Chapter 2
Demand-side constraints

Complying with mandatory quality and safety standards in major importing countries

LDC fish products face few or no tariff barriers in developed country markets as there are low or no tariffs on unprocessed fish and there is preferential market access for processed fish products. The greatest non-tariff trade barrier for LDC producers and processors is the quality and safety standards system imposed on fish products in major markets abroad, instituted in the 1990s and 2000s. Exporters face a complex regulatory landscape compounded by many differences in national regulatory regimes. WTO has ongoing efforts to facilitate the standardization of various national requirements; its Agreement on the Application of Sanitary and Phytosanitary Measures and Agreement on Technical Barriers to Trade establish the rights of member countries to implement food quality and safety norms to protect the welfare of consumers and animals and/or plants pertaining to trade of a particular product. These agreements support the harmonization of standards, based on the guidelines of the Codex Alimentarius Commission, a joint commission of the World Health Organization and FAO on international food standards, yet allow countries to adopt enhanced measures if they deem further protection necessary or if there is a scientific basis for doing so (FAO, 2011).

The three largest importers – the European Union, the United States and Japan – have adopted varying standards in response to growing consumer concerns about the quality and safety of seafood. Such quality and sanitary requirements are major hurdles for exporters in developing countries, in particular LDCs, whose fisheries are primarily artisanal. The shift from final product sampling for quality and safety inspection towards Hazard Analysis and Critical Control Point (HACCP) methods, based on prevention rather than testing, has made compliance with import regulations more challenging for LDCs (FAO, 2005; see box 1).

Box 1. Hazard Analysis and Critical Control Points

The HACCP system was initiated in the 1960s as a result of a joint public–private venture to provide safe food for United States astronauts. In the 1980s, developed country Governments started to adopt HACCP principles. The Codex Alimentarius Commission has developed guidelines for the application of the HACCP system in food production, including a specific code of practice for fishery and aquaculture. The objective is to lower risks rather than increase inspection and testing, as testing can fail to uncover contamination in some food products even with large samples, due to the enormous variety of products and unknown probability distribution of contamination. Under these circumstances, the prevention of hazards is more effective. The HAACP system involves seven steps, as follows:

1. Conduct a hazard analysis: Identify main risks of contamination in production and distribution process
2. Determine critical control points or areas where preventative steps can be applied
3. Establish critical limits at each critical control point, that is, the value of indicators that trigger corrective action
4. Establish critical control point monitoring requirements, including mandated procedures and their frequency for monitoring indicators at control points
5. Establish corrective actions or measures to be taken in the event that critical limits are exceeded
6. Establish procedures for ensuring that the HACCP system is working correctly, including regular inspections and gathering of evidence on functioning of above steps
7. Establish recordkeeping and documentation of implementation of above steps.

The perishability of fish products and the high risk of contamination mean that detailed HACCP measures can be judged necessary and applied at all stages of the production process, including on fishing boats, at landing sites and in storage areas, processing factories and transport facilities.

Sources: FAO, 2011; Sperber and Stier, 2010.

While the adoption of the HACCP system by the Codex Alimentarius Commission is intended to spread responsibility for compliance throughout the value chain, the system has put significant pressure on small-scale producers, which must follow the required procedures and, in some cases, certify the quality and safety of harvests. The HACCP system includes requirements for everything from the design of vessels used for capture to the personal hygiene and training of personnel in landing areas. The rising importance of private standards, discussed in the following sections, is an additional obstacle for LDC exporters.

European Union regulations

The European Union is the largest market for imported fish and also has the most stringent regulations. Import regulations are largely set at the European Commission level but individual countries may also impose their own regulations or establish bilateral agreements. The main legislation is Directive 91/493/EEC, which requires member countries and importers to have in place good hygiene practices and HACCP systems. Regulation No. 466/2001 sets maximum limits for heavy metals in several species of fish and Regulation No. 2065/2001 imposes labelling requirements for wild-caught fish and aquaculture. Other regulations detail required hygiene practices for food products in general, including fish (Ponte, 2007). Since 1998, the European Commission has established a list of countries eligible to export to the European Union, and can suspend countries from the list if they are considered not to be adhering to European Union regulations. According to Decision 2009/951/EU, amending Annexes I and II to Decision 2006/766/EC, LDCs eligible to export to the European Union are Bangladesh, Benin, the Gambia, Madagascar, Mauritania, Mozambique, Senegal, Uganda, the United Republic of Tanzania and Yemen. Guinea is eligible to export only fish that has not undergone any preparation or processing operation other than heading, gutting, chilling or freezing; Myanmar is eligible only for wild-caught frozen fishery products; and Togo is eligible only for lobsters. Fish from some excluded countries find their way to the European Union through fishery partnership agreements that allow foreign vessels to fish in national waters. A significant number of coastal LDCs do not have permission to export to the European Union.

