UNITED NATIONS CONFERENCE ON TRADE AND DEVELOPMENT

UNCTAD

SUSTAINABLE FISHERIES:

International Trade, Trade Policy and Regulatory Issues

UNITED NATIONS

Note

The material contained in this publication may be freely quoted or reprinted but acknowledgement is requested, together with a reference to the document number. A copy of the publication containing the quotation or reprint should be sent to the UNCTAD Secretariat, at: Palais des Nations, 1211, Geneva 10, Switzerland.

The designations employed and the presentation of the material do not imply the expression of any position whatsoever on the part of the United Nations Secretariat concerning the legal status of any country, territory, city area, or its authorities, or concerning the delimitations of its frontiers and boundaries, or regarding its economic system or degree of development.

This publication has been edited externally.

Acknowledgements

This note was jointly prepared by the United Nations Conference on Trade and Development (UNCTAD) and the Commonwealth Secretariat.

In UNCTAD, the principal author was David Vivas Eugui, Legal Officer, with contributions from Bonapas Onguglo, Head a.i., and Robert Hamwey, Economic Affairs Officer, Trade, Environment, Climate Change and Sustainable Development Branch, Division on International Trade in Goods and Services, and Commodities (DITC). The desktop formatting was done by Rafe Dent.

In the Commonwealth Secretariat, the principal author was Stephen Fevrier, Former Trade Adviser (Economic Affairs Division). Contributions were provided by Jeff Ardron, Adviser (Ocean Governance); Mohammad Razzaque, Acting Director of Trade, Trade Division; Yagambaram Soobramanien, Economic Adviser (International Trade Policy) Trade Division; and Jodie Keane, Economic Adviser (Trade Policy Analysis).

This document has also benefited from valuable comments provided by Mike Batty, Director of Fisheries Development, Pacific Islands Forum Fisheries Agency.

Guillermo Valles
Director
Division on International Trade in Goods and Services, and Commodities
Version 29 Apr 2016

The Commonwealth

UNITED NATIONS
UNCTAD

UNCTAD/WEB/DITC/TED/2015/5
UNITED NATIONS PUBLICATION

Contents

Acronyms and abbreviations

2G	Second-generation biofuels
AHS	effectively applied
BND	bound tariff rates
CBD	Convention on Biological Diversity
EBSAs	ecologically or biologically significant areas
EEZs	economic exclusive zones
EPA	economic partnership agreement
EU	European Union
FMSs	fisheries management systems
GDP	gross domestic product
GVCs	global value chains
HACPP	hazard analysis and critical control point
HS	Harmonized Commodity Description and Coding System
IsPOA	Istanbul Programme of Action for Least Developed Countries for the Decade 2011–2020
IUU	illegal, unreported and unregulated fishing
IMO	International Maritime Organization
LDCs	least developed countries
MFN rates	most favoured nation tariff rates
MPAs	marine protected areas
MSC	Marine Stewardship Council
MSY	maximum sustainable yield
NAMA	non-agricultural market access (WTO)
NGERs	National Green Export Reviews (UNCTAD)
NGESAP	National Green Export Strategy and Action Plan
NTMs	non-tariff measures
OHI	Ocean Health Index
PICs	Pacific island countries
RoO	rules of origin
RFMOs	regional fisheries management organisations
SDGs	Sustainable Development Goals
SIDS	small island developing states
SRFC	West African Sub Regional Fisheries Commission
SPS	WTO Agreement on Sanitary and Phytosanitary Measures
SCM	WTO Agreement on Subsidies and Countervailing Measures
SVEs	small, vulnerable economies
TBT	WTO Agreement on Technical Barriers to Trade
UNCLOS	United Nations Convention on the Law of the Seas
UN FAO	United Nations Food and Agriculture Organization
UN GA	United Nations General Assembly
UNCTAD	United Nations Conference on Trade and Development
UVI	unique vessels identifiers
WTO	World Trade Organization

ABSTRACT

This note proposes an agenda for sustainable fisheries that promotes the conservation and sustainable use of, and sustained trade in, fish by all and ensures that development benefits accrue to fishing nations and their populations, in developing countries in particular. It provides a stock-taking of the present situation regarding fish, and a forward-looking view on future actions that need to be supported by renewed mandates for action by governments, the private sector and other fisheries stakeholders.

Our stocktaking finds that from humankind's earliest recorded history to today, fish (wild oceanic species) and other marine species have constituted an important natural resource. They are a source of food and nutrition, health, culture, income, employment and trade, which can support livelihoods for coastal, as well as in-land, populations. Fish use and mangement is therefore intrinsically interwoven with humanity and nature. In the past, fish resources have been abundant and easily accessible. Unfortunately, this is no longer the case today. Fish stocks, especially of large predatory fish, have been severely affected and, in some cases, depleted. This tragedy is due to over- and harmful fishing, often aided by advanced fishing technology, to meet high-food demand from growing populations. Such practices have also been to the detriment of natural fish habitats, namely oceans, regional seas, lakes, rivers and adjacent coastal ecosystems.

A multitude of national, regional and multilateral/international initiatives, frameworks, regulatory and voluntary codes of conduct, standards and institutions have been developed over the past two decades to rebuild fish stocks, conserve marine species, halt destructive fishing practices, and preserve related ecosystems and oceans. Fishing agreements have also been concluded to facilitate sustainable harvest and trade in fish. The awareness of consumers has also been raised to encourage the purchase and consumption of sustainably caught fish which, in turn, is bringing about changes in supermarket chains and restaurants in terms of their buying, selling and producing fish products and meals made from sustainably harvested fish. These positive efforts have resulted in some progress; however, overall they have been unable to stop and reverse the deterioration of global fish populations and marine ecosystems.

The expiry of the United Nations Millennium Development Goals (MDGs) in 2015 and recent launch of the UN 2030 Agenda for Sustainable Development includes a specific goal (Goal 14) on conserving and sustainably using oceans, seas and marine resources. The Sustainable Development Goals (SDGs) are accompanied by several management-related targets on fish. They denote the strong aspirations of the global community at the highest political level to prioritise and focus attention on restoring the health and resilience of our oceans and resources, including fish, over the next 15 years. This accord presents a new opportunity, but also some challenges for the international community to mobilise actions. These actions must be considered within the myriad of fishing-related instruments, including fisheries partnership agreements and trade agreements, so as to concretely and significantly arrest the 'tragedy of commons' in fish today and instead transform the situation into a 'triumph of commons' for fish in the future.

1. INTRODUCTION

Fish[1] is important to humanity and the environment in many respects. It is a particularly valuable resource for fishing nations and communities, especially in developing countries and least developed countries (LDCs) with sea zones, and in small island developing states (SIDS). However, over successive generations the human race has over-exploited marine resources. This has been particularly so since the dawn of the industrial age, and then subsequently since globalisation processes have accelerated. In a 'business-as-usual' scenario, only half the amount of fish harvested in 1970 will be probably available by 2015 and only one-third by 2050.[2] In contrast, fish consumption can be expected to expand substantially, as the global population is predicted to increase from over 7 billion presently to about 9–10 billion by 2050. These trends raise serious questions about the sustainability of the sector globally and related sector practices.

A new opportunity for robust actions to revitalise sustainable fisheries management practices and ocean health comes from Goal 14 of the recently adopted Sustainable Development Goals (SDGs).[3] It commits United Nations member states to: 'Conserve and sustainably use the oceans, seas and marine resources for sustainable development'. Prior to the SDGs, a set of internationally agreed commitments on the conservation and sustainable use of fish found expression in *The Future We Want*, the Rio+20 outcome document (paras. 111, 113, 168–175); *The Samoa Pathway*, the UN Conference on SIDS outcome document (paras. 53 and 58); and recent resolutions of the United Nations General Assembly (UN GA).[4] It is notable that the language in the SDGs and other international summit decisions focuses on oceanic marine resources. It is equally notable that all these commitments endeavour to seek a balance in addressing, positively, inherent conflicts between the conservation, rebuilding and restoration of fish stocks and ecosystems services on the one hand, and the sustainable use (harvest, trading and consumption) of fisheries resources on the other. Further complicating this 'public good conundrum' of contrasting priorities is the need to ensure equitable access to marine resources.

The opportunity being presented by the SDGs and the challenges they seek to redress can be summarised in terms of bringing about a transformation from the present situation, which is characterised as being a 'tragedy of commons', towards a more fortuitous 'triumph of commons'.

In presenting the argument for this change, this note is structured as follows. In Section 2, we review the relevance and importance of sustainable fisheries management. In Section 3, we make reference to the new global agenda on oceans and fisheries, including the 2030 Agenda for Sustainable Development. Further to outlining this overarching framework, in Section 4 we proceed to review market access (tariffs) and market entry regulatory (non-tariff) measures and certification on raw fish and processed fish products; this includes a review of World Trade Organization (WTO) negotiations under the Doha Round to liberalise fish trade and address harmful fish subsidies. In Section 5, we review measures to address destructive fish practices especially illegal, unreported and unregulated fishing. In Section 6, we refer to complementary fish management arrangements. Finally, we conclude with a transformative agenda for future sustainable fisheries and how to turn the current tragedy of the commons into a triumph.

2. FISH IMPORTANCE, DECLINE AND RECOVERY: SOME FACTS

There is a high geographic concentration of fisheries. Around 18 countries account for 76 per cent of the estimated total global wild catch.[5] The most caught species include: anchovy, Alaska pollock, skipjack tuna, Atlantic herring, yellow fin tuna and chub (or Pacific) mackerel. Overall ten species accounted for around a quarter of the total global marine catch in 2011.[6] Most of these species are already fully exploited and some are overfished.

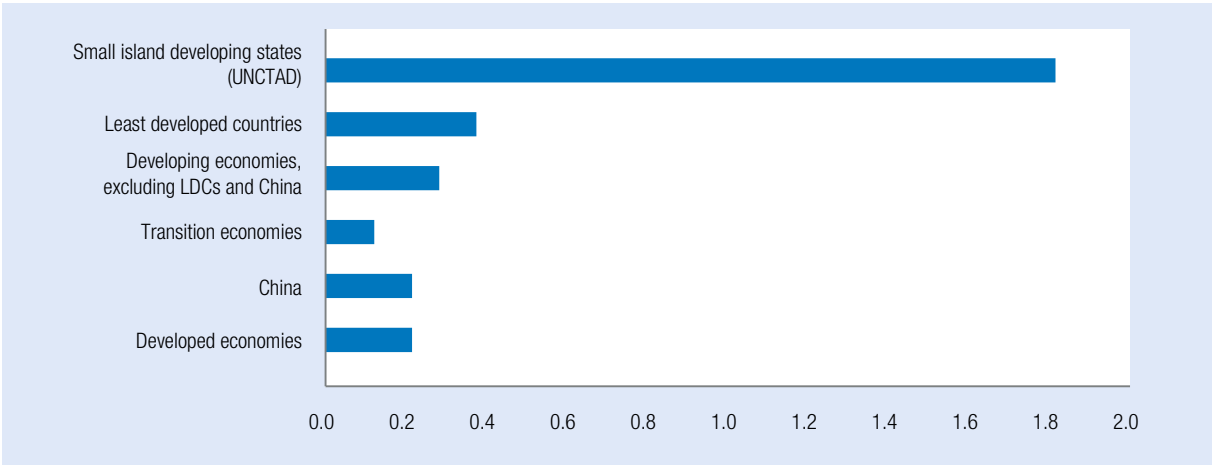
2.1 The multifunctional role of fish in development

The fish sector plays a substantial multifunctional role in the progress of many developing countries, and in particular in LDCs with sea zones and SIDS. First, the contribution of international trade flows in fish (exports + imports) in gross domestic product (GDP) is especially important for SIDS. This share averages about 3 per cent in SIDS, and less than 1 per cent in LDCs, other developing countries and developed countries (see Figure 2.1). The share is higher in several countries. In some SIDS and some West African countries, this share ranges from 5 to 12 per cent. Second, fishing licensing fees are an important source of government revenue and foreign exchange earnings for developing countries that have concluded such licenses with countries with distant water fishing fleets. For example, in 2010, the eight Pacific Island country parties[7] to the Nauru Agreement Concerning Cooperation in the Management of Fisheries of Common Interest ('The Nauru Agreement') earned approximately 90 million US dollars (US$) from fishing license fees.[8] They have negotiated substantial increases in the following years. Thus in 2013, the revenue from fisheries licenses of just one member (Kiribati) reached US$86 million, representing approximately 43 per cent of total government revenue.[9]

Third, more than 3.2 billion people live close to coastlines[10] and rely on the oceans and seas and their resources, especially fish, for their livelihoods. In addition, approximately 97 per cent of the world's fishermen and women live in developing countries, and more than 90 per cent are employed in small-scale activities.[11] Fourth, about 60 million people are engaged in artisanal and subsistence fishing activities worldwide, of which 15 per cent are women.[12]

On the employment front, globally, some 350 million jobs are linked to fisheries, port management and other related activities.[13] Engaging in transforming raw fish into value-added products in processing plants in developing countries can scale up and expand opportunities for employment creation for a broad range of people with limited economic prospects, and thus contribute to reducing poverty. Value addition can be supported through both upstream and downstream fish-processing activities, including but not exclusively linked to cleaning, cutting, drying, freezing and the processing of fish into oils, seafood such as canned fish, meals and fertilizer. Some upstream activities include maritime services, port services, insurance and other financial services linked to the sector.

Figure 2.1. Trade in fish as percentage of GDP (2013)



Source: UNCTAD based on UNCTAD Stats (2015).

The barriers to moving up the fisheries value chain are often formidable. The opportunities for creating value-addition industries are not equal among developing countries, given that economies of scale, population sizes, and distance from markets appear to favour emerging and middle-income countries, particularly those in Asia and Latin America (e.g. China, Vietnam, Thailand, Mexico, Chile, Peru and Ecuador). The asymmetry between actors within fisheries value chains is increasingly recognised in case study-based global value chain literature. Beyond the establishment of processing facilities, which require high-capital and knowledge investments, another challenge for many developing countries involves addressing their limited capacity to comply with regulations and private standards linked to the harvesting, processing and packaging of fish, such as the 'Hazard Analysis and Critical Control Point' (HACPP).[14]

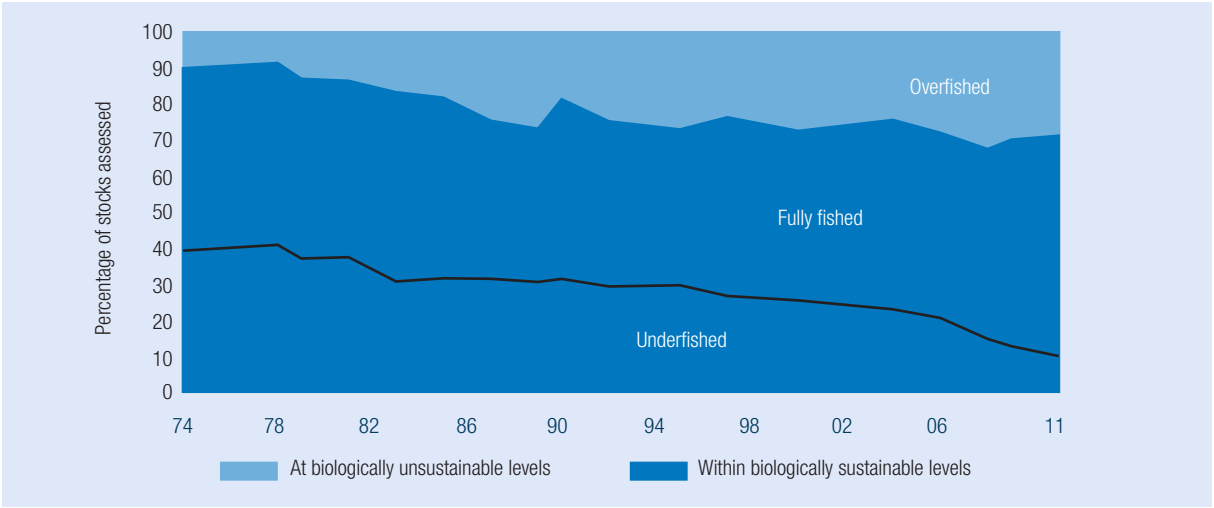
The fisheries sector is critical to food security and nutritional intake in many countries. Fish, molluscs and crustaceans, as well as other marine living organisms such as seaweeds, form a central component of human diet, particularly for coastal populations. Additionally, worldwide, according to Food and Agricultural Organization (FAO), the global *per capita* demand for fish has increased from 10kg of fish *per capita/per year* in 1976 to 23kg in 2014.[15] In many LDCs and SIDS, fish consumption contributes to or exceeds 50 per cent of daily protein intake.[16] Beyond its nutritional value in terms of protein, fish also contains vitamins, minerals and fatty oils such as Omega-3. It is therefore understandable that fish accounted for 16.7 per cent of the global population's intake of animal protein, and 6.5 per cent of all protein, consumed worldwide by 2010.[17]

2.2 The precarious situation of global fish stocks and emergence of aquaculture

Although fish is important due to its multifunctional contribution to development, and the consumption of fish is growing as population expands, the supply of wild caught fish is under intense pressure. According to the FAO, 87 per cent of the world's marine fish stocks are fully exploited, overexploited or depleted, and this number has been increasing steadily. By way of example, it is noteworthy that half the fish stocks off the West African coast are classified as overharvested,[18] meaning they are unable to recover. This underlines the severe deterioration of the overall state of global fish resources. Figure 2.2 illustrates the evolution of fish stocks globally between 1974 and 2011.

