

FISHERY COUNTRY PROFILE

Food and Agriculture
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PROFIL DE LA PÊCHE PAR PAYS

Organisation des Nations
Unies pour l'alimentation et
l'agriculture

RESUMEN INFORMATIVO SOBRE LA PESCA POR PAISES

Organización de las Naciones
Unidas para la Agricultura y la
Alimentación

THE REPUBLIC OF UGANDA

GENERAL ECONOMIC DATA

Area:	235 887 km ²
Area under water and swamps:	2 42 383 km ²
Population (2002):	24 748 977
Population (2003):	25 827 000
GDP (2002):	US\$ 5 449 million
GDP <i>per caput</i> (2002):	US\$ 220
Agricultural GDP (2002):	US\$ 2 289 million

FISHERIES DATA

Commodity balance (2001):

	Production	Imports	Exports	Total supply	<i>Per caput</i> supply
	tons (live weight)				Kg/year
Fish for direct human consumption	219 428	-	41 613	177 815	7.3

Fish for animal feed and other purposes					
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Estimated employment (2002):	
Primary sector:	150 000
Secondary sector:	550 000
Estimated gross value of fisheries output (ex-vessel prices) in 2001:	US\$ 72 million
Trade (2001):	
Value of imports:	-
Value of exports (estimate):	US\$ 40 631 000

Commodity balance for 2003:

2003	Production	Imports	Exports	Stocks variation	Total Supply	Per Caput Supply
	tonnes liveweight					
Fish for direct human consumption	245 431	959	19 710	0	226 681	8.8
Fish for animal feed and other purposes	0	-	-	-	-	-

Trade (2003):	
Imports:	US\$ 1 029 000
Exports:	US\$ 23 628 000

STRUCTURE AND CHARACTERISTICS OF THE FISHING INDUSTRY

Uganda is richly endowed with natural water bodies, and fisheries play a very important role as a basis for subsistence and commercial livelihood. Lake Victoria is by far the largest, and economically most significant, of the national fisheries. However, other large lakes, including George, Edward, Albert, and Kyoga, along with the River Nile and a great variety of swamps and streams, also contribute substantially to the annual national catch. The dominance of fish production from the five large lakes has had the effect of marginalizing production from other water bodies, and has resulted in little attention being paid to production data from water bodies such as swamps, rivers, streams, minor lakes and water reservoirs. Although individually small, in aggregate this production is fundamental to nutrition and livelihood needs of riparian communities, which are mainly the rural poor. Production from these waters is often underreported, if reported at all. However, the continued growth in fish exports from the large lakes has re-awakened fish production from these originally marginalized water bodies as significant and critical sources of supply of fresh fish to peri-urban areas and urban centres.

Capture fisheries

Customary capture methods – baskets, traps, and hook-and-line – continue to be employed widely, largely for subsistence purposes. The bulk of production comes from commercial sources. Artisanal-scale fishers utilize various gear, including gillnets, longlines, beach seines and mosquito nets. Dugouts were the traditional type of fishing craft, but these have been largely replaced by plank or fibreglass canoes. Lake Victoria,

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whose 68 000 km² area is shared between Uganda (45%), Tanzania (49%) and Kenya (6%), is the second-largest body of freshwater in the world by area (after Lake Superior). It provides by far the most important of the African Great Lakes fisheries, owing to the tremendous expansion in Nile perch (*Lates niloticus*) harvests from around the mid-1980s. Nile perch was introduced to this ecosystem in the late 1950s. Reports indicate that annual Uganda landings of Nile perch from the lake have decreased from the 100 000 t-plus levels of the late 1980s and early 1990s, to 80–90 000 t annually over 1995–1997 (FAO/FISHSTAT estimates). Catches of Nile perch from the Uganda portion of the lake peaked in 1992, at a reported 130 000 t. From 1985 through 1997, the annual Nile perch catch has comprised around half of total annual production in the country. The Nile perch catches in the late 1990s and early 2000s have stagnated at around 90 000 t annually (Uganda Department of Fisheries Resources Statistics). However it should be noted that an estimated 60 000 t is thought to be lost through illegal, unrecorded and unreported (IUU) fishing and cross-border illicit fish trade.

