

Chapter 8

Case study: Myanmar

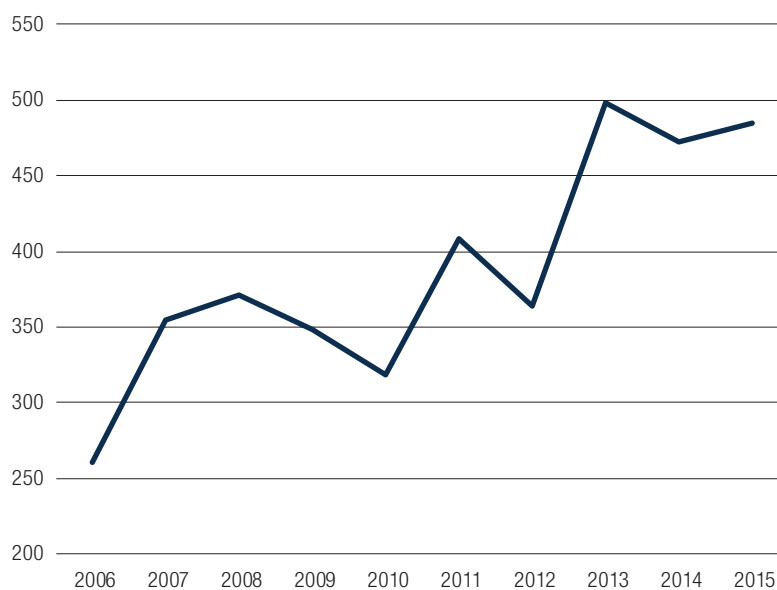
Overview

Myanmar is situated in Southeast Asia and has 213,720 km² of marine waters along the Indian Ocean, Bay of Bengal and Andaman Sea. Total inland water bodies consist of 8.2 million hectares of lakes, rivers and reservoirs and, during the monsoon season from May to September, flood plains are breeding and nursery grounds for freshwater fish (Win, 2004). Such richness in marine, freshwater and brackish-water fisheries makes the sector vibrant and vital to national food security objectives, as seafood is a staple food and major source of animal protein, and plays an important role as a source of income, exports and employment (FAO, 2010; FAO, 2012b).

In 2014, Myanmar had an estimated total population of 53.4 million and GDP of \$65.58 billion (World Bank, 2017b). The agriculture and seafood sectors contribute about 40 per cent of total GDP and employ around 70 per cent of the total labour force (Centre for the Promotion of Imports from Developing Countries, 2012). Total fish production in 2014 was about 5 million tons. Captures contribute 81 per cent of total production, or about 4 million tons, and aquaculture contributes about 19 per cent, or approximately 1 million tons. In 2014, total fish exports reached about \$500 million, largely due to the emergence of China as a major destination for fishery exports from Myanmar (Myanmar Department of Fisheries, 2016). Figure 8 shows the value of fishery exports in 2006–2015. With regard to sources, 53 per cent of total fish production is marine and 47 per cent is freshwater; the proportion of capture to aquaculture fishery production and the proportion of inland to marine captures are shown in figures 9 and 10.

Figure 8. Myanmar: Value of fishery exports, 2006–2015

(Millions of dollars)



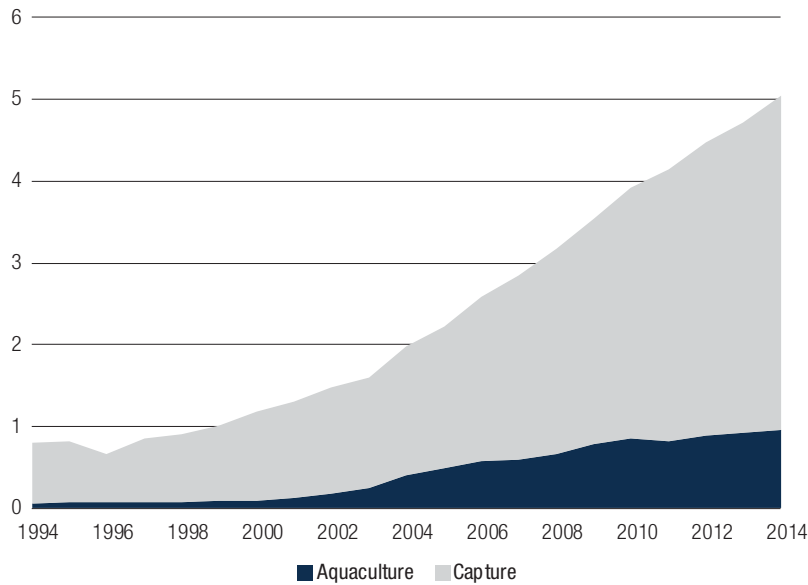
Source: UNCTAD, 2017.

