. *Ocean and Coastal Management*, 44: 532–544.
- Ponte, S., Raakjær, J. & Campling, L.** 2007. Swimming upstream: market access for African fish exports in the context of WTO and EU negotiations and regulation. *Development Policy Review*, 25(1): 113–138.
- Raemaekers, S., Hauck, M., Bürgener, M., Mackenzie, A., Maharaj, G., Plagányi, E. & Britz, P.** 2011. Review of the causes of the rise of the illegal South African abalone fishery and consequent closure of the rights-based fishery. *Ocean & Coastal Management*, 54: 433–445.
- Ratner, B.D. & Allison, E.H.** 2012. Wealth, rights, and resilience: an agenda for governance reform in small-scale fisheries. *Development Policy Review*, 30: 371–398.

- Roberts, S.** 2002. Hazardous occupations in Great Britain. *The Lancet*, 360(9332): 543–544.
- Rose, G.A., de Young, B., Kulka, D.W., Goddard, S.V. & Fletcher, G.L.** 2000. Distribution shifts and overfishing the northern cod (*Gadus morhua*): a view from the ocean. *Canadian Journal of Fisheries and Aquatic Sciences*, 57(3): 644–663.
- Rothschild, B.J., Ault, J.S., Gouletquer, P. & Heral, M.** 1994. Decline of the Chesapeake Bay oyster population: a century of habitat destruction and overfishing. *Marine Ecology Progress Series*, 111(1–2): 29–39.
- Secretariat of the Pacific Community (SPC).** 1999. *Safe sex and safe seafaring – something to think about*. 1st SPC Heads of Fisheries Meeting, Noumea, New Caledonia, 9–13 August 1999, Background Paper 10. Noumea, Capture Section, Marine Resources Division, Secretariat of the Pacific Community. 4 pp.
- Siegel, P.B., Gatsinzi, J. & Kettlewell, A.** 2011. Adaptive social protection in Rwanda: a no-regrets approach to increased resilience in a territorial planning context. Paper prepared for Conference on: “Social Protection for Social Justice”, Institute for Development Studies, Brighton, 13–15 April 2011.
- SINE-PA.** 2003. *A pesca artesanal no Pará: perfil sócio-econômico e organizacional dos pescadores filiados às colônias*. Belém, Brazil, Secretaria Executiva de Trabalho e Promoção Social (SETEPS) /SINE-PA.
- Sinha, S. & Lipton, M.** 1999. *Damaging fluctuations, risk and poverty: a review*. Brighton, UK.
- Smith, C.L. & Clay, P.M.** 2010. Measuring subjective and objective wellbeing: analyses from five marine commercial fisheries. *Human Organization*, 69(2): 158–168.
- Sneddon, C. & Fox, C.** 2007. Power, development and institutional change: participatory governance in the Lower Mekong basin. *World Development*, 35(12): 2161–2181.
- Sumaila, U.R., Teh, L., Watson, R., Tyedmers, P. & Pauly, D.** 2008. Fuel price increase, subsidies, overcapacity, and resource sustainability. *ICES Journal of Marine Science*, 65: 832–840.
- Sumaila, U.R., Lam, V., Le Manach, F., Swartz, W. & Pauly, D.** 2013. *Global fisheries subsidies*. Directorate-General for Internal Policies. Policy Department B: Structural and Cohesion Policies. Fisheries Report for the European Parliament’s Committee on Fisheries. IP/B/PECH/IC/2013-146.
- Tewfik A., Garces, L., Andrew N. & Béné, C.** 2008. Reconciling poverty alleviation with reduction in fisheries capacity: boat id in post-tsunami Aceh, Indonesia. *Fishery Management and Ecology*, 15: 147–158.
- Thorpe, A.** 2004. Growth and equity: grounds for inserting the sector in PRSPs and NDPs. In A. Thorpe. *Mainstreaming fisheries into national development and poverty reduction strategies: current situation and opportunities*, pp. 8–31. FAO Fisheries Circular No. 997. Rome, FAO. 121 pp. (also available at <ftp://ftp.fao.org/docrep/fao/008/y5930e/y5930e00.pdf>).
- Thorpe, A., Reid, C., van Anrooy, R. & Brugere, C.** 2004. African poverty reduction strategy programmes and the fisheries sector: current situation and opportunities. *African Development Review*, 16(2): 328–350.
- Thorpe, A., Reid, C., van Anrooy, R. & Brugere, C.** 2005. When fisheries influence national policy making: an analysis of the national development strategies of major fish-producing nations in the developing world. *Marine Policy*, 29: 211–222.
- Toufique, K.A.** 1997. Some observations on power and property rights in the inland fisheries of Bangladesh. *World Development*, 25(3): 457–467.
- Townsend, R.** 1995. Consumption insurance: an evaluation of risk-bearing systems in low-income countries. *Journal of Economic Perspectives*, 9: 83–102.

