

This SmartFiche describes the background and outputs of the programme's efforts so far to strengthen a regional approach to sustainable fisheries management for Lake Tanganyika.

BACKGROUND

Lake Tanganyika represents 17% of the world's surface fresh-water and has a wide variety of fish species. It is also the longest fresh water body on the planet stretching for a length of 676 km. The lake is shared by four countries namely Tanzania, Democratic Republic of Congo, Burundi and Zambia. All of the lake's waters (including estuaries) are exploited by fishermen. Specific techniques are used offshore to catch a few species of high commercial value; these catches represent 90% of the total catch from the lake. Over 300 fish species occur in the inshore habitats and are targeted by a wide range of fishing gears by littoral fishermen. Presently the fish production from the entire lake has a value of USD 180 million (at the beach). However, if small fish are allowed to grow larger, and other means are used to stop catches of illegal-sized fish, then the

net yield could be as much as USD 300 million per annum at the landing site. This equates to an output in the order of 160,000 to 200,000 tonnes annually. At the moment, annual fish landings in Burundi are estimated at 10,000 to 11,000 tons; in Zambia at 10,000 to 11,000 tons and in Tanzania at 34,000 to 37,800 tons, and 60,000 tonnes in DRC, amounting to 114,000 to 120,000 tonnes from the four countries annually (Van der Knaap et. al. 2013).

There is a clear need for better shared management of Lake Tanganyika. Instrumental in this process is the Lake Tanganyika Authority (LTA), working in collaboration with fishing communities and other key stakeholders. At the same time recognizing that any management approach would take a precautionary approach (FAO, 1996), and be guided by the FAO Code of Conduct for Responsible Fisheries (FAO, 1995), as well as the LTA's Strategic Action Programme (LTA Secretariat 2012), and the Framework Fisheries Management Plan, they are currently developing.



© Florence Wallemacq FAO

Working towards the regional co-management of Lake Tanganyika



The Lake Tanganyika Authority (LTA) was launched in December 2008. Its management structure centres on a Conference of Ministers, a Management Committee and the Secretariat itself. Implementation of many activities is the responsibility of four National Co-ordination Units. LTA's mandate is to ensure the protection and conservation of the biological diversity and sustainable use of the natural resources of Lake Tanganyika and its basin. The work of LTA is guided by its Strategic Action Plan (SAP). The priorities of which are the effective operation of the LTA, improvement of community infrastructure including water treatment, the development of stakeholders' capacity in sustainable management of fisheries resources, reduction of water pollution and sedimentation flows into the lake, and establishment of an integrated regional monitoring system. The implementation of the Framework Fisheries Management Plan, which forms part of LTA's Strategic Action Programme, is key to ensuring sustainable management and protection of the aquatic ecosystem, improvement of the exploitation conditions and the valorisation of the fishing sector. Important LTA partners include the African Development Bank, Nordic Development Fund, FAO, UNDP, Global Environment Facility, IUCN and UNEP.

CHALLENGES AND ISSUES

Fisheries production on Lake Tanganyika in the past 40 years has undergone considerable change. Notwithstanding the impact of periods of civil unrest, the industrial fishery in the northern part of the lake, expanded but became no longer profitable due to increasing costs and low catches. At the same time the artisanal fishery has developed rapidly. The results of a 2011 frame survey showed that fishing capacity had more than doubled in 15 years to 95000 fishermen and 31500 fishing units. Not only has the number of fishermen increased, but also the number of fishing canoes, women processors, traders and the type and quantity of illegal and destructive fishing gears. Not surprisingly there has been a noticeable decline in fish catches in Zambia, DRC, and Tanzania. Although, except in Burundi, management has been impeded by a lack of recent fisheries data, up until 2010 at least.

Effective management has been further limited by the absence of regionally harmonized fisheries legislation along with weak institutional capacity. Furthermore, whilst national legislation exists related to management measures it is either outdated or rarely implemented due to a lack of resources. Consequently there is a proliferation of illegal destructive fishing gears such as monofilament nets and beach seines that target juvenile fish. This is leading to an enormous future loss in potential revenue and food.



Lake Tanganyika © Florence Wallemacq FAO

Pollution from industry and lakeshore communities and sedimentation as a result of deforestation and agriculture also threaten the productivity and long term sustainability of the lake's resources.

A Framework Fisheries Management Plan was developed with FAO support some 14 years ago. This takes a regional lake wide approach to management. Management has to consider:

- Sensitize and prepare fishing communities to assist in the reduction of fishing effort e.g. applying a system of alternative fishing days;
- Reduction of fishing effort;
- Licensing to prevent open-access to the fishery;
- Harmonized regulations;
- Co-management surveillance system;
- Prohibit the importation of illegal fishing gear;
- Develop a fisheries information system to monitor licensed stakeholders and registered fishing boats;
- Generate alternative employment opportunities near the lake in an effort to reduce pressure on the fishery (alternative employment opportunities, such as aquaculture, farming, and bee keeping).

Community, regional and participatory are proposed as three key facets of any management approach yet the challenges of developing a co-management approach appropriate for the peculiar institutional structures and capacities of the four countries with their disparate linguistic and socio-economic facets cannot be underestimated nor can the challenge of managing shared water bodies.