Another angle from which to view the critical situation of fish stocks is that global marine and inland fish catch has remained relatively constant at about 90 million tons since 2007 (of which marine catch has been about 80 million tons and inland fish about 10 million).[19] This suggests that wild fish catch may have reached an unsurpassable yield in this decade (see Figure 2.3).

Figure 2.2. Global trends in the state of world marine fish stocks (1974-2011)



Source: FAO, The State of World Fisheries and Aquaculture (2013).

As indicated above, global marine wild catch in 2013 was estimated at about 80 million tons and total wild catch at 90 million tons. It has been argued that this level of supply demonstrates that a relatively steady maximum sustainable yield (MSY) performance has been reached. MSY is usually defined as the largest sustainable yield (or catch) that can be taken from a species over an indefinite period.

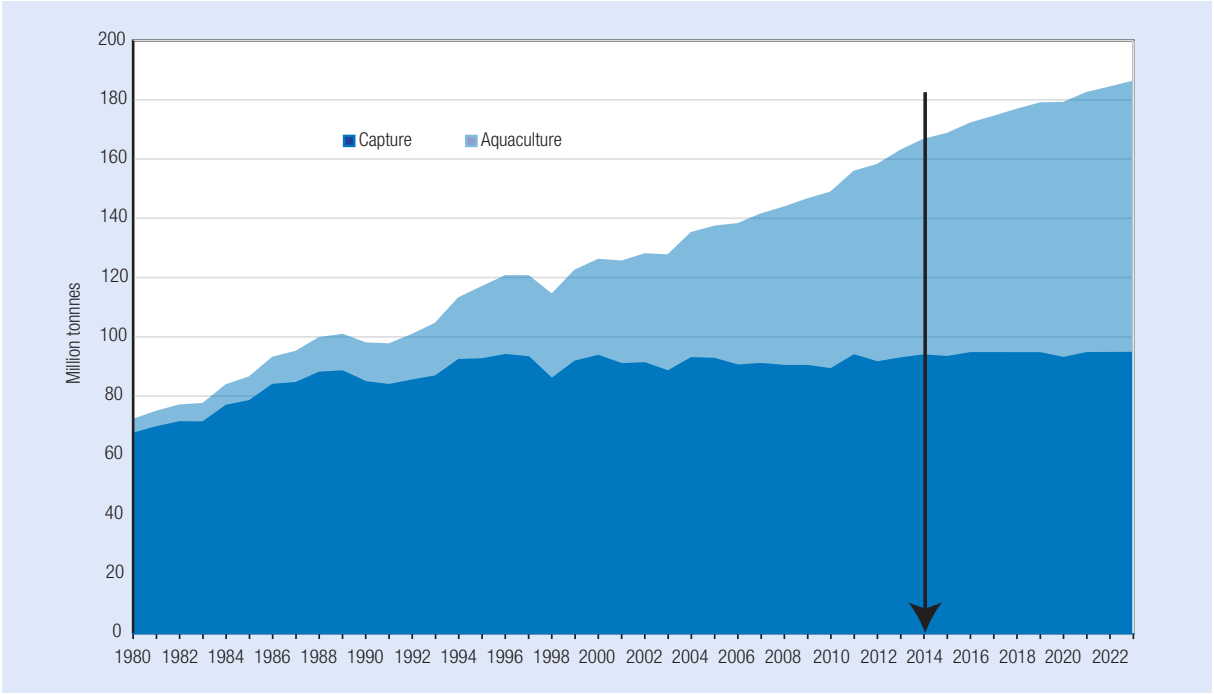
A separate analysis indicates that wild catch will remain stagnated (including fresh and marine catch) over the next 20 years. It has been foreseen that this level of catch may grow only slightly, to 93 million tons, by 2030[20] under a relatively optimistic scenario. This implies that we may be better managing existing stocks in the near future, however, it is unlikely that stocks will recover significantly over the next 15 years unless this also becomes a priority for the global community.

The main causes of fish stock pressures and depletion include overfishing and damaging fishing practices, driven by an increasing global demand for fish and lack of adequate – or weak capacities of existing – fish management systems. The impact of the market-based drivers is accentuated by other externalities such as environmental threats in the form of pollution and high-carbon (acid) levels, low levels of oxygen in marine areas, ocean acidification, rising seawater temperatures, and disruptions in marine ecosystems and the impact of seabed activity. Additionally, the existence of negative incentives such as subsidies that contribute to overfishing and overcapacity of fishing fleets, and damaging fishing practices like illegal, unreported and unregulated (IUU) fishing, have contributed to the over exploitation of fish populations.

Fish populations are also affected by the health of oceans, their natural habitats. The Ocean Health Index (OHI),[21] a multifaceted index based on a set of ten ocean public goals, estimates that globally in 2015 the OHI was around 67/100 (under this index, 100 on the scale equals full achievement of an ocean health goal). In the case of the specific goal on 'harvesting sea food sustainably', it reached 51/100, which is not a good result. While results of the OHI do not enjoy consensual support from the scientific community, they do offer one perspective on the overall consequences of human interaction with the marine environment and species on an annual basis.

Unless the underlying causes of fish population depletion are tackled, the international community may be facing the beginning of an even steeper

Figure 2.3. World production of fish (1980–2023)



Source: FAO, OECD-FAO Agricultural Outlook (2014).

decline[22] in fish population over the coming decades. If current fishing practices continue unchecked, one well-known but controversial analysis[23] suggests that the depletion of fish stocks could possibly result in a potential mass collapse by 2050 of many high trophic-level commercial species (e.g. tuna, hake and sword fish). Other scientific views[24] question this prognosis. In any case, ongoing analysis and specific scientific assessments are needed to provide updated information and to inform decisions and policies.

As wild fish catch faces increased pressures, and may have levelled off for many fish species, aquaculture production of fish is growing rapidly to fill the gap in supply and demand. Between 2007 and 2012, global aquaculture fish production for food purposes increased from about 50 million to 66.6 million tons,[25] showing a compound annual growth rate of 5.9 per cent per year during that period. Aquaculture production projections for 2013 were in the region of 70 million tonnes – 44 per cent of total fishery output and 49 per cent of fish for human consumption.[26] The trend suggests that aquaculture will play an increasingly important role in filling the gap between the global fish demand and supply in the next 15 years, as wild catch levels off. One estimate indicates that aquaculture will account for 62 per cent of total global fish production by 2030,[27] significantly reducing the need to source fish from natural marine resources.

2.3 Sustainable fisheries

There is no internationally agreed definition of 'sustainable fisheries'. One common understanding of this term makes reference to fishing activities that can be continued on a sustained or indefinite basis.[28] A more methodological approach makes reference to the application of the maximum sustainable yield (MSY), in some cases updated by economic and social considerations. The methodology requires, and is based on, science-based fish stocks management. Nonetheless, it can ignore, depending on how such methodologies are designed, the fact that fishing practices may negatively affect the balance of ecosystems and other species (if not well regulated and monitored), and that ecosystems affected by pollution and other external factors may hinder the reproduction and recovery capacity of fish and other marine stocks. This has led to the incorporation – not only in the case of oceans, but also in relation to biodiversity conservation – of a more holistic approach to the conservation, resilience and sustainability of ecosystems and the services they produce, as witnessed in the recently adopted SDGs.

On an institutional basis, 'sustainable fisheries' can be perceived to be fishing practices and actions that follow, and effectively apply, relevant international agreements, guidelines and best practices agreed under the United Nations Convention on the Law of the Seas (UNCLOS), the FAO and the International Maritime Organization (IMO), or under binding trade agreements, such as those negotiated through the World Trade Organization (WTO), in relation to market entry (tariffs) and market access (sanitary and phytosanitary measures),[29] technical regulations (e.g. harvesting and packing regulations), unfair practices (e.g. subsidies), and private standards and labelling (fishing practices).

Beside these, five sectoral conservation treaties also have relevance for the ocean and fisheries. These are: the Ramsar Convention on Wetlands (1971); the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) (1973); the Bonn Convention on Migratory Species (1979) and its species-specific sub-agreements and memorandums of understanding; and the Convention on Biological Diversity (1992). At the regional level, several regional fisheries management organisations (RFMOs) have been established to develop and implement conservation and management measures for fisheries among countries sharing a common ocean zone. These sectoral treaties and RFMOs also focus on the 'sustainability' of the natural resource, so that the resource is not endangeed and depleted.

Key points

The fisheries sector plays a significant role in the economic development, food security, employment and livelihoods of coastal populations in particular. It is an important contributor to economic development and food security, especially of SIDS and LDCs, even though its average share in GDP ranges from about 3 per cent in SIDS to a low of less than 1 per cent for other countries, especially developed countries. Value addition in the fisheries sector can expand livelihood opportunities and create internal downward and upward economic linkages in goods and services provision.

Although fish is important due to its multifunctional contribution to development, the consumption of fish is growing as the world's population expands and the supply of wild caught fish is under intense pressure. Most global marine fish stocks are fully exploited, overexploited or depleted. Unless the underlying causes of fish population depletion are tackled, the international community may be facing the beginning of an even steeper decline in fish population, and fishing yields, over the coming decades.

Aquaculture will play an increasingly important role in filling the gap between global fish demand and supply in the next 15 years. More 'sustainable fisheries' policies and practices are required to allow fish populations to recover. While there is no internationally agreed definition of sustainable fisheries, the content and promotion of sustainable fishing practices is being shaped under several international conventions under the United Nations, the WTO, and through bilateral fisheries agreements and within RFMOs.

3. THE 2030 SUSTAINABLE DEVELOPMENT AGENDA: FISH GOALS AND TARGETS

The new UN development agenda for the post-2015 UN Millennium Development Goals is titled *Transforming our World: the 2030 Agenda for Sustainable Development*. It was adopted by the UN Sustainable Development Summit 2015, which met between 25 and 27 September in New York. The 2030 agenda includes 17 Sustainable Development Goals (SDGs), one of which (Goal 14) addresses oceans, seas and marine resources as a priority. Goal 14 – to 'conserve and sustainably use the oceans, seas and marine resources for sustainable development' – underlines the importance of sustainably managing and using maritime resources and related ecosystems. Its targets recognise the role played by fisheries in SIDS and LDCs, and hence calls for increased economic benefits accruing to them (see Table 3.1).

Goal 14 and its targets build upon many of the provisions for oceans and fisheries conservation and sustainable use provided in the *The Future We Want* – the Rio+20 outcome document, the Samoa Pathway for SIDS, and the Istanbul Programme of Action (IsPOA) for LDCs. For example, in *The Future We Want*, member states place an important emphasis on building healthy oceans, seas and related marine resources, including fish. In paragraphs 158 to 177, issues highlighted included support for more sustainable agriculture, including fisheries and aquaculture, restoring and conserving fish stocks, eliminating IUU fishing, and strengthening discipline on fish subsidies and taking action to eliminate harmful subsidies.

SDG 14 can also provide a catalyst for improving and/or implementing more effectively existing treaties and soft law instruments, such as the UN Fish Stock Agreement (1995), the FAO Compliance Agreement (1993), the FAO Code of Conduct for Responsible Fisheries (1995), the FAO International Plan of Action to Prevent, Deter and Eliminate IUU fishing, and the recent Port Measures Agreement (2009, not yet in force), and relevant UN GA resolutions.

These treaties and instruments have improved the global policy landscape needed to enhance the sustainability of fisheries and address some of the underlying causes of depletion. WTO agreements and the negotiations under the Doha Round in respect of fisheries could also be prioritised as a means to implement SDG 14.

SDG 14 creates provisions for the sustainable management of fisheries that may spur the development

Table 3.1 Sustainable Development Goal 14: Conserve and sustainably use the oceans, seas and marine resources for sustainable development

Simplified list of targets	
14.1	By 2025, prevent and significantly reduce marine pollution of all kinds
14.2	By 2020, sustainably manage and protect marine and coastal ecosystems, including by strengthening their resilience, and take action for their restoration
14.3	Minimise and address the impacts of ocean acidification, including through enhanced scientific co-operation at all levels
14.4	By 2020, effectively regulate harvesting, and end overfishing, illegal, unreported and unregulated fishing and destructive fishing practices, and implement science-based management plans, to restore fish stocks in the shortest time feasible
14.5	By 2020, conserve at least 10 per cent of coastal and marine areas, consistent with national and international law
14.6	By 2020, prohibit certain forms of fisheries subsidies which contribute to overcapacity and overfishing, and refrain from introducing new such subsidies
14.7	Increase the economic benefits to small island developing states and least developed countries from the sustainable use of marine resources
14.a	Increase scientific knowledge, develop research capacities and transfer marine technology to improve ocean health
14.b	Provide access of small-scale artisanal fishers to marine resources and markets
14.c	Enhance the conservation and sustainable use of oceans and their resources by implementing international law as reflected in UNCLOS

of more robust international approaches to protecting and preserving fisheries, along with global marine and ocean management. The current universe for the international management of fisheries and the oceans is characterised by a myriad of disjointed international and regulatory agreements, often implemented in a disjointed manner by a variety of different agencies. This 'spaghetti bowl' of governance systems could be simplified and streamlined to become more effective as part of implementing SDG 14.

Goal 14 and its targets reflect high ambitions given the 'tragedy of commons' in fish currently being experienced. It must be recognised that their implementation will be difficult. Achieving targets – for example, ending overfishing and IUU fishing and destructive fishing practices, and the implementation of science-based management plans to restore fish stocks by 2020 (Target 14.4) – will all be challenging. Additionally, the 'thorny' issue of addressing and removing fisheries subsidies (Target 14.6) is stalled in the current WTO Doha Round of negotiations. Nonetheless, multilateral and regional trade negotiations can and should contribute to more sustainable fisheries. Aligning negotiation strategies in light of the stated objectives of the SDGs – with a view to promoting rather than undermining policy coherence – could facilitate this process. With the adoption of the SDGs and Goal 14, this should generate new momentum at the multilateral level to reinvigorate efforts to address unsustainable fisheries practices. In the case of the WTO, the prognosis is not good, as 14 years of fisheries subsidies negotiations under the Doha Agenda have not yet produced a concrete outcome. The serious challenge ahead is thus in translating the oceans and fisheries Goal 14 into practical actions.

Taking into account the vital role of fisheries for many SIDS and LDCs, the SDGs do make specific mention to the need to increase economic benefits for these countries (Target 14.7) and to provide market access to small-scale artisanal fishers (14.b). Financial and technical assistance, as well as technology transfer (14.a), will be important for many SIDS and LDCs as they look to create and implement national and regional strategies for sustainability, preservation and protection of their fisheries industries.

Achieving Goal 14 will also contribute to achieving other relevant SDGs, such as Goal 2 (end hunger, achieve food security and improve nutrition, and promote sustainable agriculture) and Goal 12 (ensure sustainable and consumption and production patterns). The oceans and fish agenda is thus also linked to other global goals.

Key points

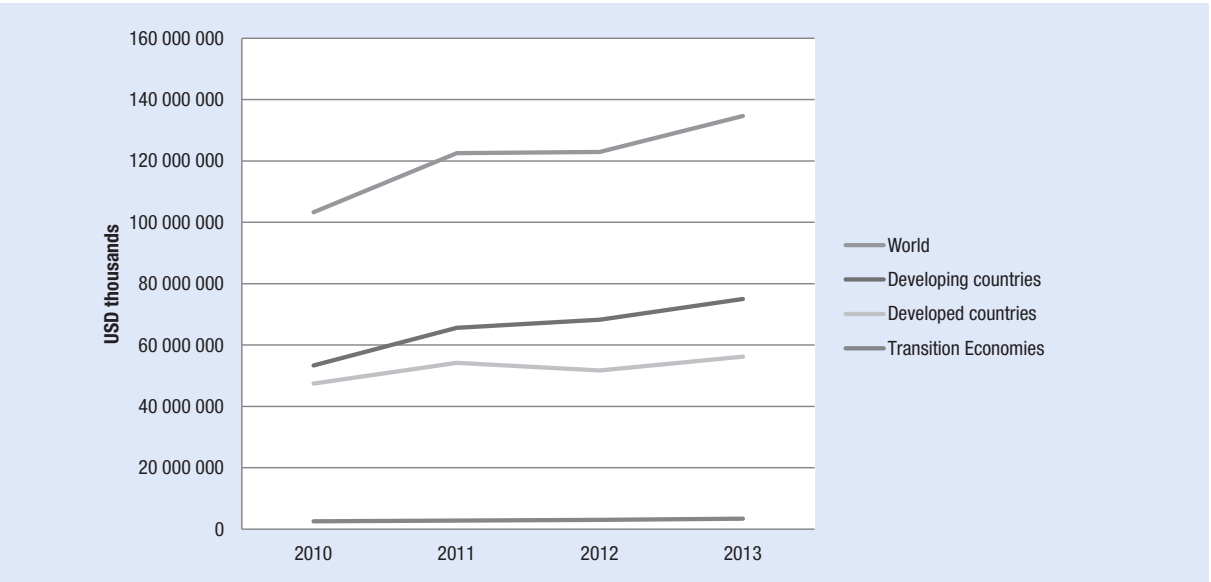
SDGs will provide a new pathway for advancing sustainability. There is for the first time a SDG (Goal 14) that reflects the aspirations of the international community to focus on conservation and the sustainable use of oceans and marine ecosystems. This goal provides targets that will affect how we craft trade policies and agreements in the near future. It is also one of the few goals that contains an explicit target on the need to increase the economic benefits to SIDS and LDCs from the sustainable use of marine resources.