The 1960s and 1970s were marked by a relatively stable reported catch of around 100 000 t/yr, composed mainly of tilapines (15–20%), haplochromines (30–40%), small pelagics such as sardine or *dagaa* or *mukene* (*Rastrineobola argentea*) (10–20%), catfish (*Bagrus docmac*) (10%), and lungfish (*Protopterus aethiopicus*) (5–10%), along with other species of the genera *Clarias*, *Barbus*, *Synodontis*, *Momyrus* and *Labeo* (collectively ca 10%). In the 1980s, Nile perch showed a dramatic rise in both absolute and relative quantities, accounting for upwards of 60% of the total 500 000 t annual catch from the lake by the late 1980s. This same period was marked by a fall in haplochromine catches to negligible levels. It was also marked by varying degrees of decline in the catches of other common target species, with the notable exceptions of the native small pelagic *dagaa*, and the exotic Nile tilapia (*Oreochromis niloticus*). From a harvest point of view, therefore, the

fisheries lakewide had by 1990 been transformed from a complex multispecies array to a much simplified one, based largely on two exotic and one endemic species. The introduced perch was by a considerable margin the chief component of the new regime (>60%), with Nile tilapia second and *dagaa* third. The significant expansion of the *dagaa* fishery is of particular note. Some observers have suggested that stocks of this cyprinid have increased in absolute terms, along with those of the freshwater benthic shrimp *Caridina niloticus*, as part of a wider process of ecosystem adjustment. The *dagaa* fishery continues to grow in importance as a commercial fishery, with a confirmed, but rarely exploited, biomass in the open waters of Lake Victoria. The artisanal fishery is in effect a small pelagics fishery, and so not suitable for effective exploitation of the open waters.

The Lake Kyoga complex opens off the Victoria Nile, north of Lake Victoria, as an extensive network of shallow open-water areas fringed by papyrus swamps. Open water varies

between years and seasons, but is estimated to be around 2 700 km², with the largest

lakes being Kyoga, Kwania, Nakuwwa and Bisina. Some 4 700 km² of the Kyoga catchment comprises swamps and smaller lakes. A wide variety of indigenous fish species are present, many of which are also found in Lake Victoria. The introduction of Nile tilapia and Nile perch during the mid-1950s precipitated a decline in native species, in a manner that anticipated developments in Lake Victoria. By the late 1960s, the two introduced species comprised over 80% of the total Kyoga commercial catch. During the 1970s, Lake Kyoga hosted the most productive fishery in the country, but catches had declined dramatically by the mid-1980s, reportedly due to heavy beach seining of Nile perch. Nile tilapia continued to be harvested at a high rate for some years thereafter, and supported an extensive export traffic to Kenya, before the combined effects of civil unrest, fishing pressure and the spread of water hyacinth severely curtailed fishing operations. The complex has only recently been cleared of the water hyacinth using biological agents (weevils). The water hyacinth at one time had threatened to choke the lake, with resultant enormous problems for navigation and for fishing gear.

Lake George and Lake Edward

These two water bodies are situated in the extreme west of the country, and are joined by the Kazinga Channel (25 km²) flowing west from Lake George (250 km²) into Lake Edward (2 300 km²). Edward is shared with the Democratic Republic of Congo (DRC) (Uganda:

2 670 km² (29%); DRC: 1 630 km² (71%)) and drains into the Semliki River, which flows northwards through DRC below the western walls of the Ruwenzori Mountains to discharge into Lake Albert. Much of the shoreline of both lakes and all of the Kazinga Channel lies within the boundaries of Uganda's Queen Elizabeth National Park. Fisheries activities are therefore subject to additional regulation imposed by the park and wildlife authorities, such as prohibitions on fuelwood collection in specified areas and general restrictions on settlement and infrastructure development. Both lakes have provided important fisheries in the past, with harvests composed primarily of tilapia, catfishes (*Bagrus* spp. and *Clarias* spp.), and lungfish.

During the late 1950s and 1960s, a few small industrial processing operations were established in the vicinity of Lake George, and supplied Kampala and other urban markets in East Africa with frozen tilapia fillets and other products. All of these plants had ceased

operations by the mid-1970s, owing to a combination of factors, including overfishing, mismanagement, and growing civil and economic turmoil. The western lakes fisheries have since then been overshadowed by developments on Lake Victoria, such that the flow of trade in fisheries products, formerly from west to east in net volume, is now reversed. Large quantities of smoked and sun-dried fish originating from Lake Victoria are now traded into western Uganda and beyond, to markets in DRC. Available catch statistics for Lake George over a forty-year period ending in 1990 averaged around 3 000 t/year; for Lake Edward, returns covering a 25-year period ending in 1988 indicate an average catch of around 5 500 t/year.