China is Myanmar's largest export destination for fishery products, absorbing 35 per cent of total fishery exports, or more than \$169 million in value. Thailand also imports a high percentage of fishery products from Myanmar, totalling 26 per cent, or approximately \$128 million in value (Myanmar Department of Fisheries, 2016). In the last two decades, fishery exports have grown at an average annual rate of 11 per cent. The period since 2010 has experienced a sharp increase in fishery exports by value. Myanmar's global fishery imports of about \$16 million create a positive national trade balance. Sources of fishery imports include Thailand, India and Indonesia, accounting for 44.2, 31.1 and 9 per cent, respectively (UNCTAD, 2017). In the last two decades, total fishery production has grown at an average annual rate of 14.5 per cent. In 2014, the marine sector contributed 2.2 million tons and the inland sector accounted for about 2.7 million tons.

The fishery sector contributes to food security and job creation. With regard to food security, it is second to the agriculture sector in meeting the protein requirements of the population; fish account for 22 per cent of total protein consumed (FAO, 2014). With regard to employment contributions, exact figures on the number of fishers vary between studies. In 2001, 440,000 full-time fishers were employed in the sector, with approximately 1.8 million people thus deriving direct benefits from all fishing activities (FAO, 2006). According to government estimates, the fishery and aquaculture sector employs over 2.6 million people, full time and part time (Wildlife Conservation Society, 2014). In coastal areas, commercial fishing operations provide employment to families living in the area. Depending on the season, families alternate between selling their labour to fishers and farming fish themselves. The pond aquaculture concentration around the Twente region and surrounding districts creates abundant employment opportunities. Employment in the fishing sector is seasonally variable and vulnerable to natural shocks. For example, damage to the industry, shrimp farms and salt farms by a cyclone in 2008 significantly reduced employment opportunities in the Ayeyarwady delta region.

Figure 9. Myanmar: Production of capture and aquaculture fisheries, 1994–2014

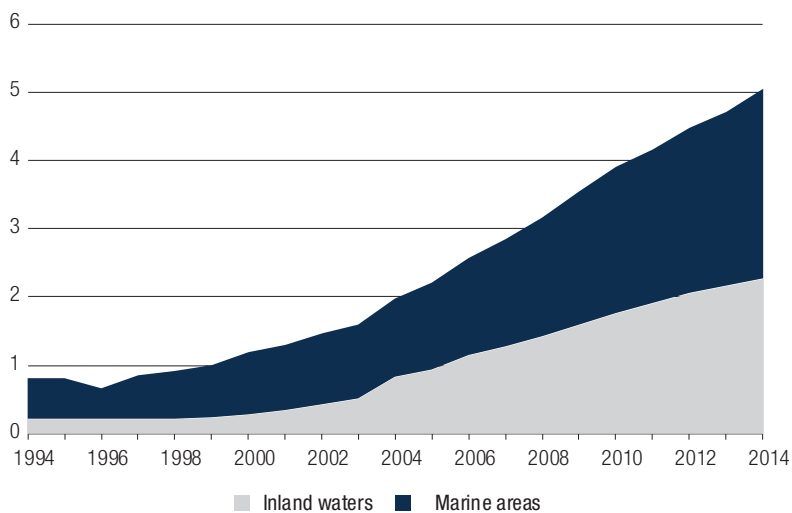
(Millions of tons)



Source: FAO, 2017a.

Figure 10. Myanmar: Production sourced from inland waters and marine areas, 1994–2014

(Millions of tons)



Source: FAO, 2017a.