- Udry, C.** 1994. Risk and insurance in a rural credit market: an empirical investigation in northern Nigeria. *The Review of Economic Studies*, 61: 495–526.
- UNAIDS.** 2001. *Population Mobility and AIDS* [online]. Geneva, UNAIDS. [http://data.unaids.org/Publications/IRC-pub02/JC513-PopMob-TU\\_en.pdf](http://data.unaids.org/Publications/IRC-pub02/JC513-PopMob-TU_en.pdf)
- United Nations Inter-Agency Project on Human Trafficking (UNIAP).** 2012 *Estimating labor trafficking: a study of Burmese migrant workers in Samut Sakhon, Thailand* [online]. [www.no-trafficking.org/reports\\_docs/estimates/uniap\\_estimating\\_labor\\_trafficking\\_report.pdf](http://www.no-trafficking.org/reports_docs/estimates/uniap_estimating_labor_trafficking_report.pdf)
- Vakis, R.** 2006. *Complementing natural disasters management: the role of social protection*. Social Protection Discussion Paper No. 543. Washington, DC, World Bank.
- Walters, C. & Maguire, J.J.** 1996. Lessons for stock assessment from the northern cod collapse. *Reviews in Fish Biology and Fisheries*, 6(2): 125–137.
- Welcomme, R.L., Cowx, I.G., Coates, D., Béné, C., Funge-Smith, S., Halls, A. & Lorenzen, K.** 2010. Inland capture fisheries. *Philosophical Transactions of the Royal Society*, 365: 2881–2896.
- Westlund, L., Poulain, F., Bage, H. & van Anrooy, R.** 2007. *Disaster response and risk management in the fisheries sector*. FAO Fisheries Technical Paper No. 479. Rome, FAO. 56 pp. (also available at [www.fao.org/docrep/010/a1217e/a1217e00.htm](http://www.fao.org/docrep/010/a1217e/a1217e00.htm)).
- Woods, J., Williams, A., Hughes, J.K., Black, M. & Murphy, R.** 2010. Energy and the food system. *Philosophical Transactions of the Royal Society*, B 365(1554): 2991–3006.
- World Bank.** 2001. *World Development Report 2000/2001: attacking poverty*. New York, USA, Oxford University Press.
- World Bank/FAO/WorldFish.** 2012. *Hidden harvest: the global contribution of capture fisheries*. World Bank Report No. 66469-GLB. Washington, DC, World Bank.
- Zdunnek, G., Dinkelaker, D., Kalla, B., Matthias, G., Szrama, R. & Wenz, K.** 2008. *Child labour and children's economic activities in agriculture in Ghana*. Centre for Advanced Training in Rural Development, Humboldt Universität zu Berlin, Faculty of Agriculture and Horticulture, SLE Publication series S233.

#### Websites consulted

FAO Fisheries Glossary: [www.fao.org/fi/glossary/default.asp](http://www.fao.org/fi/glossary/default.asp)

International Labour Organization: [www.ilo.org/sector/Resources/publications/WCMS\\_161220/lang--en/index.htm](http://www.ilo.org/sector/Resources/publications/WCMS_161220/lang-en/index.htm)

## APPENDIX 1

### Social protection for small-scale fisheries: a road map for action

Small-scale fisheries are relatively neglected in social and development policies. In particular, very few social protection programmes in low- and middle-income countries (LMICs) are specifically designed for the needs of fishers and fisheries-related workers (boat crew members, fish processors, fish retailers and fish processing factory workers), who also often have difficulties in accessing formal social security systems. Millions of people depend on small-scale fisheries but their livelihoods are highly vulnerable to livelihood shocks and risks from multiple sources, so they have significant unmet needs for social protection.

