

## GLOBAL SEAFOOD INDUSTRY SUSTAINABILITY

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**Abstract:** *Ensuring ocean sustainability has become a global challenge, as unsustainable practices threaten marine biodiversity, fish stocks, food security and livelihoods. The objective of the paper is to identify the key challenges facing the world's oceans and seafood industry as well as the policy options and reform opportunities for the global trade system to support a transition towards sustainable seafood industry and healthier oceans. The policy options are: closing the market for illegal, unreported, and unregulated fishing; disciplining fisheries subsidies; and addressing tariff and non-tariff measures.*

**Key words:** *seafood industry sustainability*

The world's oceans, seas, and coastal areas are the largest ecosystems on the planet and a precious part of our natural heritage. They are also vital to the livelihoods and food security of billions of people around the world, and to the economic prosperity of most countries. The ability of these marine environments to provide jobs and nutrition over the long term is, however, already under pressure from human economic activities; and it is being further threatened by development approaches that are fragmented, uncoordinated, and often in conflict with what science tells us is physically possible or ecologically sound.

Fortunately, many governments, organizations and communities in both developed and developing countries are becoming aware of the need for a more coherent, integrated, fair, and science-based approach to managing the economic development of the oceans. Humanity increasingly understands that we are an integral part of the marine ecosystem, and that we must plan and implement our economic activities with care, balancing the desire to improve human living standards and wellbeing with the imperative to sustain ecosystem health. Active leadership is needed, in both the public and private sectors, to steer the Blue Economy in a sustainable direction. This includes delivering on commitments already made – globally, regionally, nationally and locally.

To ensure that the economic development of the ocean contributes to true prosperity and resilience, today and long into the future, with special recognition of the needs of developing countries, Principles for a Sustainable Blue Economy<sup>7</sup> had been proposed by the WWF (World Wildlife Fund). These Principles provide a definition of a Sustainable Blue Economy and a roadmap to help us get there. They are universal and can be applied to any part of the oceans, seas or coasts, as well as used by any actor involved in the economic development of the sea, including governments, private and financial sector actors, international agencies, and civil society groups.

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<sup>1</sup> World Wildlife Fund for Nature. 2015. Principles for a Sustainable Blue Economy. [http://d2ouvy59p0dg6k.cloudfront.net/downloads/15\\_1471\\_blue\\_economy\\_6\\_pages\\_final.pdf](http://d2ouvy59p0dg6k.cloudfront.net/downloads/15_1471_blue_economy_6_pages_final.pdf)

***A Sustainable Blue Economy is a marine-based economy that:***

- Provides social and economic benefits for current and future generations, by contributing to food security, poverty eradication, livelihoods, income, employment, health, safety, equity, and political stability.
- Restores, protects and maintains the diversity, productivity, resilience, core functions, and intrinsic value of maritime ecosystems – the natural capital upon which its prosperity depends.
- Is based on clean technologies, renewable energy, and circular material flows to secure economic and social stability over time, while keeping within the limits of our planet.

***A Sustainable Blue Economy is governed by public and private processes that are:***

- *Inclusive.* A Sustainable Blue Economy is based on active and effective stakeholder engagement and participation.
- *Well-informed, precautionary and adaptive.* Decisions are based on scientifically sound information to avoid harmful effects that undermine long-term sustainability. When adequate information and knowledge are missing, actors take a precautionary approach, actively seek to develop such knowledge, and refrain from undertaking activities that could potentially lead to harmful effects. As new knowledge of risk and sustainable opportunities is gained, actors adapt their decisions and activities.
- *Accountable and transparent.* Actors take responsibility for the impact of their activities, by taking appropriate action, as well as by being transparent about their impacts so that stakeholders are well-informed and can exert their influence.
- *Holistic, cross-sectoral and long-term.* Decisions are based on an assessment and accounting of their economic, social and environmental values, benefits and costs to society, as well as their impact on other activities and across borders, now and in the future.
- *Innovative and proactive.* All actors in a Sustainable Blue Economy are constantly looking for the most effective and efficient ways to meet the needs of present and future generations without undermining the capacity of nature to support human economic activities and wellbeing.