The most distinctive feature of the European Union regulatory structure is the certification of a competent authority in an exporting country. That is, to export fish to the European Union, an exporting country must have an agency – competent authority – that enforces regulations similar to those of the European Union. The competent authority must harmonize national regulatory laws with those of the European Union and ensure that operators at all stages of the value chain – from capture fishers and exporting farms to processors and distributors – produce fish under a system similar to that of the European Union. Even if a firm's processing operations meet international standards, the firm cannot export fish products to the European Union unless the country has a competent authority accredited by the European Union. Prior to establishing a competent authority, countries must have legislation that requires safety and hygiene that is at the same level as in European Union legislation (Doherty, 2010). In addition, imports are permitted only from factories or storage facilities inspected and validated by the competent authority as being at a level equivalent to those in the European Union. Additional requirements apply to aquaculture, limiting levels of heavy metals, pesticides, pollutants and medicines.

The European Union requires an HACCP approach to implementing regulations, of which a crucial component is traceability, that is the ability to identify the path of a suspect fishing product throughout the value chain so that the source of any problems can be quickly located and remedied. If problems are identified, the competent authority must promptly intervene to suspend the operations of the producers responsible. Recent European Union laws related to illegal, unreported and unregulated (IUU) fishing that prevent fish products obtained in uncertified fishing vessels from entering the international market set additional regulatory burdens (Josupeit, 2011). In 2013, the European Commission proposed a ban on fish from Belize, Cambodia and Guinea, and warned several other countries for failing to prevent IUU fishing (European Commission, 2013a). In 2016, Kiribati, Sierra Leone and Trinidad and Tobago were warned for failing to cooperate in the fight against IUU fishing (European Commission, 2016).

United States regulations

The United States instituted an HACCP system in 1997. Fish is subject to the Food and Drug Administration mandatory inspection programme. The National Oceanic and Atmospheric Administration of the Department of Commerce provides optional seafood quality and safety inspections. The regulatory system is more fragmented than that of the European Union, with numerous different federal and state government agencies involved (FAO, 2012b).

Japanese regulations

Health scandals in the early 2000s led to growing public concern and the Government of Japan amended the Food Sanitation Act and enacted the Food Safety Basic Law, which mandates a risk assessment approach, as in the United States and Europe. The revised Food Sanitation Law bans imported foods containing potentially dangerous residues. The Food Safety Commission, composed of scientific experts, oversees food testing.

A comparison of the three largest importing markets is shown in table 10, providing an overview of the quality and safety norms that Governments and private-sector participants in LDCs should establish in order to sell fish products to consumers in these markets, and illustrating the relative stringency of European Union requirements. LDC exporters that successfully overcome regulatory hurdles to market access in the European Union will generally also be able to meet the sanitary requirements of other major importers.

Table 10. Selected fishery product import guidelines: European Union, United States and Japan

	Importing country or region		
	European Union	United States	Japan
Can export to importing country or region without competent authority in exporter's country?	No	Yes	Yes
Role of exporting Government	European Union certifies competent authority in exporting country	Can voluntarily create agreement with the United States	Can voluntarily create agreement with Japan
Role of exporter	Apply HACCP to be certificated by own country's competent authority after physical inspections, documentation and final product checks	Have HACCP-based programme and present necessary documentation to Food and Drug Administration through importer	Have HACCP-based programme
Role of importing Government	a) Inspection system to ensure European Union requirements are met; mandatory b) Border inspection posts	a) Inspection system to ensure United States requirements are met; not mandatory b) Border inspection posts	a) Inspection system to ensure requirements of Japan are met; mandatory b) Border inspection posts
Role of importer	Receive cleared imports	Verify HACCP plans of exporters and present them to Food and Drug Administration inspectors; notify authority of all imports, under act on bioterrorism	Notify authority of all imports

Source: FAO, 2005.