Fishing methods

Traditional and commercial fishing vessels are used in inshore marine fishing. The vessels operate within 10 nautical miles off the coast in the southern area and 5 nautical miles in the northern area. The fishing gears commonly used for inshore fishing are drift nets and longlines, while offshore vessels operating beyond the outer boundary of the inshore fishing zone to the outer boundary of the exclusive economic zone use more sophisticated boats and fishing gears that include trawl nets, purse seines and longlines.

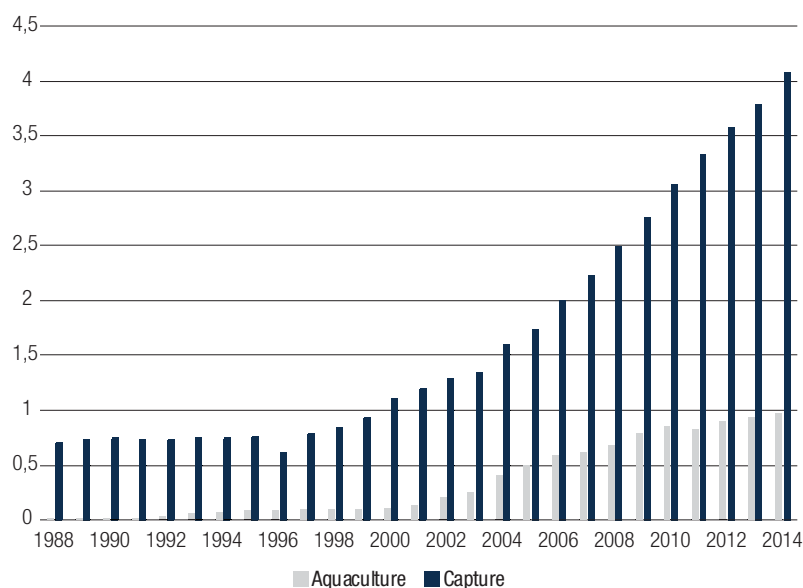
Marine fishery production has substantially increased in recent decades, from almost 600,000 to over 2.7 million tons. However, indicators suggest a decreasing trend in marine resource abundance owing to overfishing or overexploitation of marine fishery stocks. For example, the average length of captured fish and the catch per unit effort of some commercially relevant species have been substantially reduced. In order to preserve fish stocks, commercial fishing vessels, including trawlers and purse seine vessels, are not allowed to fish in an area less than five nautical miles from shore. In addition, nursery areas have been identified and protected to ensure the survival of juveniles of commercially relevant species. Marine fishing activities are regulated by a licensing and registration system under the Marine Fisheries Law and the entry of new individuals into the industry is controlled (FAO, 2010).

State of aquaculture

Aquaculture in Myanmar started in 1953, with the farming of imported species such as tilapia, common carp and snakeskin gourami, originating from countries such as China, Indonesia and Thailand. The sector began to expand after 1960, when the Government began to promote it and provide support, particularly in training and research, the primary aim of which was to increase the supply of low-cost fishery products destined for local consumption and high-value and export-oriented products such as shrimp destined for international markets (FAO, 2017c). In 2014, fish production from aquaculture was around 999,630 tons, representing 19 per cent of total fish production of 5 million tons and accounting for an estimated total value of aquaculture of \$1.8 billion (see figure 11). Aquaculture in Myanmar has been the fastest growing sector since 1988, registering an average annual growth rate of about 28.1 per cent up to 2014, compared with 7.0 per cent for capture fisheries.

Figure 11. Myanmar: Growth of aquaculture and capture fisheries, 1988–2014

(Millions of tons)



Source: FAO, 2017a.

In 1991–2013, the area designated for aquaculture production increased from 12,225 to 180,614 hectares and, in 2014, the sector employed around 130,000 farm workers (Myanmar Ministry of Information, 2015). However, despite the country's potential and the availability of diverse species necessary to develop the aquaculture sector, and notwithstanding the substantial growth rate that it has experienced in recent years, the share of aquaculture production remains small compared with capture production.

