DPG

Development Partner Group - Tanzania

Fisheries Discussion Paper

Fisheries contribute to the livelihoods of tens of thousands of households in Tanzania. They provide food security, employment and income for poor people but also represent an important source of revenue in the form of export royalties for the Government (GoT) and foreign exchange for the country. However, many important Tanzanian fisheries are believed to be fully exploited, with the fisheries of Lake Victoria being of particular concern. The offshore marine fisheries may have potential for growth, at least in terms of revenue generation from an improved licensing regime for the mainly foreign fleets. There are also some concerns as to direction that fisheries management has taken in relation to the interests of poor people, and some development partners have recently adjusted their policies to focus more on poverty-reduction through support to sustainable livelihoods.

This policy brief aims to inform DPG members of the Group's current understanding of the issues related to the contribution of fisheries to sustainable livelihoods and poverty reduction. The Brief will not attempt to provide a detailed set of proposals to address these issues but will highlight some key aspects of DPG-E's strategic approach and identify some of the more specific interventions designed to meet the various challenges to sustainable fisheries in Tanzania.

A Profile of Fisheries in Tanzania

- Number of Fishers:
  - Lake Tanganyika = 7,339
  - Lake Victoria = 77,997
  - Marine Fisheries = 29,754
- Fisheries contributed 2.7% of GDP (2001) and more than 10% of all exports;
- Approx. 80% of total fisheries revenues and total catch are derived from the Great Lakes fisheries, in particular from Lake Victoria;
- In 2002 80-90% of GoT's total fisheries revenues was generated from the Nile Perch fishery;
- In 2002 10-20% of GoT total fisheries revenues was generated from marine fisheries;
- Local government raised approx. $1million from lakes fisheries and $0.5million from marine fisheries.

Legal & Policy Context

The key fisheries policy document is the 1997 National Fisheries Sector Policy and Strategy Statement, and this is supported by the Fisheries Act 2003. The Fisheries Principal Regulations (1989) define the modalities of fishing practices in Tanzania, and these are currently being updated in line with the new Act.

The 1997 Policy Statement describes the overall approach of the GoT to fisheries management and calls for *inter alia* improved resource management and control of access; improved provision of training and education, and understanding of the resource base itself; more efficient resource utilization and marketing; and, increased community participation in management and better regional and international cooperation (particularly important for Lake Victoria fisheries, which are shared with Kenya and Uganda). The Statement goes on to define the roles and responsibilities of the various stakeholders including local government, local communities, NGOs, the private sector and the regional and international community. There is also a specific Convention signed in 1994 by Uganda, Kenya and Tanzania that established the Lake Victoria Fisheries Organization (LVFO) as an institution of the East African Community. The LVFO seeks to harmonize national regulations and to establish cooperative management measures to ensure the sustainability of the Lake's fisheries.

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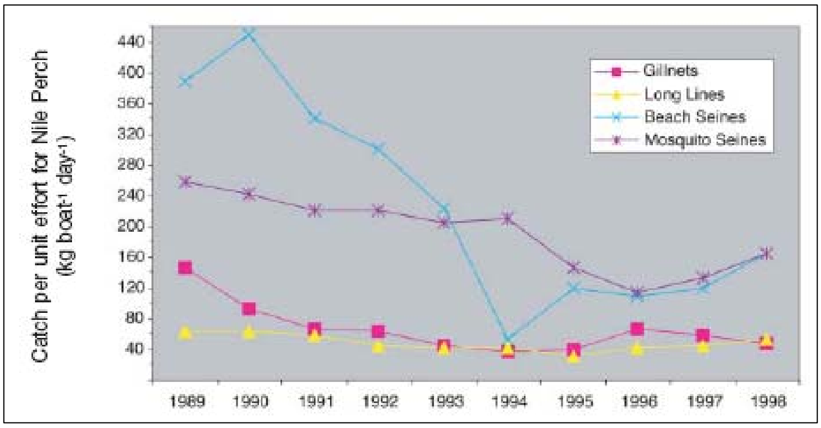
Issue: The Sustainability of Lake Victoria's Fisheries