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Lake Albert (5 270 km²) is shared between Uganda (54%) and the DRC (46%), and is fed by the Semliki River from the south and from the River Nile, which loops in and out of the northern tip of the lake. As with the other great lakes of the Western Rift Valley, Lake Albert contains a great variety of fish. However, the commercial catch is largely composed of three species, namely *Alestes baremose*, *Hydrocynus forskahli*, and Nile perch. Catch statistics indicate that annual catches over 30 years (1955 to 1986) fluctuated between lows of around 4 000 t to highs of over 20 000 t/year. The accuracy of this record is open to question, however. Much of the Albert shoreline is remote from major centres of administration and commerce, and historically a good deal of the trade in fresh and processed fish products has been carried out through marketing points in the DRC.

Other lakes and rivers

There are scores of other lakes, rivers and swamps throughout Uganda that host subsistence and commercial fisheries, in addition to those listed above. The most significant are summarized below.

Water body	Remarks
S.W. Kigezi lakes and rivers	Southwestern Uganda, bordering Rwanda and DRC; includes Lakes Bunyoni, Mutanda and Mulehe, along with Ruhuma and Muchoya papyrus swamps.
Ankole and Koki lakes and papyrus swamp complex.	Discharges via the Kibali and Kagera Rivers into Lake Victoria; major lakes include Kijanebalola, Kachira, Mburo and Nakivali; catches comprise species of <i>Haplochromis</i> , <i>Clarias</i> , <i>Protopterus</i> and tilapia.
L. Nabugabo	Fringe lake to Lake Victoria; fisheries based on introduced tilapia, haplochromines, <i>Clarias</i> , <i>Bagrus</i> , and <i>Protopterus</i> .
L. Nyamusungire	Western crater lake in Kichwamba area, Bushenyi District Western Uganda

Lake Wamala

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244 km²; various tilapia, *Clarias* and *Protopterus*; ca 2000t/year yield in early 1980s; history of overfishing.

Fluvial Fisheries

Uganda is endowed with vast network of rivers and streams, but fisheries are dominated by the output from the Lakes. People exploit fluvial fisheries but no records are kept. The fisheries are diverse, with some seasonal species that are and only trapped or captured during the upstream migration for spawning, or at the time of floods following high rains. An important fluvial fishery in the 1960s, with a recorded production of up to 250 t/year, was that of *Labeo victorianus* (locally known as *ningu*), found in the streams adjacent to Lakes Victoria and Kyoga. This species is currently considered an endangered species and is only occasionally caught. The main fluvial fisheries are of Nile tilapia, *Alestes* spp., Nile perch, barbs, catfishes and lungfish. Due to little government interest, the fluvial fisheries has largely been unregulated and unreported, though not illegal. This situation has led to the continuing contraction in fluvial fisheries, despite their great potential for fish production if well managed. Among the main rivers are River Nile, River Kafu, River Katonga, Kazinga Channel and Aswa River. These are summarized below.

Water course	Comment
Kagera River	No fisheries data available; reported conduit of water hyacinth infestation into Lake Victoria.
Kazinga Channel	See notes for Lakes Edward and George (above).
Turkwel River	Flows from Mount Elgon in the east; sport fishery in upper reaches; current status unknown.
River Nile	Flows out of Lake Victoria at Owens Falls Dam (Victoria Nile) and through the northern tip of Lake Albert, north to Sudan (Albert Nile); extensive local fisheries along most of its length; major target fish include Nile perch, and species of tilapia, <i>Protopterus</i> , <i>Momurus</i> , <i>Hydrocynus</i> , <i>Alestes</i> , <i>Distichodus</i> , <i>Citharinus</i> , <i>Labeo</i> , <i>Barbus</i> , and <i>Bagrus</i> .

Aquaculture

Though aquaculture production remains insignificant in economic terms, interest in aquaculture is on the rise in Uganda. The focus of the Department of Fisheries Resources has recently changed, with the new leadership stressing commercial or profitable aquaculture. Fisheries authorities in Uganda had for a long time promoted small-scale pond culture, primarily to enhance rural family diets. Popularization of subsistence fish farming reached its peak in the late 1960s, when some 11 000 ponds were reported to be in operation, covering a total area of 410 ha and yielding an annual harvest of 800–900 t. By the late 1980s, prolonged economic turmoil, civil unrest, and a general collapse of infrastructure and public services had combined to reverse the development of small-scale

aquaculture, almost to the point of insignificance, with annual production being recorded in the range of 30 to 40 t. Statistics for recent years suggest that production levels have begun to increase again. Returns for the period between 1990 through 1997 suggested that annual harvests had grown from around 50 t to over 200 t.