Proliferation of private standards

The rise of global retailers and supermarket chains, with clients that demand high-quality and environmentally sustainable produce, has driven the demand for increasingly stringent private quality and safety standards, as well as eco-labels or certifications related to the sustainability of fish stocks. Private standards certifying the use of sustainable fishing methods apply to marine and inland wild fish, while quality and safety standards are more relevant to aquaculture. Rather than risk negative publicity, loss of consumer confidence and falling sales in the event of a food scare, large international companies have often adopted private certification systems to monitor the quality and safety standards of the fish marketed in their stores (FAO, 2011). Private systems are based on the HACCP system, as are mandatory public regimes, yet private standards tend to be more stringent due to the priority of safeguarding the reputation of firms. Private certification is often compulsory for suppliers of large retailers. Upscale chains seek to position themselves as socially responsible through the promotion of sustainable fishing and often rely on independent organizations to do so, such as the Marine Stewardship Council. The Council has an extensive private system of fishery certification, and provides two types of standards, namely sustainable fishing and seafood traceability. Many large retailers refer to Council certification in publicity and documentation. Numerous other organizations are active in eco-labelling.

The emergence of private standards and certification has added to the regulatory burden faced by processors seeking to export fish products to developed markets. The dominant market presence of large food firms in the United States and the European Union means fish exporters are obliged to comply with these standards to sell fish products to a sizeable share of consumers in the two largest importing regions. Private standards cover approximately 70 per cent of all retail trade in fishery products, and supermarket chains are responsible for more than 80 per cent of fish sales in some European countries (FAO, 2011). Retailers often develop relationships with large suppliers, as the latter operate on a scale that guarantees a steady supply of fish. Supermarkets prefer to buy products with specified sizes and varieties, yet fish from artisanal and small-scale fishers cannot be easily standardized. Adherence to private standards is thus more relevant to suppliers in professional aquaculture – where it is easier to produce to specifications – and industrial fisheries (Josupeit, 2011).

Effects of standards on least developed country fish exporters

Public regulations are a more pressing issue for LDC exporters of fish than private standards. Few LDCs can meet stringent private standards and, with regard to exports destined to other developing countries or auction houses and wholesalers in developed countries, standards are less stringent, although prices are lower. In addition, LDCs primarily export minimally processed fish products, and private standards are mainly applied to processed products such as frozen and ready-to-eat items imported by retailers for their own labels and other brands (FAO, 2011). European Union standards are of particular importance to LDC fish exporters due to the dominant role of the European Union as a market for LDC fish products and the greater stringency of standards. These standards pose challenges with regard to set-up and continuing costs for both public and private sectors in LDCs (Doherty, 2010), as follows:

(a) Public-sector challenges. There are high set-up costs in establishing a competent authority to meet European Union regulations. LDCs generally have lower levels of public resources devoted to health and safety and lower expectations with regard to protection from food hazards. LDC authorities are less likely to be knowledgeable about HACCP systems, laws may be outdated and government officials may have less ability to implement them. Public infrastructure and services are likely to be below European Union standards, including laboratories with outdated equipment and inadequately trained staff; inadequate cold-storage facilities; low levels of monitoring and reporting of breakdowns; and landing sites that may be lacking sanitary facilities for those handling the fish and for the fish itself, as well as access to clean water, freezers and roads that permit access to trucks.

(b) Private-sector challenges. Substantial investments by processors are often required to meet HACCP system requirements including, for example, hiring foreign consultants to advise on upgrades. Small-scale producers are particularly impacted by traceability requirements, and cold storage may be a problem for private firms, including cold rooms, freezers and ice machines. Okello (2011) detailed some of the steps Kenya (a non-LDC developing country) took at landing sites to obtain European Union certification, namely to establish potable water, washable tables, cold-storage facilities, toilets and a perimeter fence, as well as tin roofs, walls and cement floors for storage areas.

Standards are costly to meet and can constitute barriers to exporting, yet can also serve as catalysts to promote the upgrading of fishing infrastructure and technology in developing countries (Anders and Caswell, 2009). Many requirements for certification are also supply-side constraints to boosting productivity and efficiency. For example, in Bangladesh and Uganda, the need to overcome import bans by the European Union galvanized public and private stakeholders in the fishing industry to work together and make progress on longstanding impediments (see chapters 4 and 9).