4. INTERNATIONAL TRADE AND TRADE POLICY

4.1 Fish trade

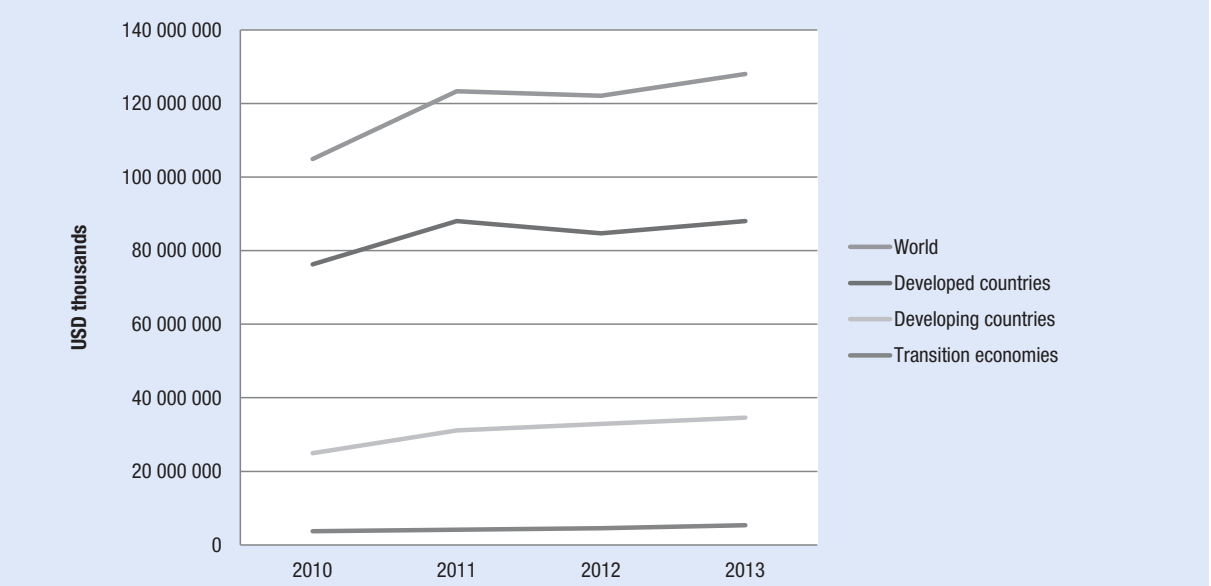
Fish is one of the most traded commodities worldwide. FAO data illustrate that fish represents about 10 per cent of all agricultural exports and 1 per cent of all merchandise trade in value terms.[30] World trade flow (exports + imports) in fish and fish products reached US$264 billion in 2013,[31] which represents 76 per cent more in terms of trade value than the amount traded in 1995. This sharp increase in trade is a consequence of several factors, which include: increased demand (particularly in developing countries and in Asia); the perceived positive health effects of fish consumption; the depletion of stocks in many areas of the world and in particular Europe; and technical advances in fish preservation, processing and transport.[32]

Figure 4.1. Exports of fish, crustaceans, molluscs and preparations thereof (2010-2013)



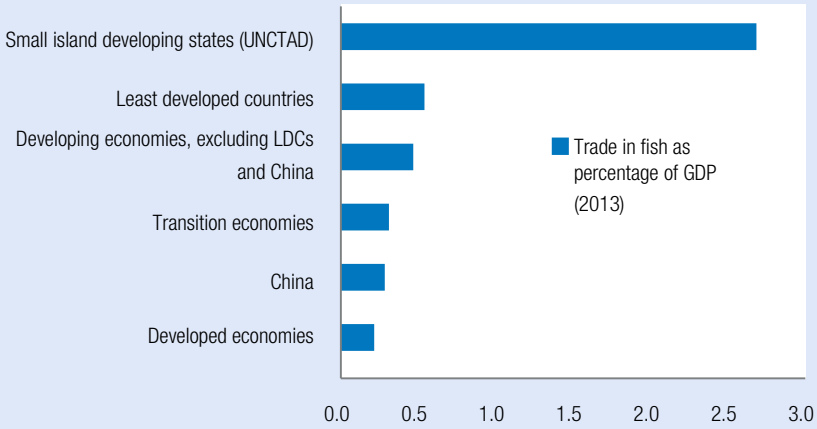
Source: UNCTAD, based on UNCTAD Stats (2015).

Figure 4.2. Imports of fish, crustaceans, molluscs and preparations thereof (2010-2013)



Source: UNCTAD, based on UNCTAD Stats (2015).

Figure 4.3. Fish and fish products exports as a share of total exports (2013)



Exports of fish and fish products reached a record level of US$136 billion in 2013, about 5 per cent more than in the previous year.[33] This trade growth has been fuelled by an increased capacity in global aquaculture production, as discussed above. A shift has been underway in fish exports for many years and actually reached a turning point in 2010.[34] In 2010, developing countries already accounted for more than half of global exports. By 2013, developing countries exported 56 per cent of all fish and fish products, while developed countries accounted for 42 per cent and transition economies for about 2 per cent (see Figure 4.1). The fact that developing countries are today the main exporters of fish implies a significant co-sharing of responsibility over the future of fish stocks and aquaculture production, particularly as it concerns sustainable management of both species and ecosystems. Among the largest exporters of fish in 2013 were: China, Norway, Vietnam, Thailand, United States, the European Union (EU), India, Chile and Peru.[35]

As regards fish imports, developed countries are the main importers. They accounted for approximately 69 per cent of global imports in 2013, followed by developing countries (27 per cent) and transition economies (4 per cent) (see Figure 4.2). Globally, the main importers are Australia, Brazil, Canada, China, EU, Japan, Republic of Korea, Russian Federation, Thailand and the United States.[36]

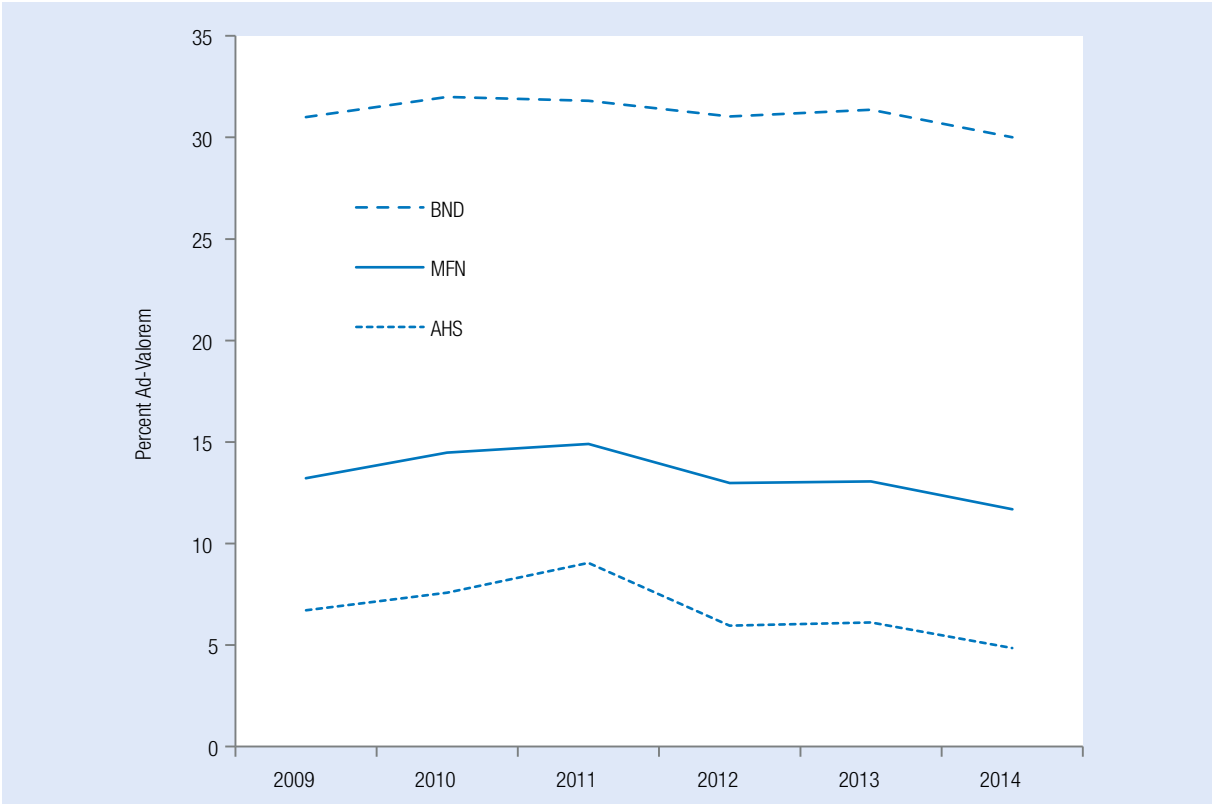
When comparing fish exports and fish products exports versus total exports, the relevance of fisheries for the trade balance of SIDS and LDCs becomes evident. Fish and products exports represent more than 7 per cent of total SIDS exports and about 1.5 per cent in LDCs (See Figure 4.3). For economies as big as China and for other developing countries, fish and fish products represent almost 1 per cent of their total exports.

More coordinated trade within global value chains (GVCs) exerts a major influence on fisheries trade. The practice of lead firms outsourcing their processing activities is expected to increase in the coming decades. These shifts are motivated by both efficiency and resource seeking investment. Typically, unprocessed fish products are sent from European and North American markets to Asia (China in particular, but also in other countries such as India, Indonesia and Vietnam), as well as to Central and Eastern Europe for filleting and packaging. Final products are often subsequently then re-imported for consumption. This makes the fisheries value chain complex and the sector highly globalised.[37] Limited growth prospects for domestic fishery production suggests that developed countries will remain highly dependent on external supplies to satisfy their domestic demand.[38] This will necessitate the utilisation of more transparent trade agreements that adhere to some basic principles, including the acquisition of access rights to distant waters fishing grounds and due consideration of the development aspirations of developing coastal states and SIDS.

Key points

Fish is one of the most-traded food commodities today, and exports reached record levels in 2013 with an export value of US$136 billion. The main

Figure 4.4. Average World Tariffs for All Fish Products (2009-2014)



Note: Average global tariff rates are shown for three different tariff categories: effectively applied tariff rates (AHS); most-favoured nation tariff rates (MFN); and bound tariff rates (BND).

Source: UNCTAD (2015), based on UNCTAD-World Bank-WTO TRAINS Database.

exporters of fish today are developing countries. The main importers are developed countries. Fish and fish products exports represent more than 7 per cent of total SIDS exports and about 1.5 per cent in LDCs, showing their importance for trade balance and availability of hard currency. Developing countries wishing to move up the value chain and functionally upgrade so as to export higher value fish products need to maximise the benefits conferred via different types of trade agreements and stimulate local value addition.

4.2 Fish tariffs (market access) and WTO non-agricultural market access (NAMA) negotiations

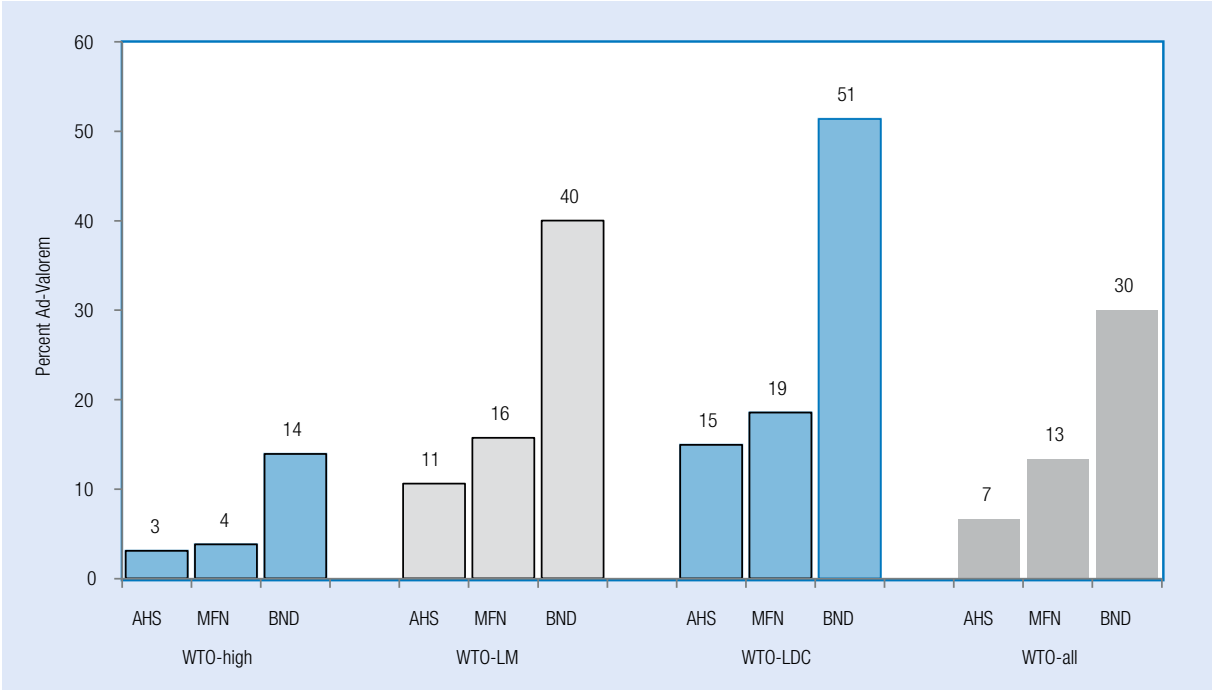
Among the most common measures that affect market access for fish and fish products are border tariffs. Tariffs tend to have a double purpose of generating government income and maintaining a certain level of protection (against high-import volumes), including for local production and/or the development of infant industries. Tariffs for fish and fish products today are not particularly high and have been decreasing slowly since 2011. Recent UNCTAD-World Bank-WTO data[39] suggest that globally averaged effectively applied tariffs (AHS) were only about 4.8 per cent for fish products HS (Harmonized Commodity Description and Coding System) code 03 (raw fish and fish fillets) in 2014, dropping from 6.7 per cent in 2009. The globally averaged most favoured nation (MFN) tariff (tariffs applicable to all WTO members, unless there is a WTO preferential or regional trade agreement) for fish products stood at 11.6 per cent in 2014, a decline of more than 2 percentage points since 2009. There were some small increases in effective MFN tariff averages between 2010 and 2011, maybe due to defensive actions by some members in response to the post-2009 financial crisis phase. WTO tariff bound rates (BND) have been evolving slightly due to new accession members, but within an average range of around 30 per cent.

For all WTO members, the average tariffs for all fish products calculated over the last five years (2009–14) are shown in Figure 4.5. When looking at a simple average tariff versus country groupings, it can be clearly seen that high-income countries have the lowest effectively applied tariff average (3 per cent), MFN (4 per cent) and bound tariffs (14 per cent). Most tariff lines in this grouping range from between 0 to 5 per cent. However, there are tariff peaks[40] for processed fish products that can reach up to 20–30 per cent. For low- and middle-income countries, effective and MFN tariffs, while higher than those of high-income countries, still have reasonable averages of 11 and 16 cent respectively. For LDCs, effective and MFN tariffs are 15 and 19 per cent respectively; this is also reasonable, as in many cases there may be a need to ensure incipient value addition and to promote processing infant industries. The bound tariffs in LDCs are relatively high for this type of product and often reach above 50 per cent.