Background: The fisheries of Lake Victoria have undergone two significant transformations, the first in the early 20th century when there was large-scale development of the Lake's watershed that resulted in a rapid increase in the region's human population. This inevitably caused a major growth in demand for fish, way beyond traditional subsistence requirements, and by the 1950's at least one of the major food-fish, the native tilapia *ngege*, was commercially extinct. To address the impending shortfall in fisheries production authorities first introduced the Nile Tilapia and then from the 1960's the Lake was also stocked with Nile Perch. Within 20 years Nile Perch dominated the biomass of the Lake and the fishers' catch. The marketing profile of the fishery has also underwent a dramatic change; originally it was dominated by local sales, but when that avenue became saturated and following various donor, international bank and private sector investments in modern processing facilities, marketing switched to being export-focused and fish prices increased to the extent that most local consumers could no longer afford to buy Nile Perch.

Catch and Revenue Trends: Data available from the FAO indicates that from a peak of around 350,000mt in the late 1980's, the annual catch from Tanzania's Great Lakes fisheries, as a whole, over the last decade has been around 280,000mt. But the apparent stabilisation in overall catch masks a decline in the contribution of the single most important fishery, for Lake Victoria Nile Perch, from a peak of about 180,000mt in 1990 to 100,000mt more recently. Over a similar period the catch-rate (the weight of fish caught per unit of fishing effort), an indicator of resource abundance, has also declined as displayed in the adjacent figure. But despite the reduced catch of Nile Perch, extensive international market development has actually realised an increase in the gross export value from around from $45million in 1996 to $100million in 2004. Royalties to GoT from the export of Nile Perch products increased from a reported $3.6million in 1997 to $6.1million in 2004.

Catch-rates (kg per boat/day) for Nile Perch 1989-1998



(Source: Odada et al., 2004)

Employment & Food Security[1] Context: The Nile Perch fishery generates a range of employment opportunities, including the manufacture of fishing gear and vessels, fish transport and in post-harvest processing. The recent Fisheries Division frame survey indicates that more than 77,000 fishers now operate in Tanzania's area of Lake Victoria (with another 8,000 on Lake Tanganyika). There are 12 large-scale commercial fish processing factories currently operating on the shores of Lake Victoria's Mwanza and Mara Regions. There are, of course, benefits from accessing international markets if economies of scale and HACCP-quality

[1] Where food security is defined as '*access to food for a healthy life by all people at all times*'

production and processing can be established, and the LVFO reports this industry as providing 28,000 jobs, both direct and indirect, although the statistics are unreliable. LVFO data also indicates that in Mwanza Region alone these plants purchase Tsh30million worth of fish daily, a very important component of the market.

However, this kind of development has not come without a cost, and of particular concern is the level of vertical integration that has been allowed to develop; the means of production from capture to the actual export of fish is increasingly under the direct control of the processing factories. It is also argued that the loss of fish from domestic markets has led to malnutrition, particularly amongst children, in the Lake zone. It is important that appropriate lessons are learnt from this in relation to the future development of other fisheries, such as on Lake Tanganyika.

Management Challenges: The apparent decline in the yields from Lake Victoria indicates that the current regulation of fishing effort is inadequate; exacerbated by the limited amount of data to inform decisions on the level of fishing effort that would be at least biologically sustainable. It is also apparent that participation by the various stakeholder groups in management has been variable, with poor fishers and fish-workers particularly disadvantaged in decision-making processes. The significant vertical integration of fisheries production by relatively few large companies has had some negative effects such as the reduced supply of fish to local markets and there are a number of governance problems that are leading to corruption and inequity.