Characteristics of the aquaculture industry (production)

It is still largely dominated by subsistence (95%) production from pond culture. Once considered a male domain, it is seeing more women taking up aquaculture, with a growing number of women-headed households active. Change is occurring as a number of farmers are turning to production for the local market. This proportion currently stands at 3%. There is also the development of more intensive production geared towards the urban and regional markets, or as a way of utilizing the capacity of the established fish processing factories. This activity has attracted the fish processing factories, retirees from public service, and farmers looking for virgin investment areas in Uganda. Inquiries have increased from foreign investors, and a number of them have already begun prospecting for potential investment in aquaculture production in Uganda. The emerging commercial aquaculture farmers and investors now form 2% of the aquaculture farmers. A number of them (120 persons and firms) are involved in fish seed production, while another 40 focus on grow-out production. The seed produced is usually procured by government to support the culture-based fisheries or for purposes of stock enhancement. Originally the species of choice were Nile tilapia and carps, but lately African catfish has become popular among farmers and is contributing to the improved pond output. Most farmers use extensive production, with little or no feed input. However, the commercial farmers are increasingly using feed produced on farm, especially those culturing African catfish.

Current aquaculture production

Currently the number of fish farmers is estimated at 8 000, with an estimated 20 000 ponds averaging 600 m^2 each, implying a total of 1 200 ha. These ponds are currently producing at an average rate of 1 800 kg/ha/year, which gives a total annual production of over 2 000 t/year.

Utilization of the catch

Fish is a very popular food throughout the country, with the exception of some traditionally pastoral areas in the north and parts of the west. Consumers generally prefer fresh fish, but this is only available on a regular basis to those who live close to major water bodies or along main road and rail distribution routes. Extensive use is thus made of smoking, sun-drying and salting by local processors, in order to prolong the shelf-life of products intended for remote markets. The most widespread fish commodity is dried *dagaa* or *mukene* from Lake Victoria, significant quantities of which find their way westward and northwards to markets in the DRC and the Sudan. Dried *mukene* has a comparatively long shelf-life and can be easily be divided into small portions at point of sale, meaning that it can be had at prices affordable for many who otherwise could not afford fish. Since the early 1990s, *mukene* has increasingly been utilized for the production of animal feed. This trend may well result in an increase in price for local consumers, a worrisome development in light of the product's importance as a food for low-income households.

Since the late 1980s, an important export market in frozen fillets and some fresh chilled product has developed with the boom of the Nile perch fishery on Lake Victoria. In the late 1990s, there were reports that some unscrupulous operators used poisons to kill fish,

which were subsequently sent to market. This greatly alarmed fisheries and health officials, and severely disrupted established domestic, and particularly overseas, marketing activities. Concerns have also been raised for some years that the demand for Nile perch by processing companies has driven up ex-vessel prices and diverted product away from domestic consumers. Reported negative consequences include the increased harvesting and trading of undersized fish on domestic markets, along with an increased traffic in low quality industrial plant by-products of Nile perch (frames, fish heads and skeletons) left over from filleting operations, which are often fried or smoked for local re-sale.

Increasingly, Nile tilapia, once a major species in local consumption and regional markets, is now being exported to premium markets, either chilled or frozen. By late 2002, an estimated 15 t of Nile tilapia products were being exported weekly, and was forecast to increase.

Economic role of the industry

Fishing has always played an important economic role in the modern state of Uganda, and has assumed an even greater profile with the advent of the Lake Victoria Nile perch fishery. By some estimates, annual exports, primarily of Lake Victoria products, amount to as much as US\$ 41 million. It is estimated that some 700 000 Ugandans are involved in fisheries-related employment (around 150 000 for the harvest sector as fishers, crew, and boat and gear owners; 550 000 engaged in secondary or tertiary sectoral activities relating to processing, trading and the provision of miscellaneous support services). Fish comprises the single most important source of animal protein available to the national population.