The most cultured species is rohu, followed to a lesser extent by catla, tilapia and giant tiger prawn. Total production of these species are, respectively, about 586,000; 63,000; 47,000; and 40,000 tons, representing 60.8, 6.5, 5.0 and 4.1 per cent of total aquaculture fish production. Rohu is characterized by great growth potential and a high level of consumer preference, making the species the most important freshwater species cultured in Myanmar, as well as in neighbouring countries such as Bangladesh and India. However, a major portion of the rohu produced from aquaculture is consumed in

local markets, and post-harvest processing is rare. Such freshwater species are highly preferred by consumers compared with other cultured carps and therefore fetch comparatively high market prices. Owing to high demand and prices, rohu has become popular among farmers. Rohu is either marketed fresh in local markets or transported to nearby urban markets on ice.

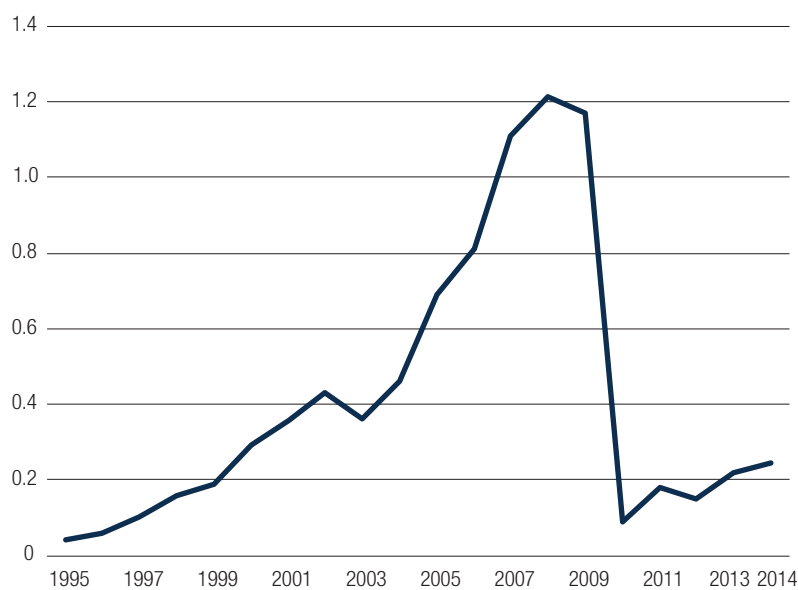
Aquaculture marketing in Myanmar may depend on loans or subsidies from wholesalers, exporters or processors under contract, whereby farmers must pay back loans at prevailing prices following harvests. Marketing may also be based on direct selling by farmers at fish markets or farm gates, whereby farmers fix the price of the product in advance through negotiation with buyers. As shrimp are export-oriented products, the price is subject to international demand, trade opportunities and market access conditions. Fishery products destined for international markets are inspected and certified by the Department of Fisheries before they leave the country. Fishery exports, including aquaculture products, face non-tariff barriers such as restrictions and conditions from most of Myanmar's trading partners, with which local processors and farmers have difficulty complying, due to lack of investment in infrastructure and lack of technical capabilities and know-how (FAO, 2017c).

European Union market for fishery products

Myanmar is an LDC benefiting from the Everything but Arms initiative of the European Union. The country receives duty-free and quota-free treatment for almost all exports destined for the European Union market, including fishery products. European Union market access benefits were withdrawn in 1997 due to claims that the country had violated the International Labour Organization Forced Labour Convention. However, in response to a process of political and economic reform that started in 2011, benefits were reinstated in 2013 under Regulation No. 607/2013, with a retroactive application from 2012. This preferential treatment is not free of conditions. Food safety requirements are in place, as are obligations related to IUU fishing, and all exports must originate in Myanmar in line with the regulations on rules of origin (Centre for the Promotion of Imports from Developing Countries, 2012). In 2014, total merchandise exports from Myanmar to the European Union accounted for about \$246 million (see figure 12), representing 2.0 per cent of the country's total merchandise exports. Seafood exports account for about \$10.9 million, or 4.4 per cent, of Myanmar's total merchandise exports to the European Union.