Tariff escalation is commonly found on tariff lines that cover processed fish products among all country groupings (see Figure 4.6). By way of example, EU tariffs for processed fish and fish products are subject to tariff peaks of 24 per cent for processed tuna, 20 per cent for processed shrimp and 12 per cent for canned sardines. In countries like the Republic of Korea and Thailand, applied MFN tariffs are 20 per cent for tuna preparations (HS 1604). In absolute terms, more tariff peaks are found among low- and middle-income countries, with 738 peaks in 2014. Fewer tariff peaks are found among high-income countries (477 peaks) and LDCs (199 peaks). Nevertheless, when we look at average peaks per country, in each high-income country we find an average of 22 peaks, while the average per country among low-, middle-income and LDCs is less than 7 peaks (see Figure 4.6).

This analysis demonstrates the strategic use of tariff peaks within certain fish product lines to ensure some level of local value addition. Moreover, it demonstrates that developing countries actually resort less to tariff peaks than developed countries do.

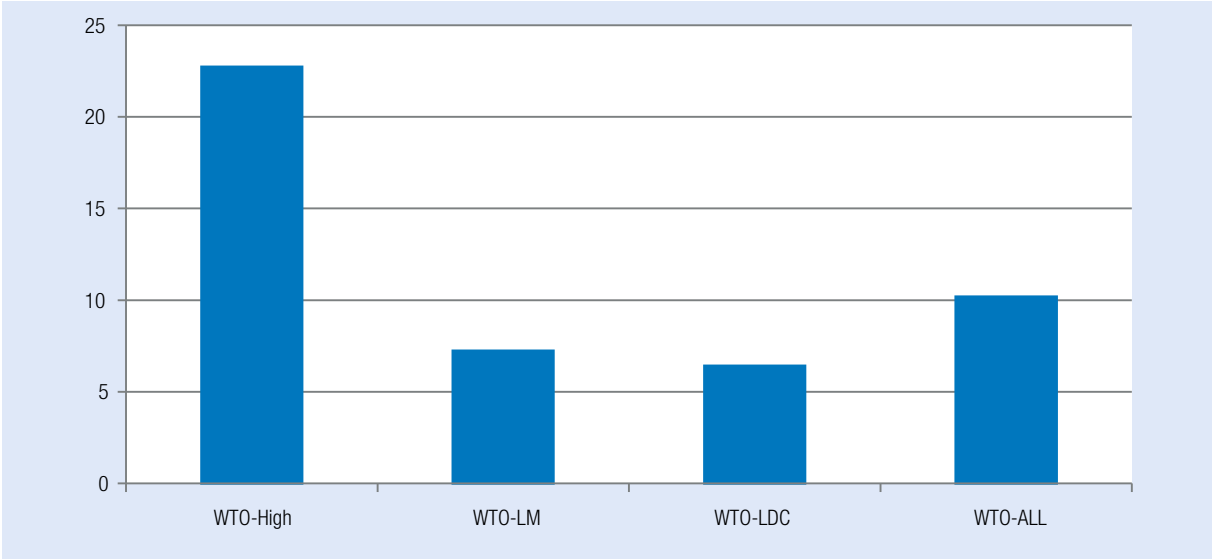
Figure 4.5. Average Tariffs for All Fish Products (2009-2014)



Note: For each country grouping, 'simple average tariffs' on fish products are shown for three different tariff categories: effectively applied tariff rates (AHS); most favoured nation tariff rates (MFN); and bound tariff rates (BND). The country groupings are for WTO members as follows: WTO-High [WTO high-income members (21 countries)]; WTO-LM [WTO low & middle income members (102 countries)]; WTO-LDC [WTO LDC members (31 countries)]; WTO-ALL [WTO all members (123 countries)]. Data was not available for all countries and years.

Source: UNCTAD (2015), based on UNCTAD-World Bank-WTO TRAINS Database.

Figure 4.6. Average number of tariff peaks per country in group in 2014 (all fish products)



Note: Number of international tariff peaks in fish products for various country groups. Both group totals, and per country averages for each the country groups, are shown.

Source: UNCTAD-World Bank-WTO TRAINS Database, 2015.

It is a particular anomaly that fish and fish products captured in Chapter 03 of the Harmonized Commodity Description and Coding System (hereinafter 'HS'), have fallen within the WTO negotiations on industrial goods. While raw, frozen and fish fillets are found under HS 03, most of the preparations are found under Chapter 16 (HS 1604 and 1605). It is also important to note that tariff lines for fish apply to both wild capture and aquaculture, as they do not differentiate on production method. Finally, although not part of the agriculture negotiations, fish and fish products have a critical importance for food security objectives alongside agricultural products, even though they are negotiated within different tracks within the WTO.

There have been negotiations on non-agricultural market access (NAMA) since the launch of the Doha Development Agenda (DDA). Negotiations on NAMA modalities aim to further promote the liberalisation of industrial goods, and subsequent reform measures to be pursued that will cover fish and fish products. While slow reductions in tariffs are quite evident in the average tariffs, many tariff peaks remain and non-tariff measures have grown in importance for the purposes of market access, particularly in developed country markets (see section below on non-tariff measures for fish and fish products).[41] Ministers at the 4th WTO Ministerial Conference agreed on negotiations that aim 'to reduce, or as appropriate eliminate tariffs, including the reduction or elimination of tariff peaks, high tariffs, and tariff escalation, as well as non-tariff barriers, in particular on products of export interest to developing countries'. Ministers further mandated that negotiations take fully into account 'the special needs and interests of developing and least-developed countries'.[42] However, these negotiations have not yet been concluded. Instead they have been subject to intermittent progress and setbacks of different nature over the last 15 years.

Today, the draft modalities reflected in the fourth revision of the Chairman's text (TN/MA/W/103/Rev.3) continue to be the basis for negotiations.[43] In line with the draft modalities, liberalisation in fish and fish products will be subject to a so-called 'Swiss formula', with separate coefficients for developing and developed member states. The formula approach contained in the draft modalities defines the maximum tariff after all cuts have been applied. The coefficient (i.e. the maximum tariff rate that a member could apply) will determine the severity of the cut; the lower the coefficient, the lower the final tariff rate. Table 4.1 shows an example on how the Swiss formula will apply to a coefficient of 25.

Towards this end, the draft modalities propose a coefficient of 8 for developed country tariffs, and 20,

Table 4.1 How a Swiss formula with a coefficient of 25 works over six years (The coefficient of 25 also defines the maximum tariff at the end of the period)

	Starting tariff 10%	Starting tariff 25%	Starting tariff 50%	Starting tariff 75%	Starting tariff 100%	Starting tariff 125%	Starting tariff 150%
Coefficient	25.00	25.00	25.00	25.00	25.00	25.00	25.00
Year 0	150.00	125.00	100.00	75.00	50.00	25.00	10.00
Year 1	128.57	107.64	86.67	65.63	44.44	22.92	9.52
Year 2	107.14	90.28	73.33	56.25	38.89	20.83	9.05
Year 3	85.71	72.92	60.00	46.88	33.33	18.75	8.57
Year 4	64.29	55.56	46.67	37.50	27.78	16.67	8.10
Year 5	42.86	38.19	33.33	28.13	22.22	14.58	7.62
Year 6	21.43	20.83	20.00	18.75	16.67	12.50	7.14
Annual steps (per centage points)	21.43	17.36	13.33	9.38	5.56	2.08	0.48
Per cent cut over 6 years	85.71	83.33	80.00	75.00	66.67	50.00	28.57
Comparison: Year 6 'Uruguay Round' cut	96.00	80.00	64.00	48.00	32.00	16.00	6.40

Source: WTO (2015), Reduction Methods, available at: www.wto.org/english/tratop_e/agric_e/agnegs swissformula_e.htm.

22 and 25 respectively for developing countries.[44] The text also identifies targeted flexibilities for small economies and other developing country sub-groupings, including the LDCs. The challenges of preference erosion are also acknowledged.[45]

Given the nature of the flexibilities provided for in the draft modalities, members with high ambition in market access negotiations have proposed 'sectoral negotiations' which aim to significantly reduce tariffs on identified categories of 'industrial goods', including fish and fish products.

Table 4.2 indicates that the HS codes covered by the NAMA sector initiative under the WTO agreements resulting from sectoral negotiations will only apply to the WTO members participating in them.

More precisely, these initiatives would aim to reduce, harmonise or, as appropriate, eliminate tariffs, including the reduction or elimination of tariff peaks, high tariffs and tariff escalation, over and above those that would be achieved by the formula modalities.[46] Demanders of sectoral initiatives have succeeded in integrating a zero-for-zero tariff modality into paragraph 9 of the Chairman's text, which is further elaborated in Annex 7 of the text.[47] The draft texts on sectoral negotiations for fish and fish products include limited scope for special and differential treatment (S&DT), for example, by allowing developing countries to bind up to [15] per cent of national fish and fish product tariff lines at [5] per cent.[48] While a binding of 5 per cent is higher than the complete elimination of tariffs contemplated in other sectoral negotiations, the proposed flexibility [5 per cent] is modest. The following WTO members have been proponents of sectoral negotiations in fish and fish products: Canada, Hong Kong, China, Iceland, New Zealand, Norway, Oman, Singapore, Thailand and Uruguay.

The net result of the proposed modalities would be a marked reduction in developing country tariffs on fish and fish products, as well as further reductions in tariffs in developed countries on lines that cover fisheries. Ultimately, both the Swiss formula and the proposed sectoral initiative imply the further reduction and harmonisation of tariffs for WTO member states (with the exception of those developing countries that effectively deploy modulating flexibilities for identified lines). Under both options (whether under the Swiss formula or the sectoral initiative), the outcome over time will be the same: tariff liberalisation. The main differences will relate to the speed, level of special and differential treatment, and the fact that under sectoral negotiations non-tariff measures (NTMs) may be addressed.

Such an outcome may result in increased trade in fish, as a consequence of greater market access and

the prospect of lower prices and increased global demand. The consequences of such an eventuality on the sustainability of global fisheries are difficult to quantify, though it is clear that there could be increased demand for marine wild capture fisheries, which places consequential pressure on stocks that are for the most part over exploited (unless demand is filled by an increased supply in aquaculture production, which is also probable). Finally, there may be less tariff income for developing countries; unless a waiver in using tariffs as a means to protect local infant industries is taken, policy space may be reduced.

Beyond the proposed multilateral approaches explored above, the proliferation of regional and bilateral trade agreements (RTAs) and the implementation of required tariff reforms have contributed to the general downward trend apparent in applied duties on fish and fish products in most participating countries.[49] Such agreements serve to create what is widely acknowledged as a myriad of fisheries-related instruments. For example, in addition to trade regimes that provide for trade liberalisation, bilateral fisheries agreements, such as the EU's Fisheries Partnership Agreements, may also serve to create a framework within which distant fishing nations can harvest fish in developing countries for an access price. This can be an important source of revenue for many SIDS and small, vulnerable economies (SVEs).

Some developing countries and, more specifically, the LDCs benefit from preferential market access for fish and certain fish products under schemes such as the EU's everything-but-arms (EBA) initiative, the US African Growth and Opportunity Act (AGOA), the Generalized System of Preferences (GSP) and the GSP+. However, notwithstanding de jure market access, trade flows are sometimes constrained by special rules of origin (RoO).[50] These rules may be too restrictive and complicated, and thus hinder the ability of many SIDS and LDCs to make use of trade agreements. For example, the RoO proposed for fish under the comprehensive economic partnership agreement (EPA) between the Pacific and the EU have proved to be particularly contentious.

Several Pacific island countries (PICs) (LDCs and non-LDCs) in negotiating the EPA had hoped to obtain a derogation in terms of the 'global sourcing' of fish, which means they could acquire fish from outside the circle of EPA signatories, process it and export it to the EU tariff-free. Despite severe productive-capacity constraints, which for fisheries include a lack of cold storage facilities, the EU offers global sourcing to PICs only if they have an EPA with the EU. The costs that will result from the removal of tariffs towards the EU under an EPA, coupled with the introduction of other regulatory measures (including the abolition of export taxes – permitted under the WTO), may outweigh the benefits to many LDC PICs, despite their need to expand formal employment opportunities by increasing fisheries processing.

Effective access under the preferential agreements has been mainly affected by non-tariff measures, such as difficult-to-meet rules of origin requirements, sanitary and phytosanitary standards, and technical barriers. Moreover, the value of preferences has been eroded overtime by multilateral liberalisation, regional liberalisation, special fisheries deals and, if the NAMA liberalisation under the Doha Round takes place, including sectoral liberalisation of fish and fish products, the tariff preferences would disappear or become meaningless.

Table 4.2 Tariff lines covered by the fish and fish products sectoral initiative

14.1	By 2025, prevent and significantly reduce marine pollution of all kinds
3	Fish and crustaceans, molluscs and other aquatic invertebrates
509	Natural sponges of animal origin
511.91	Animal products; of fish or crustaceans, molluscs or other aquatic invertebrates and dead animals of Chapter 3, unfit for human consumption
1504.1	Fish-liver oils and their fractions
1504.2	Fats and oils and their fractions, of fish, other than liver oils
1603 ex	Extracts and juices of fish or crustaceans, molluscs or other aquatic invertebrates
1604.00	Prepared or preserved fish; caviar and caviar substitutes prepared from fish eggs
1605.00	Crustaceans, molluscs and other aquatic invertebrates, prepared and preserved
2301.20	Flours, meals and pellets, of fish or crustaceans, molluscs or other aquatic invertebrates

Source: WTO (2008), Draft text for non-agricultural market access modalities, Document TN/MA/W/103/Rev.3, annex I.

Key points

Average applied tariffs for fish and fish products today are not particularly high. Effective applied tariffs and MFN applied tariffs are also slowly decreasing, indicating that most blocking barriers will be non-tariff measures (NTMs). In some countries, some tariff peaks exist, bound tariffs remain at elevated levels and tariff escalation affects processed fish products. While there are more tariff peaks in absolute numbers among low- and middle-income countries, when we look at average peaks per country, high-income countries account for most of the tariff peaks.

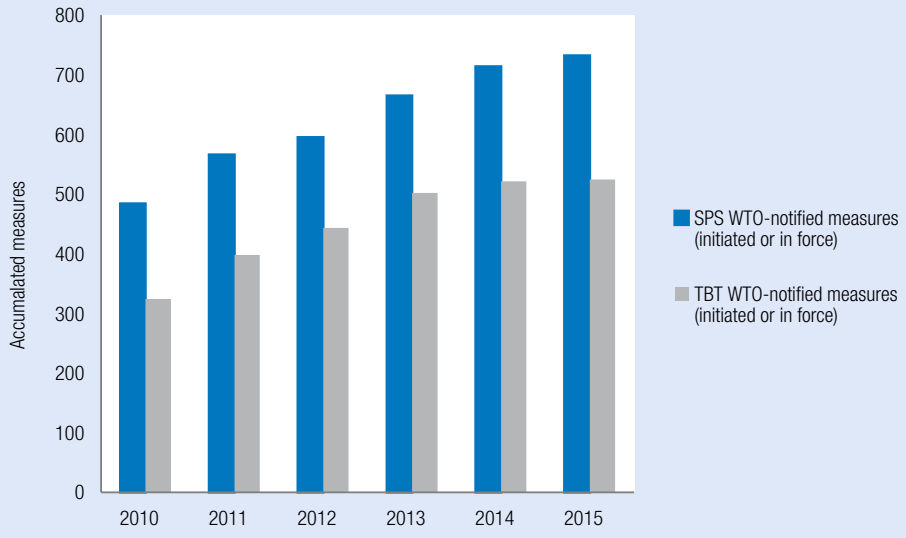
4.3 Non-tariff measures (market entry)

Exports of fish and fish products face a growing number of non-tariff measures (NTMs) when they arrive at the border of many importing countries, particularly developed countries. While many of these measures have been put in place due to legitimate concerns and are intended to facilitate trade, in practice because of technical or financial obstacles they may instead become barriers. For example, due to capacity constraints, they can inhibit exports originating from developing countries.

An example of an NTM at the regional level is the presentation by exporters of the International Commission for the Conservation of Atlantic Tuna (ICCAT) Statistical Document and Re-export Certificate. It requires an exporting member country to provide certificates to accompany export consignments of tuna (e.g. bluefin, southern bluefin and bigeye). In many instances, national regulations may require importers or exporters to apply HACPP procedures, set traceability systems, and carry out extended and accurate goods labelling in order to avoid alerts, rejections or detention at the border regarding the quality and safety of their products. While this type of fish stocks conservation, environmental and safety regulations seek to support public policy concerns and overarching conservation objectives, they may result in technical or financial barriers for exporters who wish to maintain market access. This implies, for example, the need to conduct internationally certified and valid laboratory tests for contaminants of their fishery products.[51] There is thus a significant role for technical co-operation and capacity building.

According to WTO, 732 sanitary and phytosanitary (SPS) measures (whether initiated or in force) applicable to fish and fish products (HS code 03, 1604 and 1605) were notified by 67 members by September 2015. There were also about nine specific trade concerns (e.g. regarding safety, quality and/or import restriction) raised by members to the SPS Committee. In terms of technical barriers to trade (TBT) measures applicable to fish and fish products, 524 were notified by 53 members; two specific trade concerns were also raised.