The situation is further complicated by the fact that the Lake waters and fish stocks are shared with adjacent countries, as is also the case with the management of Lakes Tanganyika and Nyassa. This affects catch estimates, royalty and tax incomes (due to illegal exports), the physical safety of fishers, and stock assessments, although the LVFO seeks to address this. A final issue is the increasing pollution and damage to the Lake's ecosystem from pesticide contamination and there is evidence that Lake Victoria is further threatened by eutrophication (oxygen depletion) and water extraction. Sedimentation resulting from watershed clearance is another major threat, especially to the reproductive success of many species of the native cichlid fish; although these species have some natural resilience to depletion by small-scale multi-species artisanal fisheries they have already been severely depleted due to predation by Nile Perch.

Issue: Marine Fisheries

Background: There is very limited domestic exploitation of tuna in the marine waters of Tanzania. In part this is because the coastal waters of Tanzania are strongly influenced by the East Africa Coastal Current, which brings only relatively nutrient-poor waters. These waters can't support the numbers of tuna found elsewhere in the WIO, although elements of the WIO stock do enter Tanzania's EEZ, at least seasonally. In addition to the low abundance of tuna there are a number of other main factors that have affected the development of a domestic offshore fleet but it is the lack of the economic resources necessary for developing a suitably-equipped domestic fleet that is probably the most important constraint.

There is however a significant fleet of deep-water fishing nations (DWFNs), primarily from Europe and the Far East operating in the WIO, and they have a seasonal presence in Tanzania's EEZ. This fleet utilises large, high-tech fishing vessels capable of operating at sea for extended periods. The fleet is highly mobile with a range of sophisticated information sources that can track the location of the highly valuable but highly migratory tuna stocks across the WIO.

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Until recently there was relatively little information about the movements of the DWFN fleets into Tanzanian waters, but this situation is being addressed by the SADC-EU Monitoring, Control and Surveillance (MCS) project. The increased MCS capacity of Tanzania partly explains the increase in licences issued to DWFN vessels, from just 10 in 1998 to 170 in 2004 (for both mainland and Zanzibar), although this increase is also partly the result of the unusually high abundance of tuna resources within Tanzania's EEZ in 2003/04.

There are also a number of rich and diverse coral-reef and mangrove fisheries found in the inshore coastal zone. These fisheries partly owe their existence to the numerous rivers of Tanzania that bring significant nutrients to the inshore zone and the larger estuaries are highly productive ecosystems. The inshore fisheries include a seasonal prawn fishery that supports both artisanal and a small (c.20) domestic industrial fishery.

Catch and Revenue Trends: Data on the marine fish landings are very sketchy with various data sources including the Government's own catch survey programme and a number of donor-funded programmes (such as in Tanga Region, and in Mtwara and Mafia districts) operating independent catch surveys. The tonnage landed by the artisanal inshore fishery varies around a mean of 50,000mt per annum with a market value of around $32million in 2003. The industrial prawn fishery, already at its maximum sustainable yield, was worth $6.1million in 2003.

There is still relatively little information on catches taken by the DWFN fleet, partly because none of the catch is actually landed in Tanzania, although reports in 2003/04 to the MCS programme staff and to regional management organisations suggested very large catches. Reported catches are much reduced since then. The principle form of revenue to GoT is derived from charging for access to the EEZ, in the form of direct vessel licensing or from fleet-based *fishery partnership agreements* (FPA). A new FPA between the European Union DWFN fleet (comprising purse-seine vessels and longliners) and the GoT is currently under negotiation. The compensation proposed under the agreement provides a valuation of the highly migratory tuna resources, those that are seasonally accessible to the fleet within Tanzania's EEZ, of €600,000 per annum, with a so-called reference tonnage of 8,000mt of tuna per annum (or €75/mt); any catch reported above this figure will also be compensated by the EU at €75/mt up to a maximum ceiling of 24,000mt. This valuation is in line with EU FPAs elsewhere in the WIO (e.g. Seychelles, Mauritius etc). There are a further 7 purse-seiners and 40-or-so longliners licensed independently by Zanzibar.