Figure 12. Myanmar: Value of merchandise exports to the European Union, 1995–2014

(Billions of dollars)



Source: UNCTAD, 2017.

Total merchandise exports from Myanmar to the European Union grew in value from \$42 million in 1995 to around \$1.2 billion in 2008. However, in 2008–2010, there was a sharp decrease to \$90 million. A moderate recovery was observed after 2010, although export value remains far from the level in 2008.

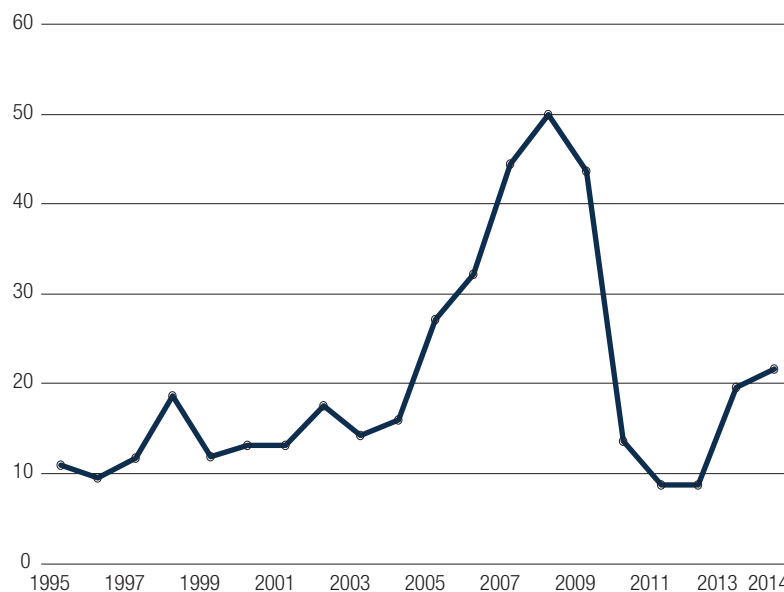
The evolution of fishery exports from Myanmar to the European Union by value in 1995–2014 is shown in figure 13.

Fishery export trends to the European Union are similar to the trends in total merchandise exports from Myanmar to the European Union, showing an initial increase in exports from about \$10 million in 1995 to \$50 million in 2008, followed by a sharp drop, to around \$14 million in 2010. In 2012–2014, fishery exports to the European Union recovered. The precipitous drop in exports to the European Union after 2008 may have been caused by a changing focus to exports in Asia, for example to China, following on from concerns about market access to European countries. In 2003, the export of seafood products from Myanmar was banned by the European Union due to hygiene conditions in the supply chain that did not meet European Union requirements. The ban was lifted in 2007, and imports of fishery products obtained through

capture were reappraised or certified for compliance with established standards. The import of aquaculture products to the European Union from Myanmar is banned, mainly because the Department of Fisheries has not yet implemented the residue monitoring plan that is a requirement to be allowed to export such products to the European Union (Blaha, 2015; Centre for the Promotion of Imports from Developing Countries, 2012; see box 3).

Figure 13. Myanmar: Value of fishery exports to the European Union, 1995–2014

(Millions of dollars)



Source: UNCTAD, 2017.

Box 3. Compliance with aquaculture prerequisites to export to the European Union

Under European Union import regulations, aquaculture products face more stringent requirements than capture fish. For example, in order to be authorized for export to the European Union, in addition to complying with requirements imposed on capture fish, aquaculture products must satisfy further requirements, including an additional control system involving an annual control plan run by the competent authority on heavy metal contents, contaminants and residues of pesticides and veterinary medicines. A residue monitoring plan must be submitted in accordance with articles 29 and 30 of Directive 96/23/EC and must offer guarantees with regard to the monitoring of the groups of residues and substances referred to in annex 1 of the Directive. The residue monitoring plan and technical regulations, which should be consistent with European Union legislation, must be submitted by the competent authority of the country of origin to the European Commission for approval and must be reviewed and presented annually for evaluation and renewal. In order to be effective, the plan should cover all aquaculture farms, processing establishments, feed mills and hatcheries linked to and/or intended for the export-oriented production of aquaculture products, and should be complemented by rigorous testing and certifying laboratories in order to ensure the overall monitoring of aquaculture products at different stages. The competent authority recognized and authorized by the European Union is in charge of designing and implementing the plan at the national level and its mandates include following up on and investigating incidences of non-compliance identified through sampling and testing systems.