The road map for action below identifies appropriate social protection interventions for people who work in the small-scale fisheries sector and disaggregates these by the nature of the vulnerability that the intervention aims to address.

- **Environmental vulnerabilities** include climate change, weather-related disasters and extreme events (e.g. floods, high winds/hurricanes, drought), other (non-climate) disasters (tsunami, oil spill, etc.) and threats to fish stocks.
- **Economic vulnerabilities** include lack of, or seasonality, of fishing activities, loss or theft of fishing equipment, price volatility, trade bans and inappropriate international fisheries regulations.
- **Health and demographic vulnerabilities** include injury, illness (including epidemics such as HIV/AIDS) and demographic risks such as disability, aging populations and death.
- **Social vulnerabilities** include child labour and forced labour on fishing boats and in processing factories.
- **Political vulnerabilities** include disempowerment and marginalization or exclusion from political and decision-making processes and policy influence.

#### 1. Social protection against environmental vulnerabilities

Environmental vulnerabilities affecting fisheries-related economic activities can be subdivided into rapid-onset disasters such as oil spills and extreme weather events, and slow-onset events such as sea-level rise and overfishing of stocks. Social protection is usually differentiated from emergency relief in that it is provided on a longer-term, predictable basis rather than on a short-term ad hoc responsive basis. However, the way that emergency relief is provided can promote or undermine social protection objectives. For example, humanitarian relief provided for fishers affected by rapid-onset climate shocks in the form of cash transfers (rather than, or as well as, food aid), asset transfers (such as fishing equipment) and training, can successfully support these communities to bounce back and resume their normal livelihoods within a few months. In these situations, governments often face the challenge of balancing protecting livelihoods against protecting the environment.

With these points in mind, the following recommendations for actions are proposed:

- Humanitarian relief provided to fishing communities affected by natural and other disasters should be designed and delivered by the governments and the local authorities of the country concerned (with or without the support of the international community) in a way that supports social protection objectives. Examples of good practice include: compensation; providing cash transfers rather than food aid, so that affected people can invest in stabilizing their consumption and meeting other basic needs; providing asset transfers (e.g. appropriate fishing equipment or livelihoods inputs) to replace lost productive inputs, as well as rebuilding livelihoods. In some cases, emergencies also provide opportunities to do things “better”, for example, by reducing impacts of particular fishing activities on the ecosystem, improving the design of boats (e.g. in relation to safety on board) and improving processing techniques.

- Recognizing that climate change is likely to increase the vulnerability of fisheries and related livelihoods, an assessment of the probable future risks should be undertaken in each national and subnational context, possibly using scenario-forecasting techniques. This will enable the identification and implementation of appropriate social protection measures and broader economic and social policies in good time to prevent fishers facing the worst effects of climate change unprepared and unprotected.
- In order to reduce the potential negative economic and social impacts of changes in production levels induced by future climate changes, States and regional management bodies should ensure that management and governance systems at the national and regional levels are flexible enough to be able to adjust rapidly to changing resource conditions and to facilitate the necessary modifications and adaptations in the fish processing and trading industries. The conditions under which this flexibility and adaptability are achieved will depend on the specific context of the countries or regions considered.
- National fisheries management agencies should ensure that if measures are introduced that protect the natural resource base – such as quotas, closed seasons or a moratorium – they should be accompanied by compensatory measures that replace the income lost by affected fishers and related workers. Useful lessons can be drawn from past experiences such as Canada’s Northern Cod Adjustment and Recovery Program, Brazil’s Defeso programme, and South Africa’s Small-Scale Fisheries Policy of 2012, which sets aside preferential fishing zones for small-scale fishers.

## **2. Social protection against economic vulnerabilities**

Fishers and fisheries-dependent operators are vulnerable to temporary, seasonal or permanent unemployment. Some of this unemployment may be the consequence of resource conservation or management measures. It may also reflect seasonality or sporadic fluctuations in the availability and catchability of fish resources, or in the ability of (small-scale) fishers to operate at sea (e.g. owing to rough conditions at particular times of the year). Accidental loss of fishing gear owing to interaction with other boats or gear is relatively frequent, as are losses of fishing equipment due to theft, and can have severe immediate and long-term economic consequences for those affected.