WHAT SMARTFISH HAS DONE

Recognizing the challenges, key issues, the important role of LTA and the ongoing efforts of governments and development partners, SmartFish has initiated a number of activities in support of good management practice and the implementation of the Convention on the Sustainable Management of Lake Tanganyika. These on-going activities have aimed to build on and complement the work of FAO, FINNIDA, the UNDP-Global Environment Facility (GEF) and the ADB funded Lake Tanganyika Integrated Regional Development Programme (PRODAP) (2011 – 2013), co-implemented by FAO. The latter has assisted LTA to strengthen the management of the fisheries of Lake Tanganyika with key work on co-management, fish yield assessment, surveillance, the harmonization of fisheries management measures, regional fisheries development fund, and assessing the impact of environmental degradation on fisheries. A key activity of PRODAP was the preparation, implementation and evaluation of a Lake wide Frame Survey to update the under-

standing of the various fishing methods, catch rates and population of fishers (LTA 2013). SmartFish helped LTA to complete this survey by supporting a study on the little known inshore larvae fishery in DRC. Exclusively a women only fishery that targets juvenile clupeids, this work emphasised the importance of alternative income generating activities as a key aspect of fisheries management.

A next step has been to develop and apply as a pilot, community sensitisation tools to help fishing communities understand the dangers of using illegal and destructive fishing methods, which are now prohibited in the new harmonized regulations. Working with the Fishermen's Federation of Burundi, awareness raising videos were produced on the major issues of co-management, community monitoring control and surveillance, hygiene in fishing communities and alternative income generating activities. This work was bolstered by a small capacity building initiative on co-management and a campaign targeting women's associations to improve the hygiene and handling of fish. Approximately 10,000 community stakeholders are set to benefit from this initiative and overall this work has set the scene for more systematic sensitisation of riparian communities to encourage their commitment to better and more sustainable management of resources. This initiative is also meant to complement the more top down initiatives supported under the PRODAP such as the harmonization of regulations.



Fishers watching the videos © Joris

Working towards the regional co-management of Lake Tanganyika



Sensitization with women © Florence Wallemacq FAO

In parallel with community sensitisation work has been a study on illegal unregulated and unreported (IUU) fishing (Petit & Shrimpton 2012) and an ongoing campaign to improve monitoring, control and surveillance (MCS). Steps to improve MCS through capacity building for key stakeholders in standard operating procedures for MCS was undertaken which also led to the development of and MCS manual tailored to the needs of the lake. As part of the capacity building process, the first ever large-scale MCS operations in the Tanzanian, Zambian and Burundian waters of Lake Tanganyika were conducted by the programme during July and August 2013. The MCS intervention teams were comprised of selected personnel from the national Fisheries Departments and security forces, and neutral observers. This initiative led to the confiscation and destruction of considerable quantities of illegal fishing equipment.

At the moment there is generally weak policy support and management skills in place for the development of aquaculture in the Lake and its basin. Furthermore, the associated legal, regulatory and institutional arrangements to ensure that countries meet obligations under the Convention on the Sustainable Management of Lake Tanganyika ("Convention") are not yet in place. As a consequence, and lead by with LTA and in conjunction with Member States, SmartFish is also supporting the development of a general protocol for harmonized, sustainable management of aquaculture, in accordance with the needs of the region. The development of such protocols is foreseen in the Convention.

REFERENCES:

- FAO, 1995, Code of conduct for responsible fisheries. Rome, FAO.
FAO, 1996. Technical guidelines for responsible fisheries, No. 2: Precautionary approach to capture fisheries and species introductions. FAO, Rome.
LTA Secretariat (2012) Strategic Action Programme for the Protection of Biodiversity and Sustainable Management of Natural Resources in Lake Tanganyika and its Basin, Bujumbura, Burundi.
LTA (2013) Technical assistance services project to support the regional programme for the integrated development of Lake Tanganyika (PRODAP). UTF/LTA/002/LTA – trust fund no. 609864 Final Report January – August 2013. Bujumbura.
Petit P, Shipton T (2012) IUU fishing on Lake Tanganyika. Indian Ocean Commission, SmartFish. Mauritius
Van der Knaap, M., D. Manara Kamitenga, L. Ngoie Many, A. Esube Tambwe, and G.J. De Graaf (2013) Lake Tanganyika Fisheries in post-conflict Democratic Republic of Congo. In press.

As well as supporting fisheries and aquaculture management, efforts are also being made to help communities get more income from their catches using improved handling and processing techniques and at the same time developing the capacities of local community trainers. This optimization of the value and income from fish is also an important aspect of long term resource utilisation and the improvement of livelihoods.



Women selling fish in Burundi © Alain Gashaka ALT

CONCLUSIONS/RECOMMENDATIONS

Tools and mechanisms to sensitise communities in good management practice have been developed and should be rolled out on a lake-wide basis as part of the introduction of a regional co-management approach to managing the lake.

The Fisheries Departments of the three riparian countries consider the impact of the MCS work on illegal fishing to have been significant, and indicated that the continuity of MCS operations over the next two years would contribute to the successful control of the fishing fleets and promote the sustainable exploitation of the fishery resources on the lake.

Work so far has fostered good working relationships have been established and are evolving both with and between multi-sector stakeholders and between communities, civil society and management institutions.

PREPARED BY

Ansen Ward: FAO Consultant, SmartFish Programme
Clotilde Bodiguel (PhD): FAO Project Manager, SmartFish Programme

SMARTFISH Programme

Blue Tower, 5th Floor, Rue de l'Institut | Ebene | Mauritius
Tel: (+230) 402 6100 | Fax: (+230) 466 0160
E-mail: smartfish@fao.org | smartfish@coi-ioc.org
Web sites: www.smartfish-coi.org | www.fao.org | www.coi-ioc.org

Follow us and visit us on 