The plan and technical regulations, as well as annual results or outcomes of investigations, should be published. Effective regulatory provisions for fish feeds should be clearly established, concerning contaminants and veterinary medicine, and testing and certifying laboratories must be accredited under International Organization for Standardization standards in order for analytical results to be considered officially valid. Such accreditation allows the competent authority to trust the impartiality and accuracy of results and approve laboratories, for testing results to be official. Such requirements apply equally to government and private laboratories. Eggs and gametes of live fish intended for aquaculture, and raw materials intended for further processing in the European Union, are subject to systematic monitoring and certification, including compliance with Directive 2006/88/EC on animal health requirements for aquaculture and related products, which takes into account the guidelines and standards set by the World Organization for Animal Health referred to in the WTO Agreement on the Application of Sanitary and Phytosanitary Measures. Such directives do not apply to aquaculture products intended for retail. The development of a national regulatory system for the control of fish diseases or to manage the risk of fish diseases undermining the aquaculture sector may be required, to comply with European Union directives and established guidelines.

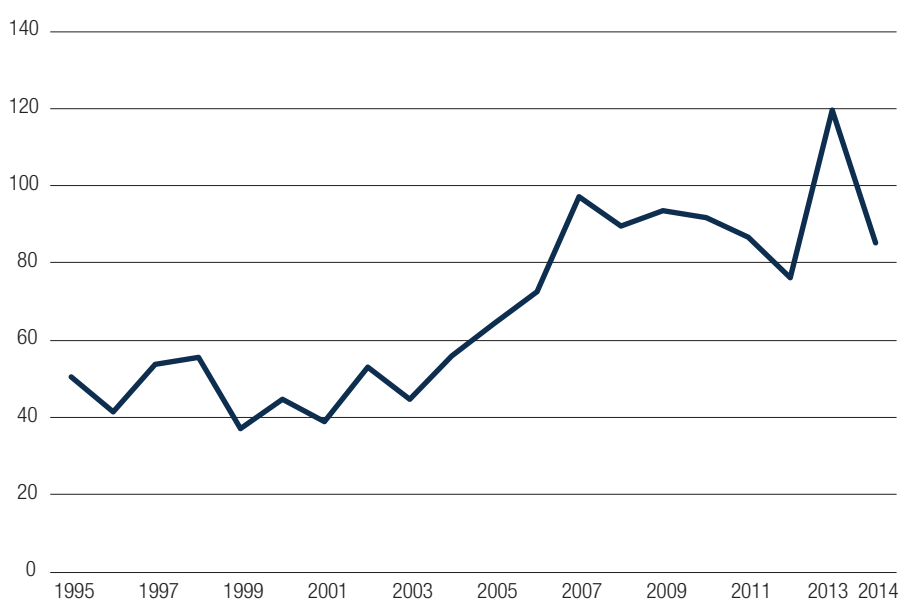
Sources: Blaha, 2015; Goulding and Kamel, 2013.

Association of Southeast Asian Nations membership and fishery exports opportunities and constraints

Myanmar has been an ASEAN member State since 1997. ASEAN has established a free trade area in which intraregional tariffs have been lowered through a Common Effective Preferential Tariff Scheme. As detailed in the ASEAN Free Trade Area tariff reduction schedule for Myanmar, the country benefits from tariff elimination for fish and seafood products, instead of the most-favoured nation tariffs that would otherwise be applied. ASEAN is in the process of harmonizing food quality and safety requirements and principles, and harmonized documents concerning food quality and safety controls elaborated on the basis of Codex Alimentarius Commission guidelines and texts are expected to be implemented as common regulations and standards by all ASEAN member States, in order to guarantee food safety and quality control systems in the region. The objective is to generate interest and maintain public confidence in consumer protection and facilitate trade in foodstuffs within ASEAN and beyond (ASEAN Food Safety Network, 2015). In 2014, total fishery exports from Myanmar to ASEAN by value accounted for about \$85.2 million, or around 10 per cent of total annual national fish exports. Trends in seafood exports to ASEAN in 1995–2014 are shown in figure 14.

