

## Chapter 9

### Case study: Uganda

#### Overview

Approximately 44,000 km, or about 18 per cent, of Uganda's total surface area of 241,000 km is covered by water (World Bank, 2006). Uganda is a landlocked country with many inland fishery resources; most capture fisheries are based in five major lakes, namely Victoria, Kyoga, Albert, Edward and George. The first three lakes together contribute about 95 per cent of the total annual catch, and Lake Victoria alone contributes about half the total annual catch. The major species caught in these lakes are Nile perch, tilapia and mukene; the former two account for the majority of fish exports to extraregional markets and the latter is generally heavily traded in the immediate Great Lakes region, yet this trade is mostly unrecorded.

Uganda has a long tradition of artisanal fisheries – an estimated 80 per cent of fishers may be categorized as artisanal. Its fishery industry, along with the rest of the economy, began to grow in the late 1980s, following a period of civil war (United Nations Environment Programme, 2006). Officially recorded fish exports grew from around \$1 million in 1990 to over \$45 million six years later (Ponte, 2007), peaking at around \$148 million in 2005, and declining since then, with the annual value of exports in 2013 amounting to \$126 million (FAO, 2017a; The Fish Site, 2008). As shown in figures 15 and 16, there was a sharp increase in exports through the late 1990s into the mid-2000s and a subsequent decline resulting from falling production.

**Figure 15. Uganda: Value of fishery exports, 1991–2013**

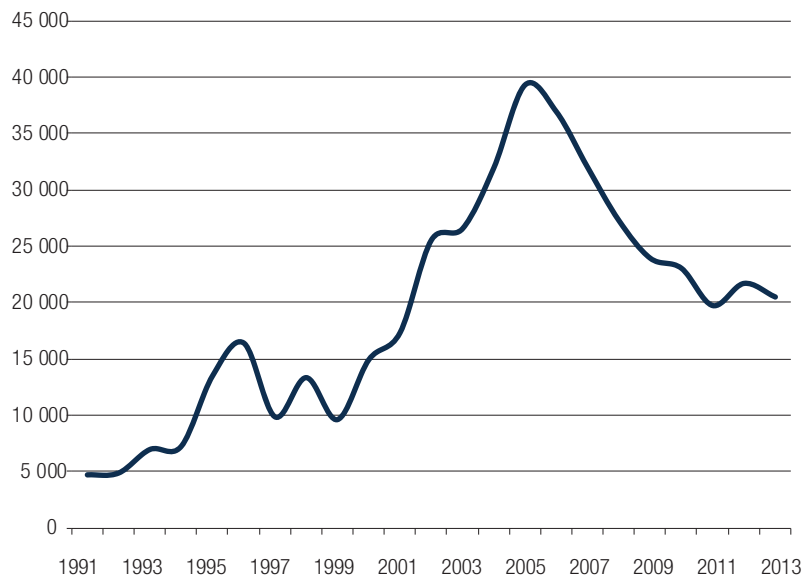
(Millions of dollars)



Sources: COMTRADE, 2017; FAO, 2017a.

**Figure 16. Uganda: Volume of fishery exports, 1991–2013**

(Tons)



Sources: FAO, 2017a.

Total annual production ranged between 200,000 and 250,000 tons through the 1990s into the mid-2000s, yet over the last decade, persistent overfishing, captures of immature fish and pollution in Lake Victoria have led to increasing concerns about declining fish stocks in capture fisheries, and the dramatic fall in exports has compounded these concerns (FAO, 2017a; Uganda Department of Fisheries Resources, 2011). As shown in table 20, the total catch from Lake Victoria fell from 238,533 tons in 2005 to 183,824 tons in 2011 (Uganda National Fisheries Resources Research Institute, 2012). Government policies to control unsustainable fishing practices – the promulgation of new regulatory laws, stricter licensing and equipment requirements and reorganization of community-level monitoring bodies – appear to have stabilized production in 2012 and 2013 (The Fish Site, 2013). Total annual production in 2013 was 517,312 tons (FAO, 2017a).