Finally, when introducing trade or food standards regulations, along with certification schemes in global seafood markets, it should be considered that these have so far mainly benefited large-scale operators and excluded the vast majority of smaller-scale fishers and fish traders, often preventing them from engaging in trade at all.

Given these circumstances, several social protection interventions are recommended:

- As part of global efforts to extend social security to informal sector and self-employed workers, States should ensure that unemployment benefit schemes are established for fishers and fishworkers wherever this is financially and administratively feasible. Such schemes could be either contributory (cofinanced by employers, employees and the State; or by self-employed fishers and the State) or entirely state-financed, depending on available resources.
- As fishers are vulnerable to damage or loss of their productive assets – fishing gear, boats – access to private, social or informal insurance mechanisms for fishing-related livelihoods should be promoted by the relevant national agencies. It is important that, these schemes are part of formal, nationally regulated systems in order to avoid the establishment or reinforcement of exploitative systems by unregulated market actors and/or local elites. However, where local community-based systems are the only “affordable” and accessible options, these should be supported and strengthened.

- Social protection programmes that are designed to stabilize income and consumption in low-income households should be made accessible by national state agencies to people who work in small-scale fisheries. One relevant intervention are rights-based employment guarantee schemes such as the Mahatma Gandhi National Rural Employment Guarantee Act in India, which is open in theory to every rural household. Although public works programmes do not typically target fishers, there is no obvious reason why a demand-driven “right to work” should not be extended to fishers as well as to farmers.
- Social protection interventions to protect poor and vulnerable people against economic shocks generally include (food) subsidies. While general subsidies tend to be captured by better-off consumers, targeted subsidies often focus on smallholder farmers and the urban poor, effectively excluding fishers and fishworkers. More appropriate subsidies for fishers might be on fuel, which are applied specifically to support small-scale and commercial fishers in numerous countries. However, fuel subsidies may have a negative impact on the fisheries resources and contribute to overfishing. All subsidies are expensive, difficult to target effectively at the poor and susceptible to political manipulation. Therefore, the conditions under which even “smart” subsidies are set up and continued over time need to be carefully thought through and constantly reassessed.
- The main focus of fish certification schemes to date has been on ecolabelling to address environmental sustainability concerns. These schemes are also progressively moving to include social responsibility and labour considerations. However, they have failed so far to benefit the small-scale operators – who represent 90 percent of the fisheries-dependent workers. More effort is needed by organizations that promote certification schemes to better incorporate these small-scale operators in these schemes in order to allow them to access markets and benefit from fish trading. These efforts should include technical but also organizational and institutional capacity-development activities. Using the FAO certification requirements (FAO, 2009b, 2012c) as a guide, several non-governmental organizations (NGOs) are working, for example, with local communities to help them move their small-scale fisheries management and harvesting arrangements towards certification standards. Economic and social justice outcomes for fishers and fishworkers could also be promoted through fair trade certification and effective, targeted sanctions against human rights abuses in the fisheries sector.

### **3. Social protection against health and demographic vulnerabilities**

Fishing remains one of the most dangerous economic activities. While contributory life insurance and accident insurance schemes are well developed and widely available in most industrialized countries through both welfare and private insurance market mechanisms, these opportunities remain out of the reach of the vast majority of the fishery-dependent workers in LMICs. This is because such programmes are not available, because these people operate in the informal sector, or because they cannot afford them. Similarly, with the exception of a small group of LMICs, pensions and other social insurance mechanisms (e.g. health care systems) are rarely accessible to everyone, and certainly not to the majority of the informal fishery-dependent workers.