***To create a Sustainable Blue Economy, public and private actors must:***

- *Set clear, measurable, and internally consistent goals and targets for a Sustainable Blue Economy.* Governments, economic sectors, individual businesses and other actors must all set relevant and measurable goals and targets for a Sustainable Blue Economy to provide their planning, management and activities with a clear direction. Goals and targets for different economic, social and ecological areas – as well as related policies and activities – must be made as integrated and coherent as possible, to avoid conflicts and contradictions.
- *Assess and communicate their performance on these goals and targets.* The goals and targets for a Sustainable Blue Economy must be regularly monitored and progress communicated to all stakeholders, including the general public, in a transparent and accessible way.
- *Create a level economic and legislative playing field that provides the Blue Economy with adequate incentives and rules.* Economic instruments such as taxes, subsidies and fees should be aimed at internalizing environmental and social benefits, costs and risks to society. International and national laws and agreement, including private agreements, should be framed, implemented, enforced, and continuously improved in ways that support a Sustainable Blue Economy.

• *Plan, manage and efficiently govern the use of marine space and resources, applying inclusive methods and the ecosystem approach.* All relevant uses of marine space and resources must be accounted, planned, managed and governed through forward-looking, precautionary, adaptive and integrated processes that ensure the long term health and sustainable use of the sea, while also taking into account human activities on land. Such processes must be participatory, accountable, transparent, equitable and inclusive, in order to be responsive to present and future human uses and needs, including the needs of minorities and the most vulnerable groups in society. To make informed trade-offs, such processes should also use appropriate tools and methods to capture the range of benefits that ecosystem goods and services can bring to different stakeholders.

• *Develop and apply standards, guidelines and best practices that support a Sustainable Blue Economy.* All actors – including governments, businesses, non-profit enterprises, investors and consumers – must develop or apply the global sustainability standards, guidelines, best practices, or other behaviors that are relevant to them. For organizations, application of such standards should not only ensure that their activities are conducted in a responsible way, but also improve their own performance and competitiveness, today and in the future.

• *Recognize that the maritime and land-based economies are interlinked and that many of the threats facing marine environments originate on land.* To achieve a Sustainable Blue Economy in the seas and coastal regions, land-based impacts to marine ecosystems must be addressed and actors must also work to promote the development of a sustainable green economy on land.

• *Actively cooperate, sharing information, knowledge, best practices, lessons learned, perspectives, and ideas, to realize a sustainable and prosperous future for all.* All actors in a Sustainable Blue Economy have a responsibility to participate in the process of implementation, and to reach out across national, regional, sectorial, organizational, and other borders, to ensure collective stewardship of our common marine heritage.

#### ***Challenges to the Blue Economy:***

• *Unsustainable extraction from marine resources, such as unsustainable fishing* as a result of technological improvements coupled with poorly managed access to fish stocks and rising demand. The Food and Agriculture Organization of the United Nations (FAO) estimates that approximately 57 percent of fish stocks are fully exploited and another 30 percent are over-exploited, depleted, or recovering.<sup>2</sup> Fish stocks are further exploited by illegal, unreported, and unregulated fishing, which is responsible for roughly 11-26 million tons of fish catch annually or US\$10-22 billion in unlawful or undocumented revenue.

• *Physical alterations and destruction of marine and coastal habitats and landscapes* due largely to coastal development, deforestation, and mining. Coastal erosion also destroys infrastructure and livelihoods. Unplanned and unregulated development in the narrow coastal interface and nearshore areas has led to significant externalities between sectors, suboptimal siting of infrastructure, overlapping uses of land and marine areas, marginalization of poor communities, and loss or degradation of critical habitats.

• *Marine pollution*, for example in the form of excess nutrients from untreated sewerage, agricultural runoff, and marine debris such as plastics.

• *Impacts of climate change*, for example in the form of both slow-onset events like sea-level rise and more intense and frequent weather events. The long-term climate change

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<sup>2</sup> FAO. 2016. The State of World Fisheries and Aquaculture 2016. Contributing to Food Security and Nutrition for All. Rome. <http://www.fao.org/3/a-i5555e.pdf>

impacts on ocean systems are not yet fully understood, but it is clear that changes in sea temperature, acidity, and major oceanic currents, among others, already threaten marine life, habitats, and the communities that depend on them.

• *Unfair trade.* Exclusive Economic Zones (EEZ), areas in which a state has sovereign rights over exploration and use of marine resources, are crucial to the economies of small island developing states and often dwarf their corresponding land mass and government's administrative capacity. In the case of fishing agreements allowing access to an EEZ, there is usually a low appropriation of fisheries export revenues by national operators and insufficient transfer to national stakeholders of specific fishing knowledge by foreign fishing companies, so the potential for national exploitation of those resources is reduced in the long run.