**Table 20. Uganda: Estimated annual catch, Lake Victoria, 2005–2011**

(Tons)

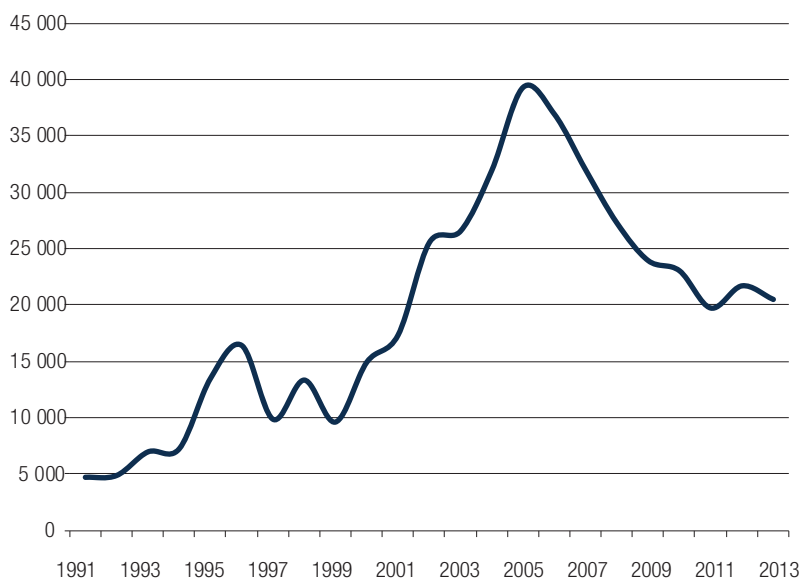
	2005	2006	2007	2008	2010*	2011
<b>Total catch</b>	238 533	215 943	227 487	173 024	162 929	183 824

Source: Uganda National Fisheries Resources Research Institute, 2012.

Despite the recent decline, the fishery industry remains the second largest foreign exchange earner for Uganda after coffee, and contributes to the livelihoods of close to 1.5 million people, or about 4 per cent of the population (The Fish Site, 2009a). Nile perch accounts for 90 per cent of official fish export earnings. The European Union is the largest market for Nile perch from Uganda, followed by Australia, South East Asia, the Middle East and Africa (Maurice, 2011). As shown in figures 17 and 18, export flows to major destinations generally match the overall trend of rising exports until 2005. Informal exports to neighbouring countries are estimated to have increased from \$60 million in the mid-2000s to close to \$70 million in the late 2000s (Uganda Department of Fisheries Resources, 2011). These exports are largely comprised of undersized or immature fish that are distributed through non-HACCP compliant value chains.

**Figure 17. Uganda: Fishery exports to the European Union, 1994–2013**

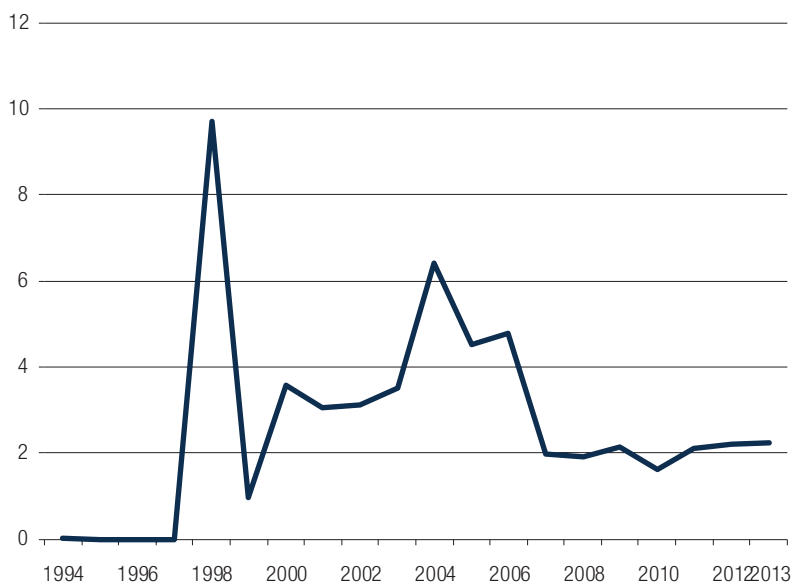
(Millions of dollars)



Sources: COMTRADE, 2017.

**Figure 18. Uganda: Fishery exports to the United States, 1994–2013**

(Millions of dollars)



Sources: COMTRADE, 2017.