Figure 4.7. SPS and TBT measures for fish and fish products (HS codes 03, 1604 and 1605)



Source: UNCTAD (2015), based on data from the WTO Integrated Trade Intelligence Portal.

These numbers contrast with the numbers of notifications made up to 2010. At that time, there were 484 SPS measures notified by 53 members and 324 TBT measures by 52 members. These numbers show notable annual growth of 10.2 per cent and of 12.2 per cent in the number of SPS measures and TBT measures respectively since 2010 (see Figure 4.8). It is probable that many of these NTMs are related to the fast development of aquaculture production, health and consumer protection concerns, and the implementation of obligations under international conventions and soft law related to sustainable harvesting. Nevertheless, they clearly demonstrate growth in the number of NTMs related to trade in fish and fish products, and thus the challenges that some capacity-constrained exporters may face in accessing markets without commensurate support such as Aid for Trade.

In addition to NTMs, which can reflect legitimate public policy objectives, other challenges may relate to business-to-business certification and private regulations in major markets. Private standards can represent an additional hurdle that must be overcome if developing countries are to effectively access major markets and engage with high-value supply chains.

There is a need for a much more systematic mapping exercise of existing NTMs, including regulations and private standards, to raise awareness of the universe of NTMs. Such a mapping exercise could help to identify the number and nature of most common NTMs. It could also identify those that exert the strongest effect on developing country exports and have the potential to become obstacles to trade. Identification of the most relevant NTMs will assist in assessing the potential discriminatory nature of those NTMs, the trade effects and, subsequently, the need for Aid for Trade and other technical assistance to overcome them. UNCTAD is currently working on a preliminary mapping of NTMs in the fish and seafood sector.

The State of Sustainability Initiatives of the International Institute for Sustainable Development (IISD)[52] has recently produced preliminary research on Private Standards and the Blue Economy, which will complement the NTMs mapping being undertaken by UNCTAD. Both exercises may shed light on the number, objectives, content and use of both regulations and private standards.

Key points

There is a need to expand the understanding of NTMs applicable to fish and fish products. While tariffs are mostly low, NTMs affecting fish and fish products that are based on sanitary, safety, quality, environmental and consumer considerations are growing in number. These can affect and undermine market entry. A specific mapping exercise on NTMs for fish and fish products in quantitative, but also qualitative, terms needs to be undertaken in order to explore options for simplification and harmonisation or mutual recognition. A mapping for the number, implications, and options regarding harmonised private standards is also needed.

4.4 Certification

Private certification schemes have emerged in recognition of the need for market-based responses to the over-exploitation and depletion of global fisheries stocks. They have also responded to the increasing trend in consumer awareness and demand by retailers for fish harvested through healthier and more responsible practices. Private certification schemes and eco-labelling have also resulted from a weakness on the part of national authorities to implement sufficient monitoring, control and surveillance capacity, and from poor institutional capacity, insufficient funding for fisheries management and the use of subsidies.[53]

Certification and eco-labelling have proliferated in recent years, due to the positive impacts that they can bring in terms of improved management systems and given the growth in consumer demand for sustainable fisheries.[54] Some of the more important certification programmes include: the Marine Stewardship Council (MSC); Friend of the Sea (FoS); Naturland Association; dolphin-safe/dolphin-friendly labelled tuna (United States); Marne Eco-Label (Japan); KRAV (Sweden); Seafish Responsible Fisheries Scheme (UK); Global Seafood Sustainability Initiative (GSSI); Seafood Choices Alliance (SCA); Unilever: Fishing for the Future; WalMart's sustainable seafood commitment (see below); and Young's Seafood Fish for Life. The vast majority of these programmes emanate from developed country markets including the United Sates, the UK, Switzerland, Germany, Sweden, Australia, New Zealand, Japan, France, Belgium and Austria, among others. Some developing countries such as Ecuador and Chile are starting to develop

their own 'organic' and country brands, but these are mostly for aquaculture products. Recently one small fishery in Ecuador achieved 'Fair Trade' certification.[55]

In order to guide seafood certification processes, the FAO has developed a series of user-friendly tools. The most important ones are the following: (1) Guidelines for the Eco-Labeling of Fish and Fishery Products from Marine Capture Fisheries (2005); (2) Guidelines for the Eco-Labeling of Fish and Fishery Products from Inland Capture Fisheries (2010); and (3) Guidelines for Aquaculture Certification (2011). Several certification programmes are already utilising these guidelines as benchmark tools in their criteria. These guidelines have also promoted a basic level of harmonisation and a technical basis for new certification schemes, especially in relation to standard setting processes and transparency.[56] Recently, members of International Standard Organization (ISO) have been developing a seafood eco-label standard that utilises the FAO guidelines on marine capture fisheries as a reference.[57]

In view of growing consumer awareness and demand, private standards and sustainability considerations have become increasingly important to retailers in developed countries, and can mean the difference between gaining access to these markets and being locked out. For example, WalMart committed to carry 100 per cent MSC-certified wild capture fish in all of its stores,[58] although it has since moderated this commitment. While this may be a positive step towards ensuring that the suppliers/producers conform to more demanding standards, suppliers – particularly from developing countries that are not MSC-certified – will be locked out of the supply chain of the world's biggest retailer. Similarly, Carrefour, the largest retailer in France, has developed a proprietary (in-house) eco-labelling scheme. Sainsbury (based in the UK) has also committed to working with suppliers to develop buying policies that support sustainable fisheries. In addition to the efforts of a few mega-retailers, scores of other merchants and retailers have adopted certification and eco-labelling policies that support sustainability in the fisheries sector, both with respect to aquaculture as well as marine wild capture.

Besides this, it has been observed that while some sectors have pursued voluntary certification, the cost of such private certification is prohibitive for many fisheries sectors, particularly in small economies. The sectors in many small economies are simply not of the scale to warrant or support the costs attendant to certification. To illustrate the costs of certification, MSC certification for the South African hake fisheries came at a cost of US$735,000.[59] Although it is recognised that the cost of certification will vary according to the scale of the assessment, many small-scale fisheries operate on small margins and do not benefit from the industrial or institutional/organisational structure to support certification. Assessments such as that of the MSC require good data and a high level of scientific analysis of the fishery, which is often lacking in developing countries, and especially among small-scale and artisanal fishers. The same argument is equally valid for SIDS and LDCs, which may have the scale but often lack the necessary purchasing power and institutional capacity.

Certification by producers is sometimes motivated by price, the expectation being that the market will pay a premium for certified and eco-labelled fisheries. The existence of premium prices for certified seafood products that could help to offset some of the certifications costs has been estimated at 10–15 per cent at the retail level for eco-labelled versus non-labelled seafood products in the same markets.[60] However, some certified producers, in consultations undertaken by UNCTAD in South America and the Pacific,[61] argue that certificates and eco-labelling do not always offer a sufficient value proposition in practice. They have even indicated that certification today is becoming an assurance for accessing foreign markets and getting retail and consumer attention, but it is losing its economic appeal. It can be expensive and may not bring the expected returns.

The movement by large retailers towards business-to-business certification and eco-labelling requirements, particularly in view of the consolidation of global supply chains that has taken place in recent years, has had a major effect on the relative competitiveness of fisheries sectors in developing countries. Hence, regardless of the market access conditions that are negotiated at the WTO or preferential agreements entered into, private standards can significantly frustrate access to the major markets for uncertified producers. While they aim to provide information to retailers and consumers regarding the provenance of the fisheries and the care and attention demonstrated in harvesting such certification, can lead to exclusionary processes. As the private standards bar is raised, institutional capacity needs to increase in a commensurate way. This should not only be the responsibility of development co-operation, but also of import agencies and responsible retailers.

Key points

Several private certification schemes have emerged in recognition of the need for market-based responses to the over-exploitation and depletion of global fisheries stocks and consumer demands. The FAO has put effort into providing guidance and ensuring a minimum level of harmonisation. Many retailers require the use of business-to-business, as well as consumer-orientated, certification schemes. However, the cost of certification is usually borne at the lower/extractive layer of the value chain. There is a need to facilitate certification for small-scale and artisanal fishers, and to distribute the costs along the complete value chain.

4.5 Subsidies

Global fisheries subsidies have been estimated to be as high as US$15 to 35 billion[62] worldwide, of which US$20 billion has been categorised as capacity-enhancing subsidies.[63] Some fisheries subsidies are a necessary part of economic development and can have positive effects, serving as an important policy tool to support fisheries development (including artisanal). They can, if properly designed, for example: support crew safety; support processing by local populations; enable value addition; facilitate the establishment of fish stocks management systems; finance less harmful fishing methods; as well as promote the adoption of more sustainable technologies and therefore provide for the restoration and rehabilitation of ecosystems. Some of these activities clearly have public good elements.

At the same time, the use of subsidies may be necessary in order to obtain future sources of income. For example, subsidies can be used to pay for fish licensing fees in a third country's exclusive economic zone (EEZs); these fees are at the same time one of the principal sources of income for some governments, especially among SIDS. Subsidies may also be used to decommission fishing vessels and to facilitate a shift in the economic activities for fishers (e.g. moving toward eco-tourism services).

In formal terms, only India has recently made a fish subsidies notification to the WTO of more than 833 million rupees (about US$13 million). The reported subsidies were mostly dedicated to protect and secure the livelihoods of traditional and poor fishing communities, and for infrastructure building during the period 2010–12.[64] A recent EU Commission report indicates that the European Maritime and Fisheries Fund (EMFF) has a budget of approximately 5.7 billion euros (€) for the period 2014–20, which will be mostly dedicated to the adaptation of the EU fleet to available resources, aquaculture development, protection of aquatic flora, sustainable development of fisheries areas and infrastructure, among others.[65]

While there are many positive examples of fisheries subsidies, some practices can be highly damaging. Certain subsidies can contribute to overfishing and hence to stock depletion. For example, it is estimated that of the €12.9 billion in fishing subsidies granted by the EU and its members to the fishing sector from 2000 until 2012, only 1 per cent were considered beneficial subsidies for the marine environment.[66] Harmful subsidies not only distort the market and affect conditions of competition, but also convey distorted price signals to markets. Subsidies that contribute to overfishing and overcapacity also hamper the potential of developing countries to harvest fish directly, add value and compete fairly in the global market. Hence, they can support beneficiary fleets in harvesting a disproportionate share of the common pool of resources,[67] thereby compromising prospective inter-state and inter-generational equity considerations. On the subsidising country side, citizens tend to pay twice for their fish, first as tax payers and then as consumers.[68]

In 2007, the Chairman of the WTO Negotiating Group on Rules presented a draft text on Anti-Dumping, Subsidies and Countervailing Measures that included proposed disciplines on fisheries subsidies. The text proposed the prohibition of subsidies that contribute to overfishing and overcapacity, the so-called 'red box' subsidies. 'Red box' measures also include subsidies that benefit vessels involved in IUU fishing or those that aim at the acquisition or construction of new vessels resulting in enhanced capacity. Notwithstanding this broad prohibition, the draft text offers some relief through general exceptions applicable to all WTO members and specific exceptions targeted at identified categories of members. General exceptions include those targeted at the enhancement of crew safety; the adoption of gear for selective fishing techniques; the adoption of other techniques aimed at reducing the environmental impact of marine wild capture; re-education, retraining or redeployment of fisheries workers; and vessel decommissioning or capacity reduction.[69] With respect to specific exceptions, the

draft text provides for a full exemption from 'red box' measures for LDCs.

Recognising the need to regulate subsides that contribute to the unsustainable harvesting of the world's fisheries, the WTO Doha Ministerial Declaration (2001) launched negotiations to clarify and improve WTO disciplines on fisheries subsidies.[70] The mandate to advance negotiations on fisheries was further elaborated at the Hong Kong Ministerial Conference in 2005,[71] where members agreed to strengthen disciplines leading to the prohibition of certain forms of fisheries subsidies that contribute to overcapacity of fishing fleets and overfishing. More recently, however, a technical paper on fisheries subsidies refers to any standstill commitments also taking into account the development and food security needs of LDCs and SVEs.[72] Finally, it is proposed that any standstill commitment use similar language to that adopted at Rio+20, as follows:[73]

> *173. …Given the state of fisheries resources, and without prejudicing the WTO Doha and Hong Kong Ministerial mandates on fisheries subsidies or the need to conclude these negotiations, we encourage States to eliminate subsidies that contribute to overcapacity and overfishing, and to refrain from introducing new subsidies or from extending or enhancing existing ones.*

Hence, it is fair to say that the main challenge that confronts WTO negotiators is finding the appropriate balance between disciplining the use of subsidies that result in overcapacity and resource depletion, and protecting the development interests of developing countries and LDCs to access fishing resources for food and income generation. SDG 14.6, which specifically states that 'by 2020, prohibit certain forms of fisheries subsidies which contribute to overcapacity and overfishing and refrain from introducing new such subsidies', may further spur these efforts.

It is recognised that LDCs require maximum flexibility to enable their respective fisheries sectors to develop in line with their developmental expectations and needs. However, some developed countries in the WTO have indicated that any exemption to the general prohibitions should be accompanied by disciplines on fisheries management. Such an approach is being advanced in recognition of the fact that a number of LDCs have significant capacity to scale up their production, but lack the appropriate management schemes to ensure this development is sustainable. In addition to this specific concern are those emanating from the notion that some developed and emerging-market economies may use LDC ship and maritime registries to seek flags of convenience and, in so doing, circumvent the prohibitions directed at non-LDCs. In this view, any exemptions from the general prohibitions should remain within the exclusive domain of domestic fisheries.

Another contentious discussion that requires further reflection relates to operating cost subsidies. A more nuanced approach is required. Prohibitions on operating costs should target fleets that can utilise operating cost subsidies to engage in non-commercially viable fisheries. It must be borne in mind that many SIDS, SVEs and LDCs do not have the capacity to utilise operating cost subsidies in a manner that promotes over-exploitation. Indeed, it could be argued that small economies require such support, given their small internal markets, high cost of fuel and inputs, higher relative cost of certification, and the myriad other adverse impacts faced by small states[74] resulting from diseconomies of scale. Like LDCs, effective rules against circumvention by non-LDCs should be made operational. Indeed, small economies as well as LDCs will require public policy interventions to improve their capacity to engage in sustainable fisheries; such interventions should also include the establishment or strengthening of fisheries management systems in small economies.

Ministers from 14 developed and developing countries made a pledge during the Ninth WTO Ministerial Conference to 'refrain from introducing new fishing subsidies that contribute to overfishing or overcapacity or extend or enhance existing subsidies, and work within the WTO and other fora to improve fisheries subsidies reform and transparency'.[75] More recently, and under the Trans-Pacific Partnership Agreement (TPP) negotiations, parties have been discussing options to include prohibitions on fisheries subsidies that contribute to overcapacity and overfishing in the environmental chapter of the agreement. The incorporation of exceptions and special and differential treatment, in particular for small-scale and artisanal fishing activities, should not be prohibited.

Regardless of these efforts, solutions still need to be found at the Tenth WTO Ministerial Conference in Nairobi and beyond. Members need to explore options that are at the same time feasible and effective. So far, alternative options that ministers could explore when seeking to move forward on this issue include the following:

- mandatory notification of all fish subsidies that contribute to overfishing and overcapacity plus an all members standstill clause (taking into account the development and food security needs of LDCs and SVEs);
- rescue the 'acquis' (the 2007 draft text), the results of the road map exercise, and resume negotiations as a matter of priority in the WTO;
- revise the Subsidies and Countervailing Measures Agreement (SCM Agreement) to insert new prohibited subsidies that clearly contribute to overfishing;
- alternatively, use the WTO agricultural model in order to put a cap on total subsidies plus reduction commitments;
- promote coherence in WTO negotiations, by ensuring that any outcome in NAMA is coupled with parallel and effective disciplines on fisheries subsidies;
- explore the possibility of requiring WTO members to put in place effective 'fisheries management systems' commensurate to their capacities, on the basis of technical co-operation similar to the mechanism used in the trade facilitation negotiations;
- shift from harmful to sustainable subsidies; for example, by redirecting subsidies to set marine management systems, fish stock conservation and restoration systems, and the creation of marine protected areas;
- improve IUU monitoring, particularly in developing countries, with special attention and support provided for small economies, SIDS and LDCs;
- consider strong rules against the 'circumvention of the prohibitions' through flags of convenience, access rights or other bilateral instruments, while still protecting the development aspirations of coastal states; and
- small economies, SIDS and LDCs should be allowed policy space to support interventions that address diseconomies of scale; for example, development assistance should be made available to build national/regional fish stocks management systems.

Options outside the WTO to improve subsidies discipline should not be ruled out if progress is not possible within the WTO – for example, by bringing the issue to a joint UNCLOS, FAO and UNCTAD common framework. While such actions may be needed in the absence of progress at the WTO, and the absence of a more effective enforcement jurisdiction, as provided under the WTO legal architecture, may result in suboptimal outcomes. Ultimately, whether the WTO or an alternative jurisdiction engenders reform, political will is required to ensure success.