In these conditions, the main recommendations to be made are about finding ways to incorporate fishers and their families into social insurance systems that are already accessible to other groups of the population are:

- Relevant agencies at the national level should ensure that social security and related social insurance mechanisms are extended to fishers, fish processors and fish traders, even if they work in the informal sector or are self-employed. Some countries (e.g. Brazil) and states (e.g. Kerala in India) offer “good practice” lessons of how this could be done. These programmes can include a range of benefits that cover most of the social security categories of the International Labour Organization (ILO), including insurance, sickness, maternity, health and old age benefits.
- Practical barriers to accessing these benefits must also be overcome. Fishers and other marginalized groups such as farmworkers and domestic workers often face low levels of

information about their social welfare and social security entitlements. They often lack the necessary documents (e.g. birth certificate, identity cards), the nearest office at which to register is often very far away, and the process of registration can be very bureaucratic and intimidating. Good practice lessons can be drawn from successful initiatives (such as the South African Social Security Agency) to simplify registration procedures for social grants in order to increase uptake rates.

#### **4. Social protection against social vulnerabilities**

Social vulnerabilities affecting fishers and fisheries-dependent workers include forced labour of fishing crews and processing factory workers, and child labour. Although the ILO adopted the Work in Fishing Convention No. 188 in 2007, progress towards its ratification has been slow, especially amongst LMICs, where there is hardly any legislation to support the implementation of the convention (ILO, 2007). Evidence suggests that cases of forced labour are still prevalent in certain countries. Child labour in relation to fishing or processing activities is also widely reported, although the debate is complicated by the family-based nature of the vast majority of these small-scale businesses.

The following recommendations are suggested to address the challenges of forced labour and child labour in the fishery sector:

- States in both industrialized and LMICs should be encouraged to ratify the Work in Fishing Convention No. 188, which should then be monitored to ensure the eradication of child labour.
- National labour agencies, in collaboration with fisheries agencies, should improve regulations and compliance monitoring for fishworkers, including women workers in processing factories and markets and migrant and local crew on fishing vessels. Owners should be required to demonstrate that their vessels are seaworthy and that at-sea working conditions are safe.
- Social protection in the form of minimum wages and the extension of access to social security for fishers and fish-workers, including self-employed workers, women and migrant workers, should be encouraged, building on examples of good practice from countries such as Brazil and India.

#### **5. Social protection against political vulnerabilities**

Political vulnerabilities include marginalization from political processes and policy influence. Political marginalization, including gender inequality, is in effect the underlying cause of many of the other vulnerabilities and issues that have affected and continue to affect these communities. Small-scale fishing communities have a weak political voice in most countries, leaving them unable to articulate their needs and influence national and local political decisions effectively.

Given this context, the following set of recommendations can be made:

- To frame their national laws, policies and programmes, States should use the Voluntary Guidelines on Responsible Governance of Tenure of Land, Fisheries and Forests in the Contexts of National Food Security (FAO, 2012b), the Voluntary Guidelines for Securing Sustainable Small-Scale Fisheries in the Context of Food Security and Poverty Eradication (FAO, 2015) and the Voluntary Guidelines on the Progressive Realization of the Right to Adequate Food in the Context of National Food Security (FAO, 2005b), which all highlight the important role of small-scale fisheries.
- States should systematically assess their national and local policies, interventions and investments with direct and indirect links to fisheries and fishing communities in terms of their impacts on the food security, well-being and livelihoods of the affected communities. All these decisions should be gender-sensitive.
- States should allocate more policy attention and resources to develop, promote and support fisheries (and in particular small-scale fisheries) and related activities. States should redirect resources to, and support capacity building for, the different small-scale actors involved in local,

national or regional fish trade activities, especially through the value chains involving small-scale fisheries and marketing.

- Small-scale fishers need to be empowered by increasing their participation in decision-making processes over fisheries resource management, by strengthening the accountability of state representatives and corporate actors towards fishing communities, and by supporting civil society advocacy on behalf of fishing communities.