## Nile perch: Exports to the European Union and industrial processing

In 1991, the Government of Uganda banned exports of unprocessed fish, seeking to provide an initial stimulus for the growth of local processing operations (Ponte, 2007). While it is unclear whether the ban played any major role in the subsequent success of the industry, it is more certain that declining stocks of groundfish species, particularly cod and haddock, in Europe in the 1990s created an opportunity for exporters from Uganda. The diminishing stocks increased demand from European consumers for groundfish from foreign markets, and the following rise in demand for Nile perch – similar to groundfish of neutral flavour – drove the formal fish exports sector in Uganda. More recently, however, Nile perch exports have declined, partially due to overfishing and emerging competition from exports of similar species from other countries. The rapid increase in the global supply of farmed salmon – and the ensuing price decrease – has made salmon a viable substitute for Nile perch. The rise of farmed cod from Viet Nam has had a negative effect on the European Union market share of Nile perch exports from Uganda.

Uganda is one of the few LDCs that have permission to export fish to the European Union but has not always had such permission. In 1996–2000, the European Union imposed three export bans on fish from Uganda because of quality and safety issues (United Nations Environment Programme, 2006). Initially, in 1997, Italy and Spain banned fish from Uganda following the detection of salmonella in imported fish. A cholera epidemic at landing sites around Lake Victoria led to a complete ban on chilled fresh fish products later in the year. As 95 per cent of the fish exported to the European Union that year were chilled fresh fish, this amounted to a ban on all fish exports to the European Union. A fish-poisoning scare in 1998 led to a ban on all fish exports from Lake Victoria.

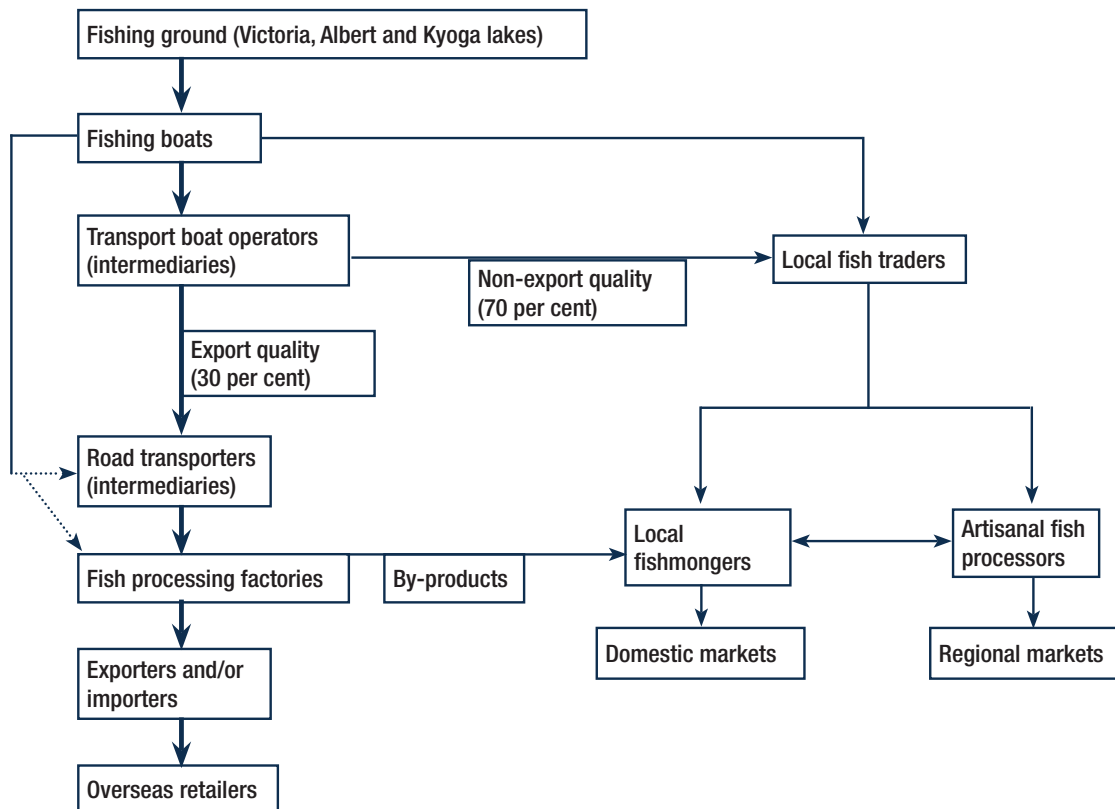
An assessment of the fish sector by the European Union highlighted several issues that prevented Uganda from meeting European Union quality and safety standards. First, inspectors identified a lack of coordination between the competent authority – the Department of Fisheries Resources – and the Uganda National Bureau of Standards. Second, the assessment highlighted the absence of laboratory facilities for chemical and pesticide analysis and the outdated regulatory laws, including Fish Act, 1964. Third, the inspectors emphasized the unhygienic handling of fish in the sector, along with uninformed fishery officers who do not comply with instructions regarding the handling of fish and the fact that most landing sites do not meet minimum European Union quality and safety requirements.