DEVELOPMENT PROSPECTS

Following the rapid redevelopment and expansion that occurred followed the end of the political and economic turmoil of the 1970s to mid-1980s, the potential for further growth of capture fisheries is very limited in most areas. Future initiatives to ensure the role of the sector as a major source of food and employment should thus be oriented towards the consolidation of aquatic environmental management and protection capabilities, responsible fishing practices, and more efficient post-harvest-sector operations through improved infrastructure and quality assurance measures. At the same time, very considerable scope exists for the expansion of aquaculture production through the development of small-scale pond culture, and reservoir and small-waterbody fisheries enhancements. Special attention is warranted for Lake Victoria, which hosts the leading fishery for each of its three littoral States (Uganda, Kenya and Tanzania). Rapid expansion of the Nile perch population and the fishery it supports have led to many expressions of alarm about the future of the lacustrine ecosystem and the sustainability of the resource. Of particular note is the impressive growth from the early 1990s of industrial processing for the lucrative export trade, raw material for which is mostly supplied by artisanal gillnet and longline fishers. Continued heavy exploitation of Nile perch raises social equity and food security as well as sustainability concerns. Fishing pressure affects juvenile as well as adult stock components in a situation that is already unstable and in need of a strong precautionary approach. Poorer, less well-equipped operators stand to be marginalized or displaced from the fishery. Consumer prices for table fish tend to spiral upward, and at the same time local markets are increasingly supplied with the smaller or lower quality fish that are not suitable for industrial processing. Government strategy is to continuously 'grow' the price of fish from capture fisheries to levels that can allow for aquaculture products to amicably compete with capture fisheries products. Currently the government is strategically promoting commercial aquaculture, including use of cage culture in waters

with potential for cage fish farming.

Expansion of the *mukene* fishery and recent development of a new fishery for the freshwater shrimp (*C. niloticus*) are further areas for concern. Nile perch feed heavily on both of these species. *C. niloticus* is utilized for the production of animal feed, as is dried *mukene*, which is also a very important source of food for the wider national population. Other major environmental anomalies in addition to species introductions and their ramifications are also arousing concern for the future of the Victoria ecosystem. Observers have documented changes in water quality, marked by increasing eutrophication and the development of an anoxic layer at lower levels of the water column. In addition, the exotic aquatic water hyacinth weed (*Eichhornia crassipes*) appeared in the lake basin (Lakes Kyoga and Victoria and the Victoria Nile) during 1989–90, reportedly spreading from the Kagera River (the main tributary of Lake Victoria, flowing from the Burundi-Rwanda highlands). From 1990, its colonization of Lake Victoria has been ubiquitous, and its mats often choke sheltered bays and inlets. The problem has been particularly severe along the northern and eastern shorelines and islands (Uganda and Kenya). A new regional management body, the Lake Victoria Fisheries Organization (LVFO), was established by a Convention signed by the three lacustrine states in June 1994. It will serve as a successor body to the CIFA Sub-Committee for Lake Victoria, and is charged with broad responsibilities for fostering effective cooperation between the Contracting Parties in order to develop and adopt a common approach to the conservation and management of the Lake's living resources to ensure ecosystem health and sustainability. LVFO's headquarters are in Jinja, Uganda. (An LVFO Web site has been established at www.inweb.unu.edu/lvfo.)

RESEARCH

Uganda has hosted dozens of national projects in fisheries and aquaculture and has participated as a regional partner in many others. Many of these are research oriented, or have included research components, such as biological and socio-economic surveys. National fisheries research functions are vested in the Fisheries Research Institute (FIRI), formerly the Uganda Freshwater Fisheries Research Organization (UFFRO), with headquarters at Jinja. Major research projects since Independence have largely been funded through international and bilateral assistance agencies, and have mostly been concerned with Lakes Victoria and Kyoga, the two most important fisheries in the country. Current or recently completed projects include those listed below.

East Africa Regional

Regional Project for Inland Fisheries Planning, Development and Management in Eastern/Central/Southern Africa (IFIP).

This was a regional FAO/UNDP project that ran from 1989 to 1992, with the aim of promoting more effective and rational exploitation of fisheries resources in major inland water bodies. Extensive and well-documented work related to management and planning for shared water bodies, including Lakes Tanganyika and Victoria, was carried out. This work involved a number of national sector overviews and field investigations of the state of particular fisheries.

Programme on the Lakes of East Africa (PLEA)

This programme has been ongoing since the early 1990s. It is designed as a research, training and service programme of the Michigan State University African Studies Center, focusing on socio-economic aspects of the fisheries of Lakes Malawi (Malawian sector) and Victoria. Collaborating host country research agencies include the Malawi Fisheries

Research Institute, the Kenya Marine Fisheries Institute (KMFRI), Tanzania Fisheries Research Institute (TAFIRI), and the Fisheries Research Institute (Uganda). Areas of special research focus include fisheries management and development, women and gender, environmental policy, the socio-economic effects of species introduction, and relations of production. A number of academic papers have been prepared under the auspices of the project. See PLEA's Web site for further details: www.isp.msu.edu/AFRICANSTUDIES/PLEA.