### ***Fisheries***

Sustainable fisheries can be an essential component of a prosperous blue economy, with marine fisheries contributing more than US\$270 billion annually to the global GDP.<sup>3</sup> A key source of economic and food security, marine fisheries provide livelihoods for the 300 million people involved in the sector and help meet the nutritional needs of the 3 billion people who rely on fish as an important source of animal protein, essential micronutrients, and omega-3 fatty acids.<sup>4</sup>

The role of fisheries is particularly important in many of the world's poorest communities, where fish are a crucial source of protein and the sector provides a social safety net. Women represent the majority in secondary activities related to marine fisheries and marine aquaculture, such as fish processing and marketing. In many places, employment opportunities have enabled young people to stay in their communities and have strengthened the economic viability of isolated areas, often enhancing the status of women in developing countries. For billions around the world – many among the world's poorest – healthy fisheries, the growing aquaculture sector, and inclusive trade mean more jobs, increased food security and well-being, and resilience against climate change.

While the impacts of climate change are being felt throughout the ocean realm, they are particularly acute for fisheries, the fish stocks they target and the marine coastal ecosystems on which they depend. Understanding of these impacts is constantly improving and can be organized around several main „vectors“: acidification, sea-level rise, higher water temperatures, and changes in ocean currents. These different vectors, however, are unequally known and hard to model, in terms of both scope – where they will occur, where they will be felt the most – and severity.

All this is at risk from overcapacity, overfishing, unregulated development, and habitat degradation, driven largely by poverty and enabled by ineffective policy. Based on FAO's analysis of assessed commercial fish stocks, the share within biologically sustainable levels decreased from 90 percent in 1974 to 68.6 percent in 2013. Thus, 31.4 percent of fish stocks were estimated as fished at a biologically unsustainable level and therefore overfished.<sup>5</sup> Fish stocks are further affected by illegal, unreported, and unregulated fishing, which accounts for roughly 11-25 million tons of fish catch, or US\$10-22 billion in

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<sup>3</sup> World Bank. 2012. Hidden Harvest – The Global Contribution of Capture Fisheries. Report № 66469-GLB. Washington, DC. <http://documents.worldbank.org/curated/en/515701468152718292/pdf/664690ESWOP1210120HiddenHarvest0web.pdf>

<sup>4</sup> FAO. 2016. The State of World Fisheries and Aquaculture 2016. Contributing to Food Security and Nutrition for All. Rome. <http://www.fao.org/3/a-i5555e.pdf>

<sup>5</sup> FAO. 2016. The State of World Fisheries and Aquaculture 2016. Contributing to Food Security and Nutrition for All. Rome. <http://www.fao.org/3/a-i5555e.pdf>

unlawful or undocumented revenue. Thus, illegal, unreported and unregulated fishing (IUU) is responsible for about the same amount of global harvest as would be gained by ending overfishing and rebuilding fish stocks.<sup>6</sup> In fact, poor fisheries management results in foregone revenues of more than US\$80 billion annually, which could be recovered if global fisheries were reformed significantly, through a 44 percent reduction in the level of fishing.

Since 2002, distorting fisheries subsidies that contribute to overcapacity and overfishing has been the subject of negotiations to establish disciplines at the World Tourism Organization (UNWTO), where from the outset a positive outcome has been identified as a potential win-win-win for trade, sustainable development, and the environment. In addition, the persistently high volume of post-harvest losses removes large quantities of fish from the market – up to 25 percent in many developing countries.<sup>7</sup> Minimizing post-harvest losses is one key to increasing revenues and food security without the need to increase the level of fishing effort.

For many Small Island Developing States (SIDS) fisheries constitute a significant pillar of their economy and a major source of livelihoods. The health and sustainability of fisheries are inextricably linked to the sustainable development of SIDS. According to FAO, the long-term sustainability of fisheries in SIDS has been threatened by overexploitation of living marine resources, land-based pollution, and inadequate fisheries monitoring control and surveillance systems at both national and regional levels. In general, inshore capture fisheries adjacent to centers of urban population are heavily fished, if not overfished. Offshore capture fisheries and associated processing activities provide major economic benefits for a limited number of SIDS. Increasingly, the management of inshore fisheries in SIDS is now taking into account traditional resource use practices, which have served to regulate the exploitation and conserve these resources for generations. Coastal Least Developed Countries (LDCs) face similar challenges.

The licensing of foreign fishing vessels in EEZs is particularly important for some SIDS and coastal LDCs that lack the capacity to harvest the resources themselves. In some instances, revenue from access fees represents a significant proportion of national income, but in cases where fees are linked to prices on the global market, wide fluctuations in prices create instability in national revenue, which in turn further increases the vulnerability of SIDS and their dependence on external support.

The main factors that constrain the development and management of the fisheries sector in SIDS and LDCs include a lack of institutional and human capacity in both the public and private sectors, complexities of inshore fisheries management, post-harvest losses, poorly developed safety regulations for fishing vessels, and fledgling and underdeveloped national fishing industries for the harvesting and processing of offshore resources.