The benefits of certification include greater security of access to existing markets, access to new markets, diversification into higher value added products, price premiums for higher quality products and fewer losses due to spoilage. Moreover, certification by public and private agencies can provide an opportunity for dialogue with and assistance from foreign Governments and non-governmental organizations in improving the fishing value chain. For example, in 2007–2008, a Marine Stewardship Council pre-assessment of Lake Victoria Nile perch fishing in Kenya, Uganda and the United Republic of Tanzania played an important role in the development of the Fisheries Management Plan for Lake Victoria 2009–2014. In addition, the non-profit association Naturland collaborated with the German Agency for Technical Cooperation, a Netherlands importer, a processing firm in the United Republic of Tanzania and 350 small-scale fishers on a project entitled “Eco-labelling of Nile Perch from Bukoba”, in the United Republic of Tanzania (FAO, 2011).

Efforts at both national and international levels are required for LDCs to upgrade fishing industries. At the local level, the supply-side constraints associated with poor administration and lack of infrastructure should be addressed (see chapter 4). At the international level, harmonization of the multiplicity of public and private standards is of particular importance to LDCs, given limited capacities. WTO could explore modifications to the Agreement on the Application of Sanitary and Phytosanitary Measures and Agreement on Technical Barriers to Trade, keeping developed country Governments from adopting standards unsupported by scientific evidence and formulating guidelines for the implementation and duration of suspensions of market access that balance the legitimate concerns about health in developed countries with the onerous effects of lengthy bans and costly procedures on LDC exporters (Doherty, 2010).

Quantifying effects of developed country standards on least developed country exporters

Some studies have examined the effects of developed country standards on LDCs. Nimenya et al. (2012) computed the tariff-equivalent price wedge of quality standards for frozen fish fillet exports from East Africa, namely Kenya, Uganda and the United Republic of Tanzania, and found that quality standards imposed barriers that were often equivalent to tariffs of 100 per cent or more, with the tariff equivalent particularly high at the time of European Union import bans in the late 1990s, and still above 50 per cent in the mid-2000s. Anders and Caswell (2009) used a gravity equation to estimate losses of fishery exports following the introduction of the HACCP system in the United States, finding that, with other determinants controlled for, the system was associated with a significant decline in fish exports. Moreover, the negative effect on fish exports was concentrated on smaller and poorer exporters, that is LDCs, while developed country exporters gained. These studies are consistent with the hypothesis that quality standards pose barriers to LDC fish exporters.

Erosion of tariff preferences and competition from other developing countries

The growing fish exports of non-LDC developing countries provide the greatest competitors to LDC fish exporters. Governments in developing countries such as China, Thailand and Viet Nam that have nurtured high-quality processing facilities and good public and private management practices have helped the countries become some of the leading global exporters. As developed country consumers purchase more fish from retail markets – mostly processed or frozen items – developing countries that have a combination of relatively abundant low-cost labour, established value added processing facilities and strong quality and safety controls will most likely deepen their dominance in the international trade in fishery products (FAO, 2011).

In addition, since retailers prefer streamlined supply chains and have started to buy fish products directly from aquaculture producers, additional business may be directed towards countries where quality and safety controls are already in place. For example, the French company Carrefour – currently the world's second largest retailer – now sources its shrimp directly from farmers in Thailand (FAO, 2011).

LDCs benefit from preferential access to developed country markets, with exemptions from tariffs on processed fish products. The European Union has traditionally allowed duty-free access to the African, Caribbean and Pacific Group of States, and most African LDCs can export duty-free to the United States under the African Growth and Opportunity Act. The European Union has replaced the unilateral partnership agreement with the African, Caribbean and Pacific Group of States signed in Cotonou in 2000 with economic partnership agreements. Multilateral or bilateral negotiations that lower import duties on non-LDC developing countries erode the value of preferences already in place for LDCs, and thus tend to be opposed by LDCs (Doherty, 2010).

However, several factors are propitious to the further growth of LDC fishery exports. Some major developing country exporters are encountering limits to growth as they have excessively or fully exploited nearby stocks of fish. For example, in China, overfishing in the Yangtze River has led to a drastic decline in fish stocks and sparked discussion over whether to implement a 10-year ban on fishing in the river (Straits Times, 2013). In addition, if LDCs can attract foreign investment in aquaculture, enabling retailers to monitor both the harvesting and processing of fish, LDCs could become more competitive with other developing countries. Finally, LDCs that have an established artisanal fishing sector, such as Bangladesh and Senegal, may be able to leverage their fishing traditions, as developing countries such as China that both harvest and process fish may increasingly specialize in processing in order to stabilize fish stocks.