Key points

The existence of harmful incentives in the fishing industry, such as certain types of subsidies, continues to compromise the sustainability of stocks by creating and supporting excessive fishing capacities to extract an already-scarce resource. Goal 14 of the SDGs recognises the need to take action on certain forms of subsidies that contribute to overcapacity and overfishing and to refrain from introducing new subsidies. Efforts by the international community need to be reinvigorated to find a find an effective and feasible solution at the multilateral level. In doing so, the development and livelihood needs of developing countries, LDCs and SIDS need to be taken into consideration.

5. HARMFUL FISHING PRACTICES: THE CASE OF IUU FISHING

The sustained decline in the wild fish population has been facilitated by fishing practices that are destructive to fish populations and their marine ecosystems. Some of these are unsustainable fishing practices that extract fish resources intensively without regard to the capacity of fish stocks to naturally recover and replenish populations. Such practices by fishing fleets have included the use of purse seine fishing, demersal otter trawl, bottom trawling and dredging, pelagic pair trawl, and drift net fishing. Among fishing communities, examples of harmful practices that have evolved include the use of cyanide or dynamite fishing.

One harmful fishing practice that is having a major impact on fish populations and presents a daily threat to global fisheries includes illegal, unreported and unregulated fishing (IUU). Though data is difficult to come by, IUU fishing activities appear to have escalated over the past two decades, especially in waters beyond national jurisdictions. These activities are estimated to illicitly harvest 11 to 26 million tons of fish each year, worth between US$10 and 23.5 billion.[76] This equates to about 18 per cent of all fishing activities globally.[77] It has been estimated, for example, that about half of the fish stocks of the West Coast of Africa are today overexploited due to the lack of fish management systems, continuous overfishing and IUU fishing practices. Estimates indicate that West Africa loses more than US$1.3 billion a year due to IUU fishing.[78]

In practice, IUU fishing[79] can include several illegal activities, such as harvesting without a license or in violation of national laws or agreements by RFMOs. Illegal fishing activities may also include: fishing out of season; harvesting banned species; the use of illegal gear; and catching fish over a prescribed quota without a license. Unreported fishing tends to include the provision of untrue data or misrepresentations regarding where, how and which amounts were caught. It can also mean the relevant required documentation and certification has not been provided or is incomplete. Unregulated fishing generally refers to fishing by vessels without nationality, harvesting in unregulated areas or fishing by vessels that are not members of particular RFMOs.

IUU fishing does not only affect fish stocks in high seas, but also within EEZs of both developed and developing countries. Lack of action hinders potential gains from fish licenses, depletes resources that could be used otherwise by the local fisheries sector, and damages livelihoods of small-scale and artisanal fishers. IUU fishing may also be linked to other undesirable criminal activities such as piracy, and smuggling of drugs, weapons and migrants.

Multilateral efforts have been undertaken to address IUU fishing, as reflected in several multilateral instruments. These include: the UN Fish Stocks Agreement (1995); the FAO Agreement to Promote Compliance with International Conservation and Management Measures by Fishing Vessels on the High Seas (Compliance Agreement, 1993 [in force 2003]); the FAO International Plan of Action to Prevent Deter and Eliminate IUU (2001) – which forms part of the voluntary FAO code of conduct for responsible fisheries; and the FAO Port State Measures Agreement (2009 [not yet in force]). Specific measures found in these instruments to tackle IUU fishing include: the creation of regional fisheries management organisations; reciprocal high-seas boarding and inspection; a global record of authorised high-seas fishing vessels (maintained by the FAO) and complemented by unique vessel identifiers (UVI) (created by the International Maritime Organization [IMO]); measures to avoid the unloading of IUU or suspicious catch in ports; blacklisting and maintaining lists of vessels that have engaged in IUU fishing; the introduction of effective sanctions for vessels, owners and captains; and efforts to improve co-operation between fisheries national and regional surveillance and law enforcement authorities.

Many countries and RFMOs have introduced some of these measures, but full incorporation and effective application still need improvement. For example, less than 15 per cent of all fishing vessels globally have UVIs. The 2009 Port State Measures Agreement has not yet entered into force, since the minimum number of ratifications has yet to be achieved. Many countries do not have appropriate regulations to implement the treaty nor do they have electronic systems to keep records effectively and share information on time. Additionally, in some countries sanctions are outdated, too weak, or are not enforced. Efforts to ratify and apply the Port Measures Agreement need to be seriously considered by countries when seeking to expand their contribution to fight IUU fishing.

Links between trade and IUU fishing could be envisaged for introduction in potential outcomes under the WTO negotiations. Perhaps the only area where a

prohibition of fish subsidies enjoys near consensus at the WTO is on subsidies that contribute to and support IUU fishing. Also, the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) is indirectly relevant to IUU fishing, as it aims to regulate/prohibit the trade in wild plants and animals (including fish, sharks and molluscs) and ensures that trade does not threaten the survival of listed species.

The international community (both fish-exporting and fish-importing countries and concerned international agencies) has widely recognised the need to tackle IUU fishing. Measures and practices at the international level have been developed, and national regulatory regimes have been established and applied, such as by the EU and the United States. The experience of fish-exporting countries, especially developing countries, with IUU standards, as well as related best practices and regulations, has been to comply with them so as to assure stability and continuity of markets. However, many have expressed concern over the onerous, complex and costly implementation of IUU policies and regulations in place today.

They are concerned about potential unilateral notifications ('yellow cards'), bans and restrictions that could be set by major markets in cases where it is deemed that the fish-exporting nation is 'not co-operating' in the fight against IUU fishing or cannot demonstrate and show evidence of the existence of 'similar or equivalent efforts'. In many developing countries, especially among SIDS, the capacity to tackle IUU fishing is limited, while the sea areas they have to cover are extensive EEZs; such limitations manifest in low-certification and document-processing capacity and weak capacity to monitor coastlines. In this light, it seems that country evaluations regarding compliance with IUU standards should be multilateral, based on actual levels of risk, and should take account of the costs and benefits of additional monitoring and enforcement efforts by developing countries. This would be appropriate in both addressing the IUU fishing problem, as well as reducing the burden on administrations in developing countries, especially in SIDS and LDCs.

A recent advisory opinion of the International Tribunal for the Law of the Sea (ITLOS) regarding a request by the West African Sub Regional Fisheries Commission (SRFC) on the obligations of the flag state in cases where IUU fishing activities have been conducted within the EEZ of third party states (2015),[80] provides some guidance on the content and limits of the responsibility of flag states as it relates to IUU. The advisory opinion clearly indicates that SRFC countries have a duty to conduct due diligence to ensure that their fishing vessels do not engage in IUU fishing in the waters of other countries, and can be held liable for breach of this duty. The advisory opinion also holds that a country, when a party to a fisheries access agreement with other countries, also has the same obligation of due diligence as the flag state. In this case, due diligence means that flag states have to take enforcement actions to ensure their vessels comply with the laws of SRFC member states and must take measures necessary to ensure that their vessels comply with protection and conservation measures adopted by the SRFC member states.

Meaningful efforts to address IUU should be incentivised and rewarded. Countries should avoid the simple sanctioning of the weakest country for its lack of capacity. In this regard, efforts should be evaluated from the point of view of the actual political will and capacity to address IUU with the resources available. States facilitating ship/flag registration need to join the effort and establish national measures to avoid abuses and IUU ships to find 'safe harbour'.

Some of the trade-related measures identified in the United Nations General Assembly resolutions, Global Oceans Commission, FAO and the literature that could be envisaged by all countries involved in fish industry to address IUU fishing include the following:

- support the introduction of national/regional management systems, and plans to combat IUU fishing and build institutional capacity, particularly in developing countries;
- set national/regional measures to monitor, verify and sanction IUU fishing;
- clearly set the limits of flag states' responsibility regarding IUU fishing;
- link the implementation of relevant IUU multilateral agreements and the FAO IUU Plan of Action for the effective delivery of technical and financial assistance to developing countries;
- promote IUU evaluation schemes that are multilateral, based on the actual level of risk, and take account of the costs and benefits of additional monitoring and enforcement efforts;
- consider options to expand the use of UVI under the IMO;
- support initiatives in developing countries to introduce traceability of seafood products;
- ban at-sea transhipments; and
- create easily accessible international lists of vessels and companies engaged in IUU activities.

Key points

IUU fishing represents a significant threat to fish stock conservation and can be linked to other illegal activities at sea. It affects both developed and developing countries alike, and generates negative environmental impacts throughout the high seas. There is a wide recognition of the need for multilateral and regional action against IUU fishing. There is also an emergence of unilateral/national schemes that have been inspired in multilateral conventions and related soft law to combat IUU fishing. However, efforts need to be deployed to ensure that national/unilateral requirements do not become an obstacle to trade, are applied consistently and uniformly, based on levels of risk, and are commensurate to the levels of development and capacities of countries. Effective technical co-operation and transfer of technology will be fundamental in ensuring that developing countries can cope with the effort.

6. SUSTAINING FISH STOCKS AND RESILIENCE: COMPLEMENTARY APPROACHES

There are many other complementary/flanking policies at the regional and national levels that could support more sustainable trade in fisheries. These include: introducing and strengthening environmental services and, hence, value addition; effective fish management systems; regulating and monitoring sustainable use of marine resources and economic activities within high-seas areas; and creating new marine-protected and biodiversity-rich areas to rebuild fish stocks, populations and ecosystems. FAO estimates that rebuilding overfished stocks could increase production by 16.5 million tons and annual rent by US$32 billion.[81]

6.1 National green and blue export performance and value addition

In 2014, UNCTAD initiated a new technical support project to assist developing countries and transition economies to implement green policies and establish regulatory and institutional frameworks and co-operative mechanisms to strengthen the capacity, efficiency and competitiveness of their green sectors. These activities are undertaken through UNCTAD's National Green Export Reviews (NGERs). NGERs respond to emerging country demand for assessments of national potential to advance the development of national green sectors to generate new employment and export opportunities, while promoting sustainable development. Several countries are examining their fisheries sectors in NGERs. Box 6.1 illustrates how UNCTAD is supporting countries in making the transition towards more sustainable production and exports in the fisheries sector.

6.2 National and regional fish management systems

Fisheries management systems (FMSs) comprise a regulatory system of appropriate management rules based on defined objectives and a mix of management means to implement the rules, which are put in place by legislation and enforced through a system of monitoring control and surveillance.[82] National systems are applied to all stocks, but can be adapted to work at the species level. Regional fish management systems are normally applied by RFMOs, but can also be implemented by competent agencies of coastal states.

FMSs should be based, to the extent possible, on scientifically based objectives, data and should incorporate rules for management. FMSs activities cover scientific data gathering, fishing and vessels licensing schemes, entry requirements, quotas, catch limits and/or effort limits, controls on types of activities and in which zones (e.g. the location of industrial fisheries or artisanal fisheries), type of gear and fishing methods. Activities can cover all stocks or apply to certain targets and commercial species. FMS can regulate bycatch, use of waste and landing regulations. In the past they tended to focus on fish-stock management, but FMSs have evolved to also cover, depending on the case, the protection of non-targeted species, ecosystems and livelihoods. For large-scale fisheries, management is typically the responsibility of federal, state or local governments. For small-scale fisheries, management may be accomplished through collaboration at the local level, including fisheries associations, communities, tribes or even families, in conjunction with appropriate government entities.[83]

The existence of effective FMSs is considered to be a prerequisite for maintaining and promoting recovery of stocks and ecosystems. These are likely to be highly context specific, though some elements of best practice are likely to be common. The effectiveness of such systems will invariably differ between countries, as it is linked to level of regulatory and institutional capacities. Nevertheless, sound FMSs will increasingly matter in the future, as these can set the scientific base to devise the appropriate policy for managing fisheries stocks, and then subsequently private sector behaviour.

With regards to regional fisheries management organisations (RFMOs), the UN Fish Stocks Agreement recognises RFMOs as the institutions through which fisheries are to be sustainably managed in areas beyond national jurisdiction in the high seas.[84] Although these organisations now cover much of the geographic extent of the world's high seas,[85] biodiversity appears to need much more effective management than is enjoyed at present.[86] According to many scholars and environmental non-governmental organisations, RFMOs are not effectively achieving their objectives.[87,88,89,90,91,92,93] Many RFMOs may be responding to pressure from national lobbies to push

quotas beyond the maximum sustainable yield (MSY), or prevent the implementation of other controls, even if not formally recognised.[94]

The extent of the problem is often obscured due to a lack of publicly available information, particularly concerning compliance and enforcement.[95,96,97,98] Nevertheless, there are a few promising signs that some basic transparency practices may be improving.[99] Furthermore, nine years of discussions in the United Nations led to a landmark decision in June 2015 to 'develop an international legally-binding instrument under the Convention [on the Law of the Sea] on the conservation and sustainable use of marine biological diversity of areas beyond national jurisdiction'.[100] Preparatory negotiations on the new high-seas legal agreement are to begin in 2016.

This UN decision was taken in the context of some scholars suggesting that modern industrial fisheries can no longer be treated as a 'high-seas freedom' and need to be legally constrained.[101] One economic modelling study suggested that it would make more sense if high-seas fisheries were closed entirely, acting as a large *de facto* marine protected area, the costs of which would be more than offset by the benefits to fisheries in national waters.[102]

The Global Ocean Commission in 2014 proposed a moratorium on high-seas fisheries (a 'regeneration zone') if better protective measures, including marine-protected areas, were not put in place.[103] Though it is doubtful that high-seas fisheries will be closed by RFMOs, whose member states have a direct economic interest in their continuation, there certainly is a greater role that could be played by conservation measures such as marine-protected areas.

Box 6.1 Promoting the export of sustainable fish and fish products from Ecuador: Preliminary lessons from UNCTAD's NGERs

Ecuador has selected, among its green exports, ocean-related sectors and more precisely sustainable fisheries, as a priority for setting national green export policies. The selected products included tuna (raw, fillets and canned), bream and certain types of shrimp. Ecuador's exports of fish and crustaceans from under HS code 03 reached more than US$2.7 billion in 2012, making it one of the most important exports in value for Ecuador after oil and bananas. Analysis of HS 03 code exports reveals high levels of competitiveness reflected in high values of revealed comparative advantage (RCA). With an aim to enhance competitiveness further, many Ecuadorian producers have acquired dolphin-free certification and several bream and tuna artisanal producers will soon obtain Marine Stewardship Council (MSC) certification. Also, many aquaculture shrimp producers already enjoy organic certifications from Bio-Suisse, Carrefour, ISEAL, WWF, Naturland and the Global Aquaculture Alliance.

With the involvement of relevant Ecuadorian authorities, experts, private sector and other stakeholders, UNCTAD supported a sector assessment and developed a National Green Export Strategy and Action Plan (NGESAP); the NGESAP was recently adopted by the Government of Ecuador, through the Ministry of Commerce. The NGESAP seeks to maintain and further expand Ecuador's competitive base for sustainable fish products, including by gaining recognition for implementation of responsible harvesting and processing practices by producers in the fisheries value chain at all levels. Lines of action were identified in relation to: a) regulatory reviews (especially in line with relevant multilateral conventions and regional agreements); b) productivity and innovation; c) associativity and value chains; d) financial and non-financial incentives; e) international marketing; and f) reduction of trade barriers for Ecuador's green products in third markets.

The implementation of the NGESAP has also recently started with a request by Ecuador to the FAO to support a regulatory assessment and review of national fisheries regulations in light of FAO plans, guidelines and conventions. Also, the tuna industrial sector is currently developing a 'Voluntary Code of Conduct for the Sustainability of the Tuna Value Chain'.

Sources: UNCTAD and MCE (2014), Estudio base para la revisión de la política de exportación de productos verdes del Ecuador, UNCTAD/DITC/TED/2014/4; UNCTAD and MCE (2015, forthcoming), Política Nacional de Productos Verdes del Ecuador: Cacao-Chocolate y Pesca Sostenible, UNCTAD; Mónica Maldonado (2015), La competitividad de la Cadena del Atún en Ecuador, CEIPA.

6.3 Marine-protected areas

Restoring the health of marine areas that are depleted of fish is not only a conservationist imperative, but it is also an economic one. Due to improved management practices, fish stock health in some developed countries has been improving, signalling the potential for future economic gains.[104] However, the global trend remains negative as fish populations decline.[105] An analysis of data-poor national fisheries, not normally included in national or FAO assessments, found that the health of these stocks appears to be worse still.[106] Added to that, there are several other worrying indicators that refute any premature optimism about recovering fish stocks.[107]

In economic terms, unhealthy fish stocks imply negative commercial results that persist largely due to poor management and fishing practices, sunken costs and, as noted before, perverse subsidies.[108] Nevertheless, the benefits of rebuilding fisheries, in general, outweigh the costs. While developed countries are moving towards more technologically advanced solutions, such as video recording and automatic identification of catches, most developing countries can ill afford these and other management- and capital-intensive approaches. In developing world fisheries management, the simpler option is usually the better one.