The bans catalysed government-led reform of the fishery sector. The Government invested in training programmes, disseminated an inspection manual for official inspectors and provided new equipment for landing sites managed by the Government. Technical support in adhering to HACCP systems was also provided by donors to the Department of Fisheries Resources, Uganda National Bureau of Standards and private-sector actors. The Government, together with donors, also invested in public-sector chemical inspection laboratories, and Chemiphar Uganda, a private laboratory, was approved for pesticide residue analysis. These measures led to the lifting in 2001 of the European Union ban on fishery exports from Uganda, and the Department of Fisheries Resources was designated the European Union-approved competent authority to monitor quality and safety throughout the value chain (United Nations Environment Programme, 2006). Uganda is allowed to export capture products to the European Union, yet it is currently not included in the list of countries authorized to export aquaculture products.

In 2004, to establish an updated framework to regulate the sustainability of fish, a National Fisheries Policy was implemented, to replace Fish Act, 1964. The progress made by the fish industry in Uganda highlights the importance of government–industry partnerships in meeting the sanitary and quality requirements of major importers. Public-sector investment in common chemical inspection and cold-storage facilities and efforts to educate the community on hygienic handling practices reduced the financial burden on private actors in overcoming the European Union ban. Moreover, the drive to improve the sustainability of fisheries in Uganda, which has included efforts to map the major breeding grounds of species in Lake Victoria and increase the regulation of harmful fishing equipment, appears to have arrested the decline in production and exports (The Fish Site, 2013; Uganda Department of Fisheries Resources, 2011).

## Artisanal versus industrial fishery value chains

While the fish sector in Uganda is mostly artisanal, the distribution chain of industrial-grade fish, mostly Nile perch, differs markedly from that of other species of fish destined for domestic or regional consumption (see figure 19).

**Figure 19. Uganda: Fishery product distribution chain**

Sources: World Bank, 2006.

The distribution of export quality and non-export quality fish diverges after harvests reach landing sites, yet harvesting for all species is conducted by artisanal fishers; “the lack of industrial fleets has been reported to be a government strategy to protect the small-scale fisher[s] whose livelihoods solely depend on these lakes” (Maurice, 2011). Export-quality fish is transported to processing factories, inspected by quality assurance laboratories and either transported as air freight from Entebbe International Airport or, less often, loaded into temperature-controlled containers and shipped from ports in Kenya (Ponte, 2007). However, export discards and other fish destined for local consumption – undersized Nile Perch, tilapia and mukene – generally pass through a series of traders, agents and artisanal processors operating at landing sites and regional markets. A large amount of fish products are smuggled into the Democratic Republic of the Congo, Kenya, South Sudan and the United Republic of Tanzania.

## Sustainability issues

The most serious obstacles to the continued expansion of the fish industry in Uganda are overexploitation of capture fisheries and increased water pollution in Lake Victoria. As mentioned before, overfishing in the major lakes has resulted in the decline of fish stocks and therefore exports, especially of Nile perch, as the catch per boat has decreased over the last few years. Rising demand for Nile perch has propelled overfishing in the industry. Processing factories that previously used to accept Nile perch with a minimum weight of 2 kg may now accept fish that weigh only 1 kg because of the fall in supply of the larger fish, and the number of factories that processed Nile perch grew from 31 in 2000 to 35 in 2005 despite the fact that all factories operate with excess capacity (Njiru et al., 2009). Increased competition between industrial processors for declining fish stocks has also resulted in the proliferation of harmful practices – including the continued capture of immature fish – downstream among artisanal fishers, who employ illegal fishing methods to obtain high catches of Nile perch despite declining stocks. Unrestrained use of small gill nets and banned equipment such as cast nets allow fishers to capture juvenile and immature Nile perch.

The primary obstacle to establishing sustainable harvesting practices in Uganda is thus the continued endorsement of an open-access approach – with no limit set on the number of fishers or boats – instead of a property-rights approach, whereby the Department of Fisheries Resources could determine and set quotas for different groups of fishers. In 2003, in efforts to improve surveillance, the Government established beach management units to encourage local management of sustainable practices at all publicly managed landing sites. A unit committee comprises local boat owners, crew and fish traders – of which at least one tenth must be women – and is required to regulate the sustainability of harvesting operations, including by regulating the mesh size of nets used to catch fish, as well as the size of catches. The Government has faced criticism of these units as their introduction does not mitigate the open-access policy (Njiru et al., 2009) and the committees lack the power to enforce regulations.