Tanzania EEZ Licence Profile (2005)

China	2
Equatorial Guinea	1
France	30
Italy	2
Japan	43
Korea, Republic of	10
Mozambique	1
Panama	1
Seychelles	12
South Africa	1
Spain	43
Taiwan	2
Total	148

Employment and Food Security Context: In the marine fisheries, the territorial (inshore) waters of Tanzania are fished by approximately 30,000 artisanal fishermen, with some employment also generated by the domestic industrial prawn fishery in the form of vessel crew and support staff. There are also many jobs involved with post-harvest activities both formal (such as in the fish-processing factories on Mafia Island, in Dar es Salaam and in Tanga City) and informal (e.g. fish-cleaning at landing sites, local fish-fryers, fish-drying, transporting products to inland markets and in the sales of fish at market.).

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Some resources are mainly exploited for the tourist and export markets (such as octopus) and recent prohibitions on the export of marine finfish were lifted in 2004 and four trial licences are currently available. Although uptake has been relatively slow, there is likely to be some increased pressure on certain finfish resources for supply to the new, more lucrative export markets and this may have impacts on local supplies of marine resources to poor communities, in a way similar to the experience of local communities around Lake Victoria.

Management Challenges: As stated in the 1997 Fisheries Policy progress in the fisheries sector is desired in a number of areas; the development of more production capacity and economic benefits is necessarily important but historically these objectives have to some extent outweighed concerns over ecosystem and socio-economic impacts. There is a growing body of evidence, for example, that a number of marine fisheries would be unable to sustain any more increase in catch levels, in fact many need an actual reduction in current catch levels to remain sustainable. But the demand for fisheries products shows no sign of declining, either domestically nor internationally; at the current rate of growth, Tanzania's population is projected to more than double within the next two-and-a-half decades, and the rate of increase is probably significantly higher in the Lake zone. On top of this the National Strategy for Growth and Reduction of Poverty (2005) calls for increased contributions '*from wildlife, forestry and fisheries, to incomes of rural communities'*. Unless available stocks are managed sustainably, meeting the future food security and income needs will pose a real challenge.

However, the current licensing systems in place in Tanzania's marine fisheries are not generally based on any real knowledge of a particular resource's limits. Most is probably known about prawn stocks and there is patchy knowledge of some inshore stocks, but there is little known about the size, seasonality or status of tuna stocks in the EEZ. In the inshore fishery, as well in the wider EEZ, there is a need to control illegal fishing activities including destructive fishing (particularly the use of dynamite by artisanal fishers) but so far this has proved difficult largely due to inadequate capacity for monitoring, control and surveillance. A further issue in relation to management is the lack of a common governance regime for fisheries between Tanzania and Zanzibar; this has impacts on inshore fisheries management but is perhaps more important in relation to the EEZ and leads to inefficiencies in generating licence revenues.

Addressing the Issues - Work in Progress

The Government has demonstrated its commitment to sustainable aquatic ecosystem management by ratifying many international and regional agreements including the Convention on Biological Diversity (COD), Convention on International Trade in Endangered Species (CITES), United Nations Convention on the Law of the Sea (UNCLOS), the Ramsar Convention and the Nairobi Convention. Tanzania is also committed to the achievement of the MDGs and made a pledge at the 2003 World Parks Congress to protect 10% of its coastal and marine areas by 2012 and further 10% by 2025. As noted previously, fisheries management is a non-Union matter, and is governed by separate fisheries acts on the mainland and on Zanzibar. To address the management of the shared stocks within Tanzania's EEZ, a Deep Sea Fisheries Authority Act was passed in 1989, although it is still to be operationalised. Tanzania is also active in a number of regional-level management organisations and programmes around Lake Victoria, including the EU-supported Lake Victoria Fisheries Organisation (LVFO), and the World Bank's Lake Victoria Environmental Management Project, due to commence 2007. A number of other important development partner interventions have recently been completed, are underway or are scheduled:

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- IUCNs project on "Socio-economics of the Lake Victoria Fisheries, 1996-2005, funded by NORAD;
- World Bank and GEF-supported Marine and Coastal Environmental Management Project (MACEMP), underway since late 2005;
- the Sanitary Controls for Fishery Resources (SCFR) programme, supported by the EU. SCFR aims to strengthen the sanitary and phyto-sanitary capacity of Uganda, Kenya and Tanzania and also to assist small-scale fishers in the industry;
- World Bank-supported South West Indian Oceans Fisheries Project (SWIOFP), which also commenced in 2005;
- the SADC-EU Monitoring, Control and Surveillance (MCS) project;
- the EU Tuna Tagging project that aims to develop knowledge on highly migratory tuna species;
- the EU Indian Ocean Integrated Coastal Zone Management Programme, aiming to develop capacity in sustainable coastal zone management, which includes a component covering Tanzania; and,
- the Lake Tanganyika fisheries development project, which will soon commence with support from Finnida.

Addressing the Issues - Future Solutions

The concerns outlined in this Brief should be raised in relation to MKUKUTA and other discussions concerning the development of Tanzania. In addition to supporting the modern fish export industry, the government and development partners should discuss and agree how income, employment and food security can be secured for the large numbers of poor people dependent on the fisheries. More specifically
, recommendations for future interventions include:

- A comprehensive Fisheries Sector Review, looking at economic, social, and ecological perspectives of fisheries, to be initiated under the auspices of DPG. This should include review of the current regulations, and agreement on appropriate punitive measures to control illegal fishing practices. DPG should encourage development partner collaboration in achieving the recommendations of this review, and ensure that these issues are fully integrated into and addressed by the fishery and coastal programmes, both national and international, that are supported by Development Partners;

- Improved information systems are an important need to support on-going inshore resource conservation programmes; in the case of the tuna stocks, which range across much of the WIO, management is best done at the regional level (through the Indian Ocean Tuna Commission (IOTC)). Tanzania can contribute to the effective regional management of tunas only when a system to generate the appropriate data is introduced. The general lack of accurate EEZ catch data may also adversely affect the negotiating strength of the Tanzanian Government in relation to negotiating fisheries access agreements with DWFNs, for example, in negotiating a reference tonnage for advance payments. The limits of the productivity of inshore fisheries also need to be better understood and management must seek long-term solutions to current problems of localised over-fishing. Increased support for the Fisheries Departments of both mainland Tanzania and Zanzibar to improve research, MCS, developing fiscal strategies, managing shared resources, negotiating fishery agreements and compliance with international obligations in EEZ management is key to improving the current situation;

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- The mechanisms for optimising the flow of benefits from fisheries to local communities are poorly developed. One of the challenges to finding appropriate mechanisms is the need to balance the beneficial effects of the free-market with the needs of poor fishers with few economic opportunities, and the food security of the communities they live in. It is likely that better empowerment of communities to participate in decision-making will contribute towards finding equitable solutions to fisheries management and development and this should be a focus of future activities; and finally,

- Development partners can also contribute by increasing collaboration and harmonization among supported interventions, and promoting involvement of civil society in the development and implementation of policy and programs.

The Development Partner Group

The Development Partners Group (DPG) recognises the crucial importance of collective and increasingly coordinated/harmonised efforts of the DPG should result in significantly improved effectiveness and quality of development assistance to Tanzania while reducing transaction costs for development partners and Government.

Membership of the DPG is open to any bilateral or multilateral partner that provides development assistance to the United Republic of Tanzania. The rationale for a DPG that does not include Government membership is to complement Government's own coordination efforts by promoting internal coherence amongst the development partners in the context of TAS and the Rome Declaration.

Membership currently comprises Belgium (BTC), Canada (CIDA), Denmark, European Delegation, Finland, France, Germany (GTZ, Embassy and KfW), Ireland (DCI), Italy, Japan (Embassy and JICA), Netherlands, Norway, Spain, Sweden (SIDA), Switzerland (SDC), UK (DFID), US (USAID), UNDP, UNICEF, ILO, UNFPA, UNIDO, UNAIDS, UNCDF, WFP, UNHCR, FAO, UNESCO, WHO, UN-Habitat, IMF, World Bank.

The DPG maintains a website at www.tzdac.or.tz where further information is available.