Though not a panacea, properly managed marine-protected areas (MPAs) can represent a simple and effective tool for both conservation and economic recovery of many varieties of depleted fish stocks.[109] There are about 5,000 MPAs or areas with some sort of protection covering about 2.8 per cent of the global oceans.[110] The benefits of MPAs can vary widely. A recent international longitudinal study looking at benefits to biodiversity underlines the importance of good management and design, specifically that MPAs are fully protected, well-enforced, long term (>10 years), large (>100 km2) and ecologically isolated (e.g. by deep water or sand).[111] Though good for biodiversity, not all MPAs that follow these guidelines will necessarily benefit commercial fish stocks, unless commercial stocks (and their prey) are also protected. In other words, placing MPAs where there is little or no fishing is very unlikely to benefit fish stocks being exploited elsewhere. This may seem self-evident, but practice to date has been exactly that – avoiding areas of conflict with fisheries.[112]

While avoiding conflict can result in the rapid expansion of MPA systems, it can also seriously compromise the potential for those systems to protect ongoing losses of marine biodiversity, i.e. their main purpose. In some cases, certainly, this strategy could have benefits in the long run, because protection may precede the inevitable expansion of human activities into hitherto unexploited areas of the marine ecosystem. However, it remains that protecting areas that few value will not address current pressures on a region's marine environment. If design objectives typical for MPA networks worldwide are to be fully met, with fish stocks better protected than at present, then some conflict with existing human uses will be inevitable.

Notwithstanding the need for meaningful stakeholder consultation, existing uses should not exclusively dictate the location, size, spacing and management of the required conservation and economic interventions. Minimising conflict while still reaching the objectives of the MPA network will first require acceptance across sectors of the planning process's mandate and legitimacy; second, a comprehensive spatial database (or simply paper maps) of human valued areas, activities and uses in the region; and third, a transparent and participative process.[113]

6.4 Ecologically or biologically significant areas (EBSAS)

In 2010, with the passing of the Convention on Biological Diversity's (CBD) Aichi Target 11, the vast majority of the world's maritime nations committed to protecting at least:

> *…10 per cent of coastal and marine areas, especially areas of particular importance for biodiversity and ecosystem services […] through effectively and equitably managed, ecologically representative and well-connected systems of protected areas and other effective area-based conservation measures, and integrated into the wider landscape and seascape.*[114]

As discussed above, with such a target there may be increasing temptation to sacrifice quality for quantity in terms of MPA-network establishment. As a first step, areas important for fisheries and biodiversity should be identified for further consideration. The CBD's global process to identify ecologically or biologically significant areas (EBSAs) is the only process of its kind, a result of years of concerted international co-operation among policy-makers, scientists and governments.[115] However, it still remains to be seen if EBSAs will be considered for protection by the competent national and international authorities, in particular the RFMOs.[116,117]

Key points

There are several complementary policies that need to be considered by countries to promote sustainable fisheries and fish stocks conservation and restoration. UNCTAD's NGERs are a useful multistakeholder economic planning tool that seeks to promote sustainable exports, while improving environmental and social performance. Several countries are examining their fisheries sectors in NGERs. National fish management systems are considered a prerequisite for fish stocks conservation. RFMOs have a fundamental role in stocks management of migratory species. MPA and EBSAs, meanwhile, expand the potential for fish stocks and ecosystem recovery.

7. FROM A TRAGEDY OF COMMONS TO A TRIUMPH OF COMMONS: A COMPREHENSIVE TRADE AGENDA FOR SUSTAINABLE FISHERIES

In light of the challenges and opportunities identified in this paper, as well as ongoing initiatives and assessments conducted on fish populations and fishing practices, there is a need to explore practical approaches and options for fish conservation and sustainable use. A Trade Agenda for Sustainable Fisheries that is anchored in Goal 14 of the new SDGs, *The Future We Want*, the Samoa Pathway and the IsPOA, among others, is proposed for consideration. The agenda, based on fostering the transformation from a situation of a 'tragedy of commons' to a 'triumph of commons', would comprise the following:

1. Strengthening sustainable fisheries governance systems and related regulatory systems, codes and practices at the international, regional and national levels
   - » Improve and strengthen co-ordination among the different fish governance bodies to ensure stronger linkages between environmental, social and economic concerns of fish harvest, trade and consumption.
   - » For those states that have not done so, consider the ratification of relevant UN and FAO treaties, as well as the implementation of relevant FAO soft law instruments, and report on how those agreements are being followed.
   - » Conduct an annual review of progress in the implementation of oceans SDG 14 and relevant targets in terms of fisheries, preferably against agreed milestones.
   - » Ensure that bilateral fisheries agreements are transparent, fair and support better governance of the fisheries sector in developing countries, in terms of surveillance, inspection and administrative – as well as scientific – capacity.
2. Improving market access and entry conditions for sustainably harvested fish and fish products
   - » Provide clarity on the real market price for fish, which incorporates the cost of improved sustainable practices.
   - » Address market issues that affect fish and fish products within the WTO Doha Round, while providing for some flexibility with reference to specific developing country sub-groupings.
   - » Address non-tariff measures that affect fish and fish products, including in the WTO Doha Round, and enhance transparency on such measures in force.
   - » Facilitate the use of certification schemes by developing countries, especially by small-scale and artisanal fishers (e.g. by clustering several small fishers in one application).
   - » Expand transparency on fisheries access agreements.
   - » Address, with a view to eliminating, harmful subsidies that contribute to overfishing and overcapacity, including by reinvigorating relevant WTO Doha Round negotiations.
   - » Encourage and strengthen the effective reporting, monitoring, and surveillance of fish subsidies.
   - » With regards to IUU fishing practices:
     - ◊ strengthen efforts to curtail IUU fishing practices;
     - ◊ ensure that the implementation of IUU measures is based on clear and objective criteria and does not discriminate between countries, and that IUU audits are transparent; and
     - ◊ support and strengthen the institutional and technical capacity of developing countries to put in place measures to combat IUU fishing.
   - » Increase technical and financial assistance, and effective transfer and/or dissemination of fishing technology essential in ensuring developing country participation in the fish trade and sustainability initiatives. Ensure that Aid for Trade supports institutional capacity building relating to SPS/TBT, other NTMs and, if necessary, private standards, where these exceed public mandatory market-entry requirements.
3. Restoring fish stocks and marine ecosystems: Complementary measures
   - » Support the development of national green exports and value-addition strategies that incorporate the fisheries sector.
   - » Support sustainable harvesting of fish and local value addition by developing countries.
   - » Provide support and technical assistance to boost fish management systems and to improve their effectiveness.
   - » Support institutional development with a view to setting recognised, multipurpose and low-cost traceability systems.
   - » Enhance consumer awareness in both developed and developing countries on sustainable practices in seafood harvesting, preparation and trade.
   - » Promote the creation of MPAs and EBSAs, and the introduction of fishing moratoriums in areas where reproduction takes place or where stocks are significantly depleted, in order to allow their recovery, and rebuild their resilience.

ANNEX:

CHAIRMAN'S CONCLUSIONS

Ad Hoc Expert Group Meeting on Trade in Sustainable Fisheries
UNCTAD and The Commonwealth Secretariat
Geneva, 29 September–1 October 2015

The expert meeting recognized that fish are of ecological, economical, sociological and cultural importance to humans. Fish are the single most traded food commodity, providing food and nutrition to many, and jobs and incomes to over half of the global population, and have intrinsic cultural value. The meeting also recognized that fish stocks are in a critical state. According to the Food and Agriculture Organization of the United Nations (FAO), 87 per cent of the world's marine fish stocks are fully exploited, overexploited or depleted, and this number has been increasing steadily owing, inter alia, to:

(a) Over-fishing and overcapacity;
(b) Harmful subsidies;
(c) Illegal, unreported and unregulated fishing, piracy in the high seas, illegal or unlicensed activities, unreported or misrepresented data;
(d) Ocean warming and acidification due to climate change;
(e) Ocean pollution affecting fish habitats and ecosystems.

The two and a half days of the meeting have involved very rich debate addressing how to turn the evolving tragedy of the commons into the triumph of the commons. Sustainable Development Goal 14 provides a wake-up call and a new opportunity to take urgent action to reverse the situation by acting at all levels, from conserving and harvesting of stocks to the processing, trading and final consumption of fish and fish products.

Experts welcomed the comprehensive trade in sustainable fisheries agenda entitled "From a tragedy of commons to a triumph of commons: A comprehensive trade agenda for sustainable fisheries". This meeting was the first to reflect on Sustainable Development Goal 14 and the role of trade as an enabler to advance the implementation of its targets. This agenda can be found as part of the UNCTAD–Commonwealth background note, available at: http://unctad.org/en/Pages/MeetingDetails.aspx?meetingid=854.

This agenda comprises the following interrelated pillars:

1. Strengthening effective governance of the fisheries sector in view of the Sustainable Development Goals;
2. Harnessing the potential of international trade to meet an increasing demand for fish and fish products as the population continues to grow;
3. Addressing and removing harmful incentives and tackling illegal, unreported and unregulated fishing;
4. Designing complementary measures for fish stock resilience and conservation of marine ecosystems;
5. Meeting cost and capability constraints for value addition in developing countries.

1. Effective governance for sustainable development: There must be a collective effort at global, regional and national levels for a more sustainable and responsible fisheries management. Sustainable Development Goal 14 urges accelerated actions in this regard. Achieving Goal 14 would also support achievement of Goal 1 on poverty, Goal 2 on hunger and food security and Goal 8 on inclusive and sustainable growth and employment. Monitoring progress on implementation of Goal 14 should be a priority. In this regard, the proposal by the Prime Ministers of Fiji and Sweden to hold an international conference on Sustainable Development Goal 14 in 2017 deserves support.

There is a wide array of international law, soft law, rules and frameworks dealing with conservation, harvesting and trading in fish in the high seas and in countries' exclusive economic zones. These include the United Nations Convention on the Law of the Sea, the United Nations Fish Stocks Agreement, other FAO treaties and soft

laws and the United Nations General Assembly resolutions, as well as applicable rules under the World Trade Organization (WTO) at the international level. Experts indicated the need to promote the participation and ratification of these instruments.

At the regional and national levels, there are regional fisheries management organizations and national fisheries authorities. In view of the multiplicity of the instruments, further coherence among these existing bodies of laws or instruments should be promoted, seeking mutual supportiveness and ensuring that in the design of regional and national rules they are taken into consideration. In terms of the creation of trade rules, the crafting of mega-regional trade and bilateral agreements in regard to fisheries trade should build upon the "acquis" attained and stabilized at the multilateral level.

Governance and regulation of fisheries in the high seas should be improved. While there are principles and provisions under the United Nations Convention on the Law of the Sea and the United Nations Fish Stocks Agreement, there is a need to better implement the surveillance of fishing activities in the high seas.

2. Harnessing the potential of international trade to meet demand for fish: Issues relating to tariffs, tariff peaks and escalation and non-tariff measures (NTMs) remain to be fully addressed to the benefit of developing countries, in particular the weakest. Market access constraints to fish and fish products should be addressed while recognizing special and differential treatment.

NTMs are in principle legal and legitimate in their objectives, but they may impede entry into markets of fish and fish products. As NTMs are increasing and accumulating, options are required to facilitate the fulfilment of these measures and address them when they become an obstacle to trade, especially for those countries that have a limited capacity to do so. The need for further mapping, convergence and harmonization of NTMs, including at the regional level, was stressed during the meeting. Promoting mutual recognition of documentation and certification and testing and evaluation undertaken by developing country authorities should be accepted by other countries.

In regard to preferential trade agreements, rules of origin should be made more flexible for developing country parties to facilitate value addition. Options could be explored within the least developed country package in WTO.

Public and private voluntary standards are growing and becoming de facto technical regulations affecting market access entry and international market distribution. They are likely to become technical regulations in the near future generating higher risk for disputes at WTO.

Concerning private standards, it was recommended that parties to the World Customs Organization should develop Harmonized System codes for certified seafood products. Fish and seafood certification need to increasingly incorporate social sustainability standards.

3. Addressing and removing harmful incentives: Certain subsidies distort trade and generate inequality, affecting developing countries in particular. There should be full transparency and disclosure of subsidies with identification of those that are harmful and beneficial with immediate prohibition of harmful fishing subsidies within the next five years or by 2020. Some actions should be taken up at the tenth WTO Ministerial Conference in Nairobi, including concerning enhanced transparency, notification and monitoring.

There is a need to quantify evidence on illegal, unreported and unregulated fishing, its market effects and the cost of inaction. In addition, international agencies should provide options to track trade in fish and assess companies' control over the seafood value chain.

On illegal, unreported and unregulated fishing, international instruments do exist; however, stronger political will is needed to promote implementation and practical application. For example, call was made for ratification and adoption of the FAO Port State Measures Agreement, as this is an important instrument to effectively combat illegal fishing.

National schemes on illegal, unreported and unregulated fishing should be based on international law, including the United Nations Convention on the Law of the Sea, WTO and FAO agreements and instruments, among

others, so that they are not discriminatory or arbitrary and do not become an obstacle to trade. The focus should be more on incentives to address illegal, unreported and unregulated fishing and not on sanctioning schemes. Also questions of circumvention were addressed during the meeting.

4. Designing complementary measures for fish stock resilience and conservation of marine ecosystems: Countries should consider greening their export baskets to diversify exports – including in fish products. In this regard, UNCTAD was requested to continue expanding its support through National Green Export Reviews to other countries by adapting this support to the marine environment.

On marine protected areas, it was acknowledged that they bring substantial benefits that go beyond fisheries conservation, by providing several ecosystem services such as regulation of climate, tourism, recreational services and virtuous nutrient cycles. They should be supported and expanded.

Fish stock management systems are a prerequisite for trade in sustainable fisheries. We need to promote regional cooperation and common regulatory and fish stock management systems that build climate and economic resilience.

5. Cost and capability constraints for value addition: There was a wide recognition on the need to address illegal fishing, and also that more needs to be done to support countries' capacities to address unregulated and unreported fishing, including through capacity-building. It should not be assumed that lack of capacity to report and present the appropriate documentation implies an illegal origin.

Calls were made on United Nations agencies under the United Nations Oceans Initiative, the Commonwealth, and other organizations present to continue with the support provided and organize specific technical sessions designed to discuss options to implement targets in the Sustainable Development Goal 14 from a trade perspective.

Technical cooperation and capacity-building are essential to be able to fulfil relevant NTMs. The fulfilment of NTMs in the fish sector has not been sufficiently considered in the Aid for Trade (AfT) initiative, calling for the incorporation of additional support to fulfil those standards. A way to obtain regional convergence and harmonization in NTMs is to promote regional cooperation schemes emulating, for example, the organic cooperation in Africa and in the Pacific.

When considering regional and national fish stock management systems, technical support and financial assistance will be essential for success, as this is a long term effort. More targeted AfT packages should reflect and respond to these demands.

In addition, financial institutions should introduce schemes for green financing and the valuation of ecosystem services, and the development of marine ecosystem value chains. A call was made on the Development Bank of Latin America to explore options to respond to these demands in the regional context.

Notes

1 The term 'fish' in this note refers to wild oceanic fish catch and not aqua-culture fish or inland fish, unless explicitly stated.

2 UN Environment Programme (UNEP), ITC and ICTSD (2012), *Sustainable fisheries brief*, June 2012.

3 UN (2014), Working Group Proposal for Sustainable Development Goals, available at: https://sustainabledevelopment.un.org/index.php?page=view&type=400&nr=1579&menu=35 [21 June 2015].

4 See UN GA resolutions A/RES/69/1a09 of 2014 and A/RES/68/71 of 2013.

5 These countries include: China, Indonesia, the United States, Peru, Russian Federation, Japan, India, Chile, Vietnam, Myanmar, Norway, The Philippines, Republic of Korea, Thailand, Malaysia, Mexico, Iceland and Morocco. FAO (2014), *The State of World Fisheries and Aquaculture: Opportunities and challenges*, FAO, Rome.

6 Ibid.

7 The Federated States of Micronesia, Kiribati, Marshall Islands, Nauru, Palau, Papua New Guinea, Solomon Islands and Tuvalu.

8 Fishing News International (2014), *Pacific Islands bump fishing fees by 33 percent.*

9 UNCTAD calculations based on: Republic of Kiribati (2014), *Fish Licensing revenue*; IMF (2014), *World Economic Outlook*. International Monetary Fund: Washington D.C.

10 Hinrichsen, D (1999), *The Coastal population explosion, Trends and future challenges of the US National Coastal policy and Coastal Policy,* Workshop Outcomes. Mimeo.