## APPENDIX 2

## Inventory of institutions working on social protection

	Organization	Regional focus	Comments
<i>International organizations</i>			
1	<b>World Bank</b>	Global	Social protection is separate topic. Focus on social protection for dealing with shocks and labour systems.  <a href="http://www.worldbank.org/en/topic/socialprotectionlabor">http://www.worldbank.org/en/topic/socialprotectionlabor</a>
2	<b>UNDP</b>	Global	Social protection as part of the focus area “Inclusive Development”. Focus area on job creation, full employment and macroeconomic stability.  <a href="http://www.undp.org/content/undp/en/home/ourwork/povertyreduction/focus_areas/focus_inclusive_development/employment_and_socialprotection/">http://www.undp.org/content/undp/en/home/ourwork/povertyreduction/focus_areas/focus_inclusive_development/employment_and_socialprotection/</a>
3	<b>UNICEF</b>	Global	Social protection falls under Policy and Strategy division. Focus on children and provision of social protection across the life course.  <a href="http://www.unicef.org/socialpolicy/index_socialprotection.html">http://www.unicef.org/socialpolicy/index_socialprotection.html</a>
4	<b>ILO</b>	Global	Social protection is separate department. Focus on social security, labour standards and extending social protection floor.  <a href="http://www.ilo.org/secsoc/lang--en/index.htm">http://www.ilo.org/secsoc/lang--en/index.htm</a>
5	<b>UNCDF</b>	Global	Social protection is a development theme. Focus on decentralization, financing and citizen participation in social protection.  <a href="http://www.uncdf.org/en/content/social-protection">http://www.uncdf.org/en/content/social-protection</a>
6	<b>Asian Development Bank</b>	Asia and Pacific	Supporting policy and institutional reform for social protection as part of inclusive growth agenda.  <a href="http://www.adb.org/sectors/social-protection/main">http://www.adb.org/sectors/social-protection/main</a>
7	<b>African Development Bank</b>	Africa	Social Protection and Poverty Reduction Division within Human and Social Development Department. Focus on human capital development.  <a href="http://www.afdb.org/en/about-us/structure/complexes/sector-operations/human-and-social-development-department-oshd/">http://www.afdb.org/en/about-us/structure/complexes/sector-operations/human-and-social-development-department-oshd/</a>
8	<b>Inter-American Development Bank</b>	Americas	Social protection is a separate topic. Focus on three themes: early childhood development, youth at risk, poverty alleviation.  <a href="http://www.iadb.org/en/topics/social-protection/social-protection-and-the-idb,1909.html">http://www.iadb.org/en/topics/social-protection/social-protection-and-the-idb,1909.html</a>
9	<b>UNAIDS</b>	Global	Cross-cutting theme across goals. Focus on social protection as means to prevent or mitigate effects of HIV/AIDS.  <a href="http://www.unaids.org/en/aboutunaids/">http://www.unaids.org/en/aboutunaids/</a>

	<b>Organization</b>	<b>Regional focus</b>	<b>Comments</b>
10	<b>UNESCAP</b>	Asia and Pacific	Social protection is theme within department of Social Development. Provides support to member States in building capacity and institutional change.  <a href="http://www.unescap.org/our-work/social-development/social-protection">http://www.unescap.org/our-work/social-development/social-protection</a>
<i>Donor agencies</i>			
1	<b>DFID UK</b>	Global	Focus regions are Africa, Asia and Near East and include 28 priority countries. Social protection not a separate topic.  <a href="https://www.gov.uk/government/organisations/department-for-international-development/about">https://www.gov.uk/government/organisations/department-for-international-development/about</a>
2	<b>IrishAid</b>	Global	Focus region is sub-Saharan Africa and includes 9 “key partner countries”. Social protection not a separate priority area.  <a href="https://www.irishaid.ie/what-we-do/">https://www.irishaid.ie/what-we-do/</a>
3	<b>DFAT Australia</b>	Global	Works worldwide but majority of efforts directed towards Asia and the Pacific. Social protection is one of the “aid issues”.  <a href="http://aid.dfat.gov.au/aidissues/social-protection/Pages/home.aspx">http://aid.dfat.gov.au/aidissues/social-protection/Pages/home.aspx</a>
4	<b>USAID</b>	Global	Involvement with social protection through agriculture and food security, HIV/AIDS and orphans and vulnerable children (OVC) programming.  <a href="http://www.usaid.gov/what-we-do">http://www.usaid.gov/what-we-do</a>
5	<b>DFATD Canada</b>	Global	25 focus countries in the Americas, Asia, sub-Saharan Africa, Near East and Eastern Africa. Social protection not a separate development priority.  <a href="http://www.international.gc.ca/development-developpement/index.aspx">http://www.international.gc.ca/development-developpement/index.aspx</a>
6	<b>EuropeAid</b>	Global	Support is provided globally. Employment, social inclusion and social protection is a separate topic under economy and trade theme.  <a href="http://ec.europa.eu/europeaid/what/social-protection/index_en.htm">http://ec.europa.eu/europeaid/what/social-protection/index_en.htm</a>
7	<b>OECD DCD-DAC (Development Co-operation Directorate)</b>	Global	Support is provided globally. Social protection part of DAC Network on Poverty Reduction (POVNET).  <a href="http://www.oecd.org/dac/povertyreduction/promotingpro-poorgrowthsocialprotection.htm">http://www.oecd.org/dac/povertyreduction/promotingpro-poorgrowthsocialprotection.htm</a>
8	<b>GIZ Germany</b>	Global	Provides technical assistance on behalf of German Federal Ministry for Economic Cooperation and Development. Operates globally. Social protection is part of the “social development” theme.  <a href="http://www.giz.de/en/ourservices/social_development.html">http://www.giz.de/en/ourservices/social_development.html</a>