International Decade of the East African Lakes (IDEAL)

IDEAL was established (effective 1992-93) as a ten-year project for the investigation of the biological, geological, chemical and physical limnology of the Great Lakes of the East African Rift. Project IDEAL's objectives are: (a) to obtain long-term, high-resolution records of ecosystem change in tropical East African lakes; and (b) to provide a comprehensive training programme for African and international students and scientists in order to strengthen African institutional capabilities in the aquatic sciences and build research partnership between African and northern hemisphere limnologists and paleoclimatologists. In the initial phase of the project, attention has concentrated primarily on Lake Victoria. Outputs thus far include an extensive collection of academic publications, references to which may be reviewed on IDEAL's Web site: <http://lrc.geo.umn.edu/IDEAL>.

Lake Victoria

The Lake Victoria Environmental Management Project (LVEMP) is a project funded jointly by the Global Environmental Facility (GEF) and the International Development Association (IDA), involving the three Lake Victoria littoral States of Kenya, Tanzania and Uganda as joint participants. The project is due to run for five years and is described as the first phase of a longer-term, comprehensive programme "aimed at the rehabilitation of the lake ecosystem." Overall objectives include: (a) maximizing the sustainable use of basin benefits (food, employment, income and safe water supplies, and maintenance of a disease-free environment); (b) conservation of biodiversity and genetic resources; and (c) harmonization of national management programmes in order to control and reverse environmental degradation. LVEMP includes a fisheries research component that is to "provide information on the ecology of the lake and its basin, the biology of its flora and fauna, the impact of environmental factors on the lake system, and socio-economic implications of use of the lake's resources" (LVEMP Project Document, 1996). The respective national fisheries institutes (KMFRI, TAFIRI and FIRI) are assigned primary responsibility for implementing the fisheries research component.

EU Lake Victoria Research Project

The first phase of this project commenced in 1989, with the long-term objective of encouraging cooperation on fisheries matters amongst the lacustrine countries as a contribution to fisheries management. Immediate aims include: (a) strengthening national fisheries research institutions; and (b) promoting exchange and dissemination of information, harmonization of data collection systems, and re-activation of the African Journal of Tropical Hydrobiology and Fisheries. Project headquarters are located at FIRI (Jinja, Uganda). The project's second phase, beginning in 1995, aims to assist the development of a management framework for Lake Victoria fisheries and the knowledge basis upon which such a framework must be founded. The five major components of this overall work programme include: (1) institutional strengthening through support of the LVFO committees on fisheries research and management and support for scientific

meetings; (2) stock assessment (acoustic, trawl and gillnet surveys and associated biological and statistical studies; (3) trophic web studies; (4) socio-economic assessments of management strategies through baseline information collection and post-harvest studies, including nutritional and health impacts of the fishery; and (5) development of participatory process through evaluation of appropriate community structures and pilot community management initiatives.

AID

Extensive technical assistance has been provided to the sector over the past 40 years by both multilateral and bilateral programmes. Recent projects have included, *inter alia*, support for the rehabilitation of the Lake Kyoga fisheries (International Fund for Agriculture Development (IFAD) and the World Bank, 1983–91); import of raw material and spare parts to enable resumption of production by the parastatal Uganda Fishnet Manufacturers (World Bank, IDA credit, 1983–84); technical assistance to small-scale fishers on Lake Albert and in the West Nile Region (Euro Action Accord, 1983–early 1990s); ice plant and cold storage construction in Kampala (China, early 1980s); pilot pair trawling operations on Lake Victoria (China, late 1980s–mid-1990s); establishment of fish collection and processing centres in southeastern Uganda (Italy, mid 1980s–early 1990s); the Artisanal Fisheries Rehabilitation Project (EU, 1987–1991); and the Fisheries Statistics and Information Systems Project (FAO/UNDP, 1988–91).

Regional projects with Ugandan participation have included the FAO/UNDP Inland Fisheries Planning, Development and Management in Eastern/Central/Southern Africa (IFIP). Major projects now underway include the International Decade of the East African Lakes (IDEAL), the EEC Lake Victoria Research Project, and the Lake Victoria Environmental Management Project (LVEMP).

INTERNET LINKS

Department of Fisheries Resources – www.ugasamak.com(under development)

Uganda Investment Authority Web site – www.ugandainvest.com

Lake Victoria Fisheries Organization – www.lvfo.com

Uganda Fish Processors and Exporters Association Web site – www.ufpea.com