11 World Bank (2010), *The Hidden Harvests the global contribution of capture fisheries.* World Bank: Washington D.C.

12 Food and Agriculture Organization (FAO) (2014), State of World Fisheries and Aquaculture, (available at: www.fao.org/3/a-i3720e.pdf) Food and Agriculture Organization: Rome.

13 World Bank (2012), Living oceans, available at: http://go.worldbank.org/A2MYFIUQM0 (accessed 3 August 2014).

14 UNCTAD (2014), *Fishing Exports and Economic Development of Least Developed Countries: The case of Bangladesh, Cambodia, Comoros, Sierra Leone and Uganda.* United Nations Conference on Trade and Development: Geneva.

15 FAO (2015), '*The state and trends of the fish world market*', presentation by Jogeir Toppe and José Estors Carballo, Second Regional Forum, CEIPA, Manta, Ecuador.

16 FAO (2012), *The State of World Fisheries and Aquaculture*, FAO, Rome. For example, fish provides about 50 per cent or more of total animal protein intake in some SIDS, as well as in Bangladesh, Cambodia, the Gambia, Ghana, Indonesia, Sierra Leone and Sri Lanka.

17 FAO (2014), *The State of World Fisheries and Aquaculture: Opportunities and challenges,* FAO, Rome.

18 Africa Progress Panel (2014), Grain, fish and Money.

19 FAO (2014), *The State of World Fisheries and Aquaculture: Opportunities and challenges*, FAO, Rome.

20 World Bank, FAO, (2013), *Fish to 2030: Prospects for Fisheries and Aquaculture,* available at: www.fao.org/docrep/019/i3640e/i3640e.pdf.

21 See: http://www.oceanhealthindex.org/.

22 World Wide Fund for Nature (WWF) (2014), *Unsustainable fishing (*accessed 3 February 2015).

23 Worm, B et al. (2006), '*Impacts of biodiversity loss on ocean ecosystem services*', Science, 3, November 2006, available at: http://www.sciencemag.org/content/314/5800/787.abstract (accessed 30 November 2015).

24 Hilborn, R (2013), *Faith-based Fisheries, American Institute of Fisheries Research Biologists*.

25 Ibid.

26 FAO News (2014).

27 World Bank (2013).

28 FAO (1982), *Management concepts for small-scale fisheries: Economic and social aspects,* available at: www.fao.org/docrep/003/x6844e/X6844E02.htm#chII.

29 Such as dangerous ingredients, microorganism controls and quality control.

30 FAO (2012), T*he State of World Fisheries and Aquaculture*, FAO, Rome.

31 UNCTAD Stats (2015) and FAO (2014).

32 UNCTAD (2014).

33 UNCTAD Stats (2015) and FAO News (2014), '*Word Trade in Fish to set new records*', available at: www.fao.org/news/story/en/item/214442/icode/.

34 UNCTAD Stats (2014) and FAO (2014).

35 FAO (2015).

36 Ibid.

37 Organisation for Economic Co-operation and Development (OECD)-FAO (2014);*Agricultural Outlook* (2014).

38 Ibid.

39 Tariff data reported in this paper represent global averages of countries' average 'simple average tariff' for all fish products (HS codes 03, 1603, 1604 and 1605).

40 Tariff peaks are frequently defined as a tariff equal or above 20 per cent or its ad valorem equivalent in studies by institutions such as UNCTAD, the World Bank and the OECD.

41 See: *The Fish Site* (2010), '*Impact of WTO and Trade Negotiations on Fisheries*', available at: www.thefishsite.com/articles/863/impact-of-wto-and-trade-negotiations-on-fisheries/.

42 Doha Ministerial Declaration, paragraph 16, 4th WTO Ministerial Conference.

43 Fourth Revision of Draft Modalities on Market Access; TN/MA/W/103/Rev.

44 WTO (2015). Tariff reductions for industrial products would be made using a 'simple Swiss' formula, with separate coefficients for developed and developing country members. However, whereas the coefficient for developed members would be applied the same to all, there would be a menu of options for developing members that will apply according to the scale of the flexibilities they choose to use. The lower the coefficient is (the maximum tariff rate that a member could apply), the higher the flexibilities would be for developing countries and vice versa. A Swiss formula produces deeper cuts on higher tariffs; see: WTO NAMA portal, available at: www.wto.org/english/tratop_e/markacc_e/guide_dec08_e.htm.

45 Ibid.

46 *Fourth Revision of Draft Modalities for Non-Agricultural Market Access*, paragraph 9.

47 *Fourth Revision of Draft Modalities on Market Access;* TN/MA/W/103/Rev.

48 Ibid.

49 Campling (2014).

50 Ibid.

51 Ibid.

52 See: State of Sustainable Initiatives (SSI) and ISSD (2015), Standards in the Blue Economy, available at: http://workshop.eurofish.dk/Presentations/D3-1_Wilkings.pdf (accessed 30 November 2015).

53 United Nations Environment Programme (2009), Certification and Sustainable Fisheries.

54 Ibid.

55 *The Lighthouse Foundation, Ecuador: Model for a Sustainable Small-Scale Fishery.*

56 FAO/COFI (2014), Report on The Effects of Ecolabelling Schemes on Fisheries.

57 Ibid.

58 Ibid.

59 Ibid.

60 Ibid.

61 UNCTAD's consultations and workshop for National Green Export Reviews in Ecuador, Oman and Vanuatu (2014–2015).

62 UNCTAD (2014).

63 Sumaila, Lam and Le Manach (2013), *Global Fisheries Subsidies, EU Parliament.*

64 See Indian notification to the Committee on Subsidies and Countervailing Measures (G/SCM/N/253/IND, 2 May 2014).

65 EU Commission (2014), *Facts and figures on the Common Fisheries Policy.*

66 Oceana(2013),*EuropeanFisheriesSubsidies:Stateaid-thehiddensubsidies,*availableat:http://oceana.org/sites/default/files/euo/OCEANA_State_aid_factsheet_072013.pdf.

67 Sumaia, Khan, Teh, Watson, Tyedmers and Pauly (2019), Subsidies to high seas bottom trawl fleets and the sustainability of deep-sea demersal fish stocks.

68 Global Oceans Commission (2013), Illegal, unreported and unregulated fishing.

69 World Trade Organization (2007), 'Draft consolidated chair texts of the AD and SCM Agreements', TN/RL/W/213, 30 November, available at: www.wto.org/english/tratop_e/rulesneg_e/rules_chair_text_nov07_e.htm (accessed 4 August 2014).

70 See: Doha WTO Ministerial 2001: Ministerial Declaration, paragraphs 31 to 33.

71 See: Hong Kong WTO Ministerial 2005: Ministerial Declaration, Annex D, 9–11.

72 See: 3.7 '*Elaboration of Technical Issues',* Technical Paper on Fisheries Subsidies, Communication from New Zealand, 29 July 2015, WTO TN/RL/W/261.

73 This Rio+20 Commitment is contained in paragraph 173 of UN General Assembly Resolution 66/288, The Future We Want, 11 September 2012.

74 While LDCs and SIDS are the UN recognised and approved nomenclature, the term 'small states' refers to the Commonwealth definition as 'a country with 1.5 million people or less'. See: the Commonwealth Advisory Group report, *A Future for Small States: Overcoming Vulnerability (*1997); and Small States: Economic review at basic statistics (2014), volume 17, 48.

75 ICTSD (2013), '*Submission to the Open Working Group on Sustainable Development Goals: Fisheries, trade and sustainable development*', available at: www.ictsd.org/sites/default/files/event/2014/04/ictsd-background-paper-international-trade-and-sustainable-development.pdf (accessed 5 August 2014).

76 Global Oceans Commission (2013), Illegal, unreported and unregulated fishing.

77 Oceans Commission (2014), From decline to Recovery.

78 *Africa Progress Report* (2014).

79 For a technical definition of illegal, unreported and unregulated fishing (IUU), see Article 3 of the FAO International Plan of Action to Prevent, Deter and Eliminate IUU (2001).

80 See Advisory Opinion of the International Tribunal for the Law of the Sea (ITLOS): Request for an Advisory Opinion Submitted by The Sub-Regional Fisheries Commission (SRFC), 2 April 2015, available at: www.itlos.org/fileadmin/itlos/documents/cases/case_no.21/advisory_opinion/C21_AdvOp_02.04.pdf.

81 FAO (2014).

82 FAO (1997), *'Fisheries Management',* available at: http://www.fao.org/docrep/003/w4230e/w4230e05.htm (accessed 30 November 2015).

83 Global Heath Index (2015), Fisheries management effectiveness.

84 United Nations (1995), Agreement for the Implementation of the Provisions of the United Nations Convention on the Law of the Sea of 10 December 1982 Relating to the Conservation and Management of Straddling Fish Stocks and Highly Migratory Fish Stocks, Adopted 4 August 1995, Entered into force 11 December 2001, 1542 A/CONF.164/37, 34 International Legal Materials.

85 Ban NC, NJ Bax, KM Gjerde, R Devillers, DC Dunn, PK Dunstan, AJ Hobday, SM Maxwell, DM Kaplan, RL Pressey, JA Ardron, ET Game and PT Halpin (2014), 'Systematic conservation planning: A better recipe for managing the high seas for biodiversity conservation and sustainable use', Conservation Letters, Vol. 7 No. 1, 41–54.

86 Gjerde, K.M., et al., 2013. *Ocean in peril: Reforming the management of global ocean living resources in areas beyond national jurisdiction.* Marine Pollution Bulletin 74, 540-551.

87 Cullis-Suzuki, S and D Pauly (2010), '*Failing the High Seas: A Global Evaluation of Regional Fisheries Management Organizations'*, Marine Policy, Vol. 34, 1036–1042.

88 Gianni, M, DEJ Currie, S Fuller, L Speer, JA Ardron, B Weeber, M Gibson, G Roberts, K Sack, S Owen and A Kavanagh (2011), Unfinished business: a review of the implementation of the provisions of UNGA resolutions 61/105 and 64/72 related to the management of bottom fisheries in areas beyond national jurisdiction, Deep Sea Conservation Coalition.

89 Pitcher, TJ, and WWL Cheung (2013), *'Fisheries: Hope or despair?',* Mar. Pollut. Bull., Vol. 74 No. 2, 506–516.

90 Wright, G, J Ardron, K Gjerde and J Rochette (2014), 'Advancing marine biodiversity protection in ABNJ through regional fisheries management: A review of high seas bottom fisheries closures', Working Paper N°14/2014, IDDRI,Paris, France.

91 DSCC (2011), Unfinished business: A review of the implementation of the provisions of United Nations General Assembly resolutions 61/105 and 64/72, related to the management of bottom fisheries in areas beyond national jurisdiction.

92 Weaver, PPE, A Benn, PM Arana, JA Ardron, DM Bailey, K Baker, DSM Billett, MR Clark, AJ Davies, P Durán Muñoz, SD Fuller, M Gianni, AJ Grehan, J Guinotte, A Kenny, JA Koslow, T Morato, AJ Penney, JAA Perez, IG Priede, AD Rogers, RS Santos and L Watling (2011), The impact of deep-sea fisheries and implementation of the UNGA Resolutions 61/105 and 64/72, report of an international scientific workshop, National Oceanography Centre.

93 Rogers, AD, and M Gianni (2010), The Implementation of UNGA Resolutions 61/105 and 64/72 in the Management of Deep-Sea Fisheries on the High Seas, report prepared for the Deep-Sea Conservation Coalition, International Programme on the State of the Ocean, London, UK.

94 The Economist (2014), *'Governing the high seas: in deep water'*, The Economist, 22 February 2014.

95 Gilman, E, and E Kingma (2013), *'Standard for Assessing Transparency in Information on Compliance with Obligations of Regional Fisheries Management Organizations: Validation Through Assessment of the Western and Central Pacific Fisheries Commission',* Ocean and Coastal Management, Vol. 84, 31–9.

96 Koehler, H (2013), Promoting Compliance in Tuna RFMOS: *A Comprehensive Baseline Survey of the Current Mechanics of Reviewing, Assessing and Addressing Compliance with RFMO Obligations and Measures*, ISSF Technical Report 2013-02, International Seafood Sustainability Foundation, McLean, Virginia, USA.

97 Englender, D, J Kirschey, A Stöfen and A Zink (2014), ,*Cooperation and Compliance in Areas Beyond National Jurisdiction'*, Marine Policy, Vol. 49, 186–194.

98 Ardron JA, N Clark, K Seto, C Brooks, D Currie and E Gilman (2014), *'Tracking 24 years of discussions about transparency in international marine governance: Where do we stand?'*, Stanford Environmental Law Journal, Vol. 33 No. 2, 167–190.

99 Clark N, JA Ardron and L Pendleton (2015), *'Evaluating the Basic Elements of Transparency within Regional Fisheries Management Organizations',* Marine Policy, Vol. 57, 158–166.

100 UNGA (2015), UN General Assembly Resolution 69/292, §1.

101 Brooks, CM, JB Weller, K Gjerde, R Sumaila, J Ardron, NC Ban, D Freestone, K Seto, S Unger, DP Costa, K Fisher, L Crowder, P Halpin and A Boustany (2014), *'Challenging the "Right to Fish" in a Fast-Changing Ocean'*, Stanford Environmental Law Journal, Vol. 33 No. 3, 289–324.

102 White C, and C Costello (2014), *'Close the High Seas to Fishing?'*, PLoS Biol, Vol. 12 No. 3.

103 Global Ocean Commission (2014), From Decline to Recovery – A Rescue Package for the Global Ocean; Proposal 8, available at: www.globaloceancommission.org/wp-content/uploads/GOC_report_2015.pdf.

104 Worm, B, and T Branch (2012), *'The future of fish',* Trends Ecol. Evol., Vol. 27, 594–599.

105 FAO (2014), *The State of World Fisheries and Aquaculture: Opportunities and challenges*, FAO, Rome.

106 Costello, C, D Ovando, R Hilborn et al. (2012), '*Status and solutions for the worlds unassessed fisheries'*, Science, 338, 517–520.

107 Pitcher, TJ, and WWL Cheung (2013), *'Fisheries: hope or despair?',* Marine Pollution Bulletin, Vol. 74, 506–516.

108 Sumaila, UR, AS Khan, AJ Dyck, R Watson, G Munro, P Tydemers and D Pauly (2010), 'A bottom-up re-estimation of global fisheries subsidies', Journal of Bioeconomics, Vol. 12, 201–225.

109 There are now hundreds of studies demonstrating the values of MPAs; e.g., Aburto-Oropeza, O, B Erisman, GR Galland, I Mascareñas-Osorio and E Sala, et al. (2011), 'Large recovery of fish biomass in a no-take marine reserve', PLoS ONE Vol. 6: e23601; Lester, SE, BS Halpern, K Grorud-Colvert, J Lubchenco, BI Ruttenberg, et al. (2009), 'Biological effects within no-take marine reserves: A global synthesis', Marine Ecology Progress Series 384, 33–46.

110 UNEP (2015), Geodata, available at: http://geodata.grid.unep.ch/mod_graph/graphexe.php?selectedID=1876&selectedCountries=&selectedYears=all&global=on&per_capita=&type=gegslive&selectedLanguage=en.

111 Edgar, GJ, RD Stuart-Smith, TJ Willis, S Kininmonth, SC Baker, S Banks and NS Barrett (2014), *'Global conservation outcomes depend on marine protected areas with five key features',* Nature, 506: 216–220.

112 Devillers, R, RL Pressey, A Grech, JN Kittinger, GJ Edgar, T Ward and R Watson (2014), 'Reinventing residual reserves in the sea: Are we favouring ease of establishment over need for protection?', Aquatic Conservation: Marine and Freshwater Ecosystems.

113 Ardron, JA, EJ Gregr, CLK Robinson, HM Coleman, P Dearden, UR Sumaila, C Brandon, E Kenk and AM Cisneros-Montemayor (2015), Recommendations on applying the Canada-BC Marine Protected Area Network Principles to Canada's Northern Shelf Bioregion: Principles 1, 2, 3, 5, 6, 16, with discussion on 4, 7, 8, 12, produced by PacMARA for the British Columbia Marine Protected Area Implementation Team.

114 Convention on Biological Diversity Aichi Target 11, available at: https://www.cbd.int/sp/targets/rationale/target-11//.

115 See: *Convention on Biological Diversity, Ecologically or Biologically Marine Areas*, available at: www.cbd.int/ebsa/.

116 Dunn, D, and JA Ardron (co-leads), N Bax, P Bernal, J Cleary, I Cresswell, B Donnelly, P Dunstan, K Gjerde, D Johnson, K Kaschner, B Lascelles, J Rice, H von Nordheim, L Wood and PN Halpin (2014), 'The Convention on Biological Diversity's Ecologically or Biologically Significant Areas: Origins', Marine Policy, Vol. 49, 137–145.

117 Ardron, JA, R Rayfuse, K Gjerde R Warner (2014), *'The sustainable use and conservation of biodiversity in ABNJ: What can be achieved using existing international agreements?'*, Marine Policy, Vol. 49, 98–108.