Research indicates that only fisheries that are well governed and managed can make long-term contribution to the Blue Economy, making governance reform a key component of a transition toward a Blue Economy. The FAO Code of Conduct for Responsible Fisheries and its related international agreements provide a solid framework for the sector, which can and should be drawn upon much more extensively.<sup>8</sup>

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<sup>6</sup> United Nations. 2016. The First Global Integrated Marine Assessment: World Ocean Assessment I. the Group of Experts of the Regular Process. New York.

[http://www.un.org/depts/los/global\\_reporting/WOA\\_RegProcess.htm](http://www.un.org/depts/los/global_reporting/WOA_RegProcess.htm)

<sup>7</sup> FAO 2016. The State of World Fisheries and Aquaculture 2016. Contributing to Food Security and Nutrition for All. Rome. <http://www.fao.org/3/a-i5555e.pdf>

<sup>8</sup> FAO. 1995. Code of Conduct for Responsible Fisheries.

<http://www.fao.org/docrep/005/v9878e/v9878e00.htm>

### *Aquaculture*

The world's population is expected to rise to 9.6 billion by 2050, creating a considerable demand for food and sources of protein. Today, fish and fish products supply a significant portion of the daily intake of animal protein in many developing countries. As aquaculture supplies 58 percent of fish to global market<sup>9</sup>, invigorating this sector can contribute to food security as well as social and economic inclusion for some of the poorest people in the world. Locally, aquaculture can help lessen the need for fish imports and increase employment, as well as contribute to food safety and meet nutrition needs.

For many SIDS and LDCs, the promotion of aquaculture development for food security could play a crucial role. Aquaculture development could increase total fish production in the Caribbean Community (CARICOM) states by 30 percent within 10 years if essential investments are made in enabling aquaculture policy and legal frameworks, supported by applied research, capacity building, and information.<sup>10</sup> Aquaculture has been proposed as a potential way to provide additional food security for Pacific SIDS by filling gaps in domestic fish supplies.<sup>11</sup> A recent analysis predicts that coastal fisheries in 15 of the 22 Pacific Island countries and territories will not be able to provide sufficient nutrition to a rapidly growing population by 2020 and that improves access to tuna, more efficient fisheries governance, and expansion of pond aquaculture can collectively improve food security and public health.

Regardless of the size of operations, sustainable aquaculture, by definition, must be economically viable and environmentally sound. Additionally, in regions where aquaculture and fisheries have played a culturally significant role over a long period of time, it must also be culturally appropriate and must be carried out at the expense of reducing access to essential resources by small-scale fishers and others. Examples of environmentally sustainable aquaculture include integrated multi-trophic aquaculture, seaweed aquaculture, shellfish aquaculture, and well-planned fish rearing based on an ecosystem approach.

### *Policy options*

The policy options have to deal with closing the market for illegal, unreported, and unregulated fishing; disciplining fisheries subsidies; and addressing tariff and non-tariff measures. Several marine fisheries management and governance institutions have been established to support the sustainability of fisheries at the local, national, regional and global level. While there are examples of success, these attempts have failed to meet the challenge of balancing current and future use of fisheries in many regions due to the prioritization of short-term gains, the lack of precautionary and ecosystem-based management, and the weakness of enforcement mechanisms often leading to stocks being overfished. This undermines the long-term interests of many communities.

#### *Illegal, unreported, and unregulated fishing*

Illegal, unreported, and unregulated (IUU) fishing is still common in many parts of the world. The UN General Assembly views IUU fishing as one of the biggest threats to sustaining fish stocks globally. It occurs not only in the high seas but also within exclusive economic zones that are poorly managed. IUU fishing is a barrier to the effective management and sustainability of oceans and fisheries and also represents a major loss of

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<sup>9</sup> FAO. 2016. The State of World Fisheries and Aquaculture 2016. Contributing to Food Security and Nutrition for All. Rome. <http://www.fao.org/3/a-i5555e.pdf>

<sup>10</sup> FAO. 2014. Securing fish for the Caribbean. Subregional Office for the Caribbean Issue Brief #10. <http://www.fao.org/3/a-ax904e.pdf>

<sup>11</sup> Secretariat of the Pacific Community 2010. The Future of Pacific Islands Fisheries. Noumea, New Caledonia. [http://fame1.spc.int/doc/corporate\\_docs/Future\\_of\\_PI\\_fisheries\\_Report.pdf](http://fame1.spc.int/doc/corporate_docs/Future_of_PI_fisheries_Report.pdf)

potential revenue and wealth for many coastal developing countries. Trade-related policy measures have great potential to contribute to solving this source of unsustainability in fisheries.