	<b>Organization</b>	<b>Regional focus</b>	<b>Comments</b>
<i>International NGOs</i>			
1	<b>Concern Worldwide</b>	Sub-Saharan Africa, Asia, Near East	Focus on eliminating hunger and building livelihoods. Social protection is included in the programmatic area of “Livelihoods”.
			<a href="https://www.concern.net/en/about/our-programmes/livelihoods">https://www.concern.net/en/about/our-programmes/livelihoods</a>
2	<b>Oxfam</b>	Global	Programmes in 94 countries. Social protection not a separate area of work.
			<a href="http://www.oxfam.org">www.oxfam.org</a>
3	<b>BRAC</b>	Bangladesh	Majority of work in Bangladesh with extensions to countries in Asia and sub-Saharan Africa for implementing BRAC’s Challenging the Frontiers of Poverty Reduction Targeting the Ultra Poor (CFPR-TUP).
			<a href="http://tup.brac.net">http://tup.brac.net</a>
4	<b>ActionAid International</b>	Africa, Asia, Latin America	Programmes in 45 countries. Social protection not a separate theme.
			<a href="http://www.actionaid.org/what-we-do">http://www.actionaid.org/what-we-do</a>
5	<b>CARE International</b>	Global	Programmes in more than 80 countries. Social protection as part of the Hunger and Poverty theme.
			<a href="http://www.careinternational.org.uk/what-we-do/hunger-and-poverty">http://www.careinternational.org.uk/what-we-do/hunger-and-poverty</a>
6	<b>Stop AIDS Now!</b>	Global	HIV and social protection under the theme of HIV and Livelihoods. Collaborates with local NGOs and CBOs globally.
			<a href="http://www.stopaidsnow.org/hiv-and-social-protection">http://www.stopaidsnow.org/hiv-and-social-protection</a>
7	<b>World Vision International</b>	Global	Focused on promoting well-being of children. Social protection is not a separate thematic area. Programmes are supported globally.
			<a href="http://www.wvi.org/our-approaches">http://www.wvi.org/our-approaches</a>
8	<b>Save the Children UK</b>	Global	Working to advance child-sensitive social protection. Supporting programmes in 120 countries worldwide.
			<a href="http://www.savethechildren.org.uk/about-us/what-we-do/child-poverty">http://www.savethechildren.org.uk/about-us/what-we-do/child-poverty</a>
9	<b>HelpAge International</b>	Global	Working to support social protection for older people. Social protection is a separate theme. Works in > 65 countries.
			<a href="http://www.helpage.org/what-we-do/social-protection/">http://www.helpage.org/what-we-do/social-protection/</a>
<i>Academic institutes and think-tanks</i>			
1	<b>United Nations Research Institute for Social Development (UNRISD)</b>	Global	Autonomous research institute within the UN system that undertakes multidisciplinary research and policy analysis on the social dimensions of contemporary development issues.
			<a href="http://www.unrisd.org/80256B3C005BF3C2/(httpPages)/1889BA294D2950E08025791F005CD710?OpenDocument">http://www.unrisd.org/80256B3C005BF3C2/(httpPages)/1889BA294D2950E08025791F005CD710?OpenDocument</a>