## Opportunities: Regional trade and aquaculture

The growing integration of countries in the East African Community customs union offers many growth opportunities for stakeholders in Uganda's fishery industry. In 2009, the Common Market Protocol was signed and adopted by Burundi, Kenya, Rwanda, Uganda and the United Republic of Tanzania, and entered into force on 1 July 2010, establishing the free movement of labour, capital, goods and services among member countries.

Lower air freight costs of shipping to the European Union could provide a significant boost to the industrial processing sector. Relatively high air freight costs in Uganda are caused by a chronic imbalance, namely empty aircraft come in because of low use of air freight by importers yet outgoing cargo aircraft are relatively full (World Bank, 2013). High air freight costs in Uganda are partially due to the role played by Jomo Kenyatta International Airport in Nairobi, which has five times the cargo capacity of Entebbe and serves as the regional distribution hub for fish trade. Under the East African Community, exporters in Uganda may thus be able to use Jomo Kenyatta International Airport as a distribution centre.

Increased integration requires the harmonization of customs rules and regulations governing shared resources. However, currently, the regulations governing Lake Victoria and its resources differ in the three countries – Kenya, Uganda and the United Republic of Tanzania – that share access. For example, monofilament fishing lines – those made from a single fibre of plastic – are allowed in Uganda but banned in Kenya and the United Republic of Tanzania (fish and birds often get entangled in discarded monofilament lines and the lines also present a choking hazard for fish). In addition, there are different laws on the fish species to be protected – for example, in Kenya, fishing for mukene is prohibited only from 1 April to 31 August – while the mesh size limit also differs between countries (Njiru et al., 2009). Thus, to truly implement sustainable fishing practices and protect the ecosystem of Lake Victoria, Uganda should harmonize its policies with those of Kenya and the United Republic of Tanzania. Joint membership in the East African Community is expected to open avenues in this direction.

Equally important, coordinating customs processes and streamlining cross-border flows through the East African Community is expected to help improve data collection efforts with regard to the amount of informal fish trade in Uganda. In order to counter dwindling capture stocks, the Government has encouraged the growth of aquaculture fisheries. In 2007, the Ministry of Agriculture, Animal Industry and Fisheries secured \$30 million to fund an aquaculture promotion strategy throughout the country, to maintain the growth momentum of the sector (All Africa, 2007). In addition, a demonstration centre funded by China was established in 2009 as part of the Aquaculture Research and Development Centre, to provide technical training and demonstrations of best practices in breeding and processing for fish farmers (The Fish Site, 2009b). A draft aquaculture policy was completed in 2012, to provide an effective environmental management framework for the expansion of aquaculture in the next decade (The Fish Site, 2012).

## Assessment and lessons

Uganda has a relatively high ratio of industrial to artisanal fisheries compared with other LDCs; an estimated 20 per cent of fisheries are categorized as industrial (United Nations Environment Programme, 2006). Uganda, a landlocked country, is a major inland fishery producer, sharing its main fishery resource – Lake Victoria – with Kenya and the United Republic of Tanzania. Uganda overcame quality and safety issues and, in 2001, was granted approval to export fish to the European Union. It is not clear whether Uganda's ban on unprocessed fish played a major role in the growth of the fishery sector. Unprocessed or lightly processed fish often commands a price premium over more processed products.

The main challenges faced by the fishery sector in Uganda pertain to increasing concerns about the health of fish stocks, and have prompted authorities to implement reforms in the monitoring and surveillance of fishing practices, while encouraging aquaculture to replace capture fisheries (Ponte, 2007). The sustainability issue can best be addressed through increased cooperation with neighbouring States. Lake Victoria, the most important fish source for Uganda, is a shared resource, yet there are inconsistent laws governing the regulation of fishing practices in Kenya, Uganda and the United Republic of Tanzania. This lessens the impact of policy reform in each country, and makes it difficult for the Government of Uganda to safeguard its stock of fish. Deepening integration within the East African Community should offer opportunities for Uganda to achieve a greater harmonization of regulatory mechanisms with its neighbours, while formalizing much of the unrecorded cross-border fish trade in the region.