Figure 14. Myanmar: Value of fishery exports to the Association of Southeast Asian Nations, 1995–2014

(Millions of dollars)



Source: UNCTAD, 2017.

ASEAN has concluded free trade agreements with a number of countries, including Australia, China, India, Japan, New Zealand and the Republic of Korea (see <http://asean.org/asean-economic-community/asean-free-trade-area-afta-council/agreements-declarations/>). Such agreements allow ASEAN member States, including Myanmar, to benefit from tariff elimination or reduction for a number of goods, including fishery products, with trading partners. The sharp fall in the share of ASEAN since 2013 is due to the emergence of China as the main export destination for fishery exports from Myanmar. Many of the 10 most important fishery trade partners of Myanmar are either ASEAN member States or ASEAN free trade agreement dialogue partners, as shown in table 19. China, the main importer of fishery exports from Myanmar, accounted for 35 per cent of total exports of goods in 2014–2015.

Table 19. Myanmar: Top 10 fishery export destinations, 2014–2015

Rank	Country	Quantity (thousands of tons)	Value (millions of dollars)
1	China	75.7	169.7
2	Thailand	127.5	127.8
3	Malaysia	16.8	31.4
4	Singapore	21.5	23.0
5	Saudi Arabia	20.7	22.4
6	Kuwait	23.4	21.9
7	Japan	6.8	18.9
8	United Arab Emirates	13.8	14.6
9	United Kingdom	5.7	10.2
10	Bangladesh	7.6	9.0

Source: Myanmar Department of Fisheries, 2016.

Assessment and lessons

Myanmar's fishery sector is endowed with great potential to contribute to food security, income generation, trade, employment opportunities and overall economic development. The country is rich in fishery resources and, in order to tap this potential, a number of constraints must be overcome in production and exports (Centre for the Promotion of Imports from Developing Countries, 2012). Coastal areas are under significant pressure from overfishing, implying a risk for the sustainability of natural fishery stocks. Although it is difficult to determine the extent and magnitude, Myanmar is not immune from problems related to IUU fishing activities. The protection and maintenance of mangrove areas, as well as the improvement of surveillance mechanisms, are critical to preserving fishery resources and protecting rural communities from future natural disasters (FAO, 2010).

Meeting international quality and safety standards may be costly and difficult for some countries, including Myanmar. The right human and technical capabilities and institutions, as well as sound policies and strategies, should be put in place, including through the support of development partners. Myanmar faces difficulties in maintaining quality levels in post-harvest fishery products, owing to power cuts and a lack of electricity, particularly in rural areas, which poses impediments to development of the sector. Infrastructure such as electricity is key for cold storage in the fish value chain, and capacity in this area should therefore be strengthened. Currently, a small number of processing establishments are able to add value by producing fishery products destined for export. In this regard, an increase in product quality is needed, and the development of facilities, as well as procedures based on HACCP standards, should be improved. This may be achieved by improving the technical capacity of laboratories and research and development institutions and by introducing international quality control standards (FAO, 2010).

With regard to exports, the fishery sector in Myanmar is focused on regional markets, compared with other countries in Asia such as India, Indonesia and Viet Nam. However, the growth of exports to international markets such as the United States and the European Union is expected to contribute to development of the sector (Centre for the Promotion of Imports from Developing Countries, 2012).

In sum, the future of Myanmar's fishery exports to developed countries depends on compliance with food safety standards and sustainable fishing and technical measures of major fish-importing developed countries, which continue to be demanding and stringent. Failure to meet requirements may result in a ban, which in turn can result in the loss of business or market share, as well as jobs and overall economic benefits. Additionally, the lack of compliance with food safety standards such as HACCP systems among fishers and intermediaries may mean being unable to participate in fish and food value chains that cater to markets beyond domestic and regional markets.