	<b>Organization</b>	<b>Regional focus</b>	<b>Comments</b>
2	<b>ODI – London</b>	Global	Aiming to support the design and implementation of effective social protection policy and programming in poor countries. Social protection is separate theme.
			<a href="http://www.odi.org/programmes/social-protection">http://www.odi.org/programmes/social-protection</a>
3	<b>OPM – Oxford</b>	Global	Supporting social protection design and implementation, policy evaluation and financing social protection. Poverty and Social Protection is a separate theme.
			<a href="http://www.opml.co.uk/issues/poverty-and-social-protection">http://www.opml.co.uk/issues/poverty-and-social-protection</a>
4	<b>Brooks World Poverty Institute - University of Manchester</b>	Global	Research on social protection within Poverty and Social Justice research programme.
			<a href="http://www.bwpi.manchester.ac.uk/research/researchprogrammes/socialjustice/">http://www.bwpi.manchester.ac.uk/research/researchprogrammes/socialjustice/</a>
5	<b>Maastricht Graduation School of Governance</b>	Global	Research on social protection within Poverty, Public Policy and Innovative Inclusion theme.
			<a href="http://www.merit.unu.edu/themes/2-poverty-public-policy-and-inclusive-innovation/">http://www.merit.unu.edu/themes/2-poverty-public-policy-and-inclusive-innovation/</a>
6	<b>International Policy Centre for Inclusive Growth (IPC-UNDP)</b>	Global	Research for supporting design and implementation of social protection programmes and analysis of food security programmes. Social protection is a separate working area.
			<a href="http://www.ipc-undp.org/?q=en/node/1845">http://www.ipc-undp.org/?q=en/node/1845</a>
7	<b>IFPRI - Washington, DC</b>	Global	Programme and policy evaluations. Social protection is a research area within the division of Poverty, Health and Nutrition.
			<a href="http://www.ifpri.org/book-7765/ourwork/researcharea/social-protection">http://www.ifpri.org/book-7765/ourwork/researcharea/social-protection</a>
8	<b>EPRI South Africa</b>	Global	Training and research on social protection.
			<a href="http://epri.org.za/">http://epri.org.za/</a>
9	<b>Development Pathways</b>	Global	Policy advice for creative, evidence-based and context-specific solutions to the social and economic policy challenges facing developing countries.
			<a href="http://www.developmentpathways.co.uk/">http://www.developmentpathways.co.uk/</a>
<i>International networks</i>			
1	<b>Africa Platform for Social Protection</b>	Sub-Saharan Africa	Support development of effective national social protection policies and programmes, working together with national platforms and CSOs.
			<a href="http://africapsp.org/">http://africapsp.org/</a>
2	<b>Inter-American Social Protection Network/OAS (IASPN)</b>	Americas	Community of practice for national social development ministries and agencies, in collaboration with international organizations, non-governmental organizations, private sector and academia, to promote the exchange and transfer of experiences and knowledge on social protection.

	<b>Organization</b>	<b>Regional focus</b>	<b>Comments</b>
	<a href="http://socialprotectionet.org/">http://socialprotectionet.org/</a>		
3	<b>APEC Labour and Social Protection Network (LSPN)</b>	Asia and Pacific	Supports development of human resources in member countries as part of the APEC Human Resources Development Working Group.
	<a href="http://hrd.apec.org/index.php/Labour_and_Social_Protection_Network_(LSPN)">http://hrd.apec.org/index.php/Labour_and_Social_Protection_Network_(LSPN)</a>		
4	<b>International Social Security Association (ISSA)</b>	Global	Provides guidelines, expert knowledge and services on social security through 340 member organizations in more than 160 countries.
	<a href="http://www.issa.int/">http://www.issa.int/</a>		
5	<b>Southern African Social Protection Experts Network (SASPEN)</b>	Southern Africa	Not-for-profit loose alliance of stakeholders, scholars and consultants who engage with social protection in the SADC region.
	<a href="http://www.saspen.org/home/">http://www.saspen.org/home/</a>		
6	<b>HeSPA Network</b>	Africa	Builds knowledge and understanding of the role of the private sector in African health and social protection systems through the facilitation and promotion of information exchange in Africa.

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