#### *Fisheries subsidies*

While reliable and accurate data remains sparse, partly due to a lack of transparency, total fisheries subsidies are estimated to amount to approximately US\$35 billion, which constitutes 30–40% of the landed values generated by wild fisheries worldwide. Capacity-enhancing subsidies, which tend to promote disinvestment in the resource by motivating overcapacity and overfishing, make up the highest share at about US\$20 billion.

#### *Tariffs and non-tariff measures*

Tariff and non-tariff measures shape fish processing and trade and are widely employed by countries. From a sustainable development perspective, the question of tariff liberalization presents a number of policy tensions that the policy options aim to reduce. In addition, while tariff barriers to fish products have gradually fallen, non-tariff measures, which include public and private standards, are growing in significance and raise new challenges for developing countries. Although the impact of trade on fisheries will be context-specific, at a global level, trade measures can influence sustainable outcomes as part of a coherent policy framework.

#### ***Trade-Related Policy Options***

The paper proposes policy options divided into three work packages: closing the market for IUU fish catch, disciplining fisheries subsidies, and addressing tariff and non-tariff measures. While the IUU and subsidies work packages are aimed at ensuring that trade does not undermine the environment, the main objective of the third package is to ensure that international markets function effectively and that they enable developing country producers to build sustainable fisheries and move up the value chain

##### *Work Package 1: Closing the market for IUU fish catch*

The goal is to progressively close down international trade in IUU fish products, taking into account the implications of adjustment for low-income countries. One way to work towards eliminating IUU fishing is to establish means to make it difficult for fish products from IUU fishing to enter the market. Policy Option 1: Build consultative, effective and coordinated unilateral import measures; Policy Option 2: Create a network of regional measures to address IUU fish trade; Policy Option 3: Develop a system of multilateral instruments on trade in IUU fish products; Policy Option 4: Support expansion of private sector schemes.

##### *Work Package 2: Disciplining fisheries subsidies*

The aim is to improve transparency with respect to global fisheries subsidies and build momentum towards a multilateral agreement on subsidy reform. The very high level of annual capacity-enhancing support advanced to the fisheries sector is a key driver of unsustainability that the options would seek to discipline. *Policy Option 5:* Strengthen reporting requirements for fisheries subsidies; *Policy Option 6:* Core group of countries adopts fisheries subsidies disciplines; *Policy Option 7:* Establish multilateral disciplines built step-wise and bottom-up based on a plurilateral deal and negotiation of the remaining ambition gap; *Policy Option 8:* Establish multilateral disciplines built on areas of agreement in WTO negotiations and those focused on widely-acknowledged capacity-enhancing subsidies; *Policy Option 9:* Align incentives by focusing international subsidy negotiations on international fish stocks.

##### *Work Package 3: Tariffs and non-tariff measures*

This package addresses specific issues in international fisheries trade, particularly in relation to developing country producers. Given the heterogeneous nature of fisheries

production and its socioeconomic and ecological variables, governments will need to work case-by-case to ensure that they integrate the impact of tariff liberalization in a sustainable manner. *Policy Option 10*: Differentiate between capture and aquaculture fish in the Harmonized System (HS) of tariff codes; *Policy Option 11*: Support preference dependent countries to adapt by negotiating more flexible rules of origin in preference schemes; *Policy Option 12*: Support preference-dependent countries to adapt by providing assistance to reach standards; *Policy Option 13*: Ensure coherence between private standards and TBT Standards Code; *Policy Option 14*: Link mutual recognition systems for standards applicable to fish products.

### ***Priorities and Next Steps***

Priority trade-based policy solutions include the reform of harmful subsidies and efforts to restrict the global fisheries market to sustainable and legal products. While there is a preference for multilateral approaches, the paper proposes options that may compromise on multilateralism in the short term in order to facilitate the building of broader solutions in the system in the longer term. In addition, special effort is needed to improve transparency with respect to fisheries by bringing private sector and public information together in integrated data platforms. This would help inform reform efforts and should be prioritized.

A sectoral trade agreement on sustainable fisheries could address a number of different aspects of fisheries trade, including tariff and non-tariff measures, IUU fishing and fisheries subsidies. Aid for Trade and other development finance tools can be used not only to catalyze agreement and action but also to mitigate the potential negative impacts of these policies on small-scale fisheries. Such a sectoral initiative could be developed either within the WTO as a plurilateral agreement or within the framework of regional trade agreements.

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