

3.2.5 Trading of Fisheries Products

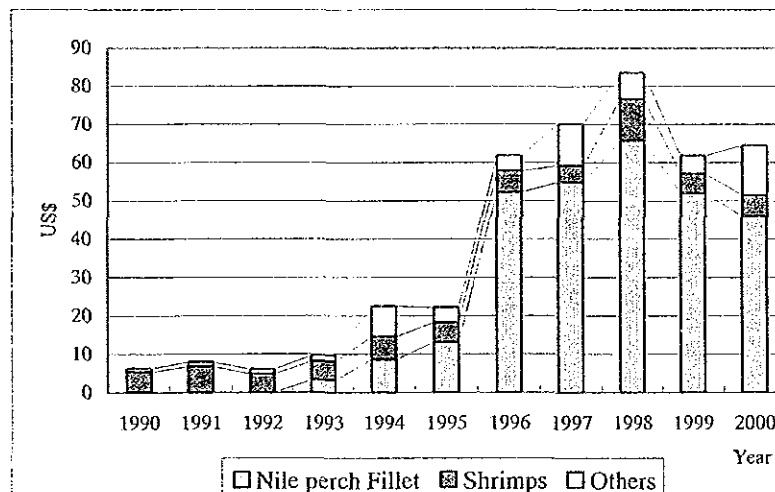
Trading situation of Tanzania in 2000 is US\$ 660 million of export (18.5 percent increase from 1999) and US\$ 1,540 million of import (8.5 percent increase from 1999). As shown, the yearly deficit remains, yet the debt has reduced by 22 percent compared to 1999 (Tanzania Revenue Authority). The reduction in debt is a result of increase in export of gold (181 percent) and fisheries products (35 percent).

(1) Importation of Fisheries Products

Import of fisheries products in 1999 was Tsh.1.28 million which is a 25 percent increase from 1998, showing a steady increase. However, import amount is only 0.3 percent of export amount. Most of the import products are tinned foods and its contribution for consumption of fisheries products remains very small.

(2) Exportation of Fisheries Product

Export of the Nile perch harvested from Lake Victoria, which began in 1992 (1987 in Kenya), fulfilled the demand for white meat fish in Europe and greatly expanded the fisheries export sector of Tanzania, which had hitherto focused on prawn products harvested from the coastal regions. Subsequently, its share of the total export value in 1998 rose to 12.65 percent to become the country's third major export item, surpassing the export volume of raw cotton and other traditional export products. Fishery products have become a major source of foreign currency for the export industry. Due to the export ban targeting the Nile perch in 1999, fisheries exports dropped to 16.25 percent of the export value of the previous year, but rose to US\$ 755 million in 2000, equivalent in value to 1998 levels. During the first half of 2001 (January to June), fishery exports earned US\$ 482 million, exceeding FY2000 levels by over 27 percent. The reason for this increase in total amount was an increase in unit price triggered by its high demand. Especially in 2001, the outbreak of Mad Cow Disease in EU had influenced a lot in changing people's consumption behaviour towards fish. On the other hand, export volume is stagnated. The future trend will therefore most probably be an the increase in its price rather than in its volume.



Source: Tanzanian Revenue Authority

Figure 1-4 Changes in Tanzanian Fisheries Export (1990 to 2000)

In a breakdown of fishery exports according to item, the Nile perch is the foremost product both in terms of earnings and volume, 92.5 percent and 90.2 percent, respectively, and comprises approximately 90 percent of all fishery exports. This is followed by prawn exports which used to be the main fisheries export in 1990; it has a volume of 1.5 percent and earnings of 3.6 percent today.

Tanzania's fishery exports are comprised of these two products, the Nile perch which is harvested from Lake Victoria, and prawn products which are harvested from the coastal regions. Nile perch drastically expanded its export volume and earnings from mid 1990's, yet its increase has stagnated in recent years. Earnings in 2000 was US\$ 54.8 million which exceeds US\$ 53.1 million in 1999. However, the export of fillet, the main Nile perch export item, has declined to 11.8 percent compared to the previous year, whereas increase of by-products including air bladder, has covered the loss caused by decrease of fillet. The increase of total volume of Nile perch is not expected in future. Therefore when future Tanzanian fisheries export is concerned, effective use of raw fish materials and increase in value added products should be targeted.

The EU is the major destination for Tanzania's fishery exports and its share of the total export value of fishery products was 86.4 percent in 2000 which had risen from 73 percent in 1998 (see Attached Table 12). In 1999 the Nile perch, which is the foremost export item was the target of an export ban in the EU and the export plants tried to diversify their export destinations to the Asian market. Despite these efforts, the ratio of Nile perch earmarked for the EU has continued to expand which has contributed to the rise in the share of fresh fish exports. In 1998 fresh fish exports was below 10 percent, but rose to 50 percent in 2000. About 98 percent of fresh fish exports is earmarked for the EU and subsequently, the ratio of export products destined for the EU has grown. Fresh fish exports destined for the EU reduce investments in cold storage facilities for the processing plants and generate quick recovery of capital. As a result, the dependency of Nile perch exports on the EU market remains strong. In addition, due to the high EU price (US\$ 3 to \$ 5) in comparison to the Asia price (US\$ 2 to \$ 3), an export structure that is dependent on the EU market will remain substantial.

In a breakdown according to country, the foremost destination for fresh fish exports is the Netherlands with 12,000 tons or US\$ 24 million, followed by Ireland with 11,800 tons or US\$ 23 million. The two countries combined comprise 60 percent of all fresh fish exports from Tanzania. Although exports to Japan has risen in recent years, the export value in 2000 was US\$ 2.3 million or 1,172 tons and only about 3 percent of the entire export value.

The low production costs make the Nile perch competitively viable as a major export product for Tanzania (Tsh.600 to 700 in comparison to 935/kg in Kenya and 910/kg in Uganda, both converted to Tsh). However, despite the advantage of low wages in terms of export plant investment and operating environment, major issues such as extremely high electricity costs (see Attached Table 15), low labour quality, the tax system, and bribery must be addressed in order to strengthen the export industry in future.

(3) Exportation to Africa

Approximately 96 percent of the export volume of dried and smoked fishery products which are produced by small-scale processors are shipped to other countries in Africa. The largest importer of these products is the Democratic Republic of the Congo which imports 90 percent or 2,500 tons of the 2,700 tons produced by small-scale processors. The major transportation route is across Lake Tanganyika (average of 50km), yet since it is unofficial trade, its real situation is unclear. Of the total estimated 14,000 tons annual production of Dagaa from Lake Tanganyika, only 1,700 tons annually are shipped to Dar es Salaam, the biggest consumption area in Tanzania. Since there are regularly middlemen from the Democratic Republic of the Congo at major markets along Lake Tanganyika, it is presumed that most of Dagaa produced goes to Democratic Republic of the Congo.

3.3 Supply and Demand for Fisheries Products

A review of the conditions in fish supply and demand in Tanzania has shown that the fish supply volume for the populace has firmly dropped in recent years in the face of a stagnating fish supply, an increased population, and a rise in fish exports. According to FAO statistics, the per capita fish supply dropped from 10.7kg in 2000 to 9.4kg in 1999. Moreover, this survey study has estimated that the per capita fish consumption volume in 2000 was lower at 5.9kg/person/year than the FAO projections based on a review of the fish export volume and the non-food use of fish. In addition, there is severe competition between livestock products and the relatively higher priced fish products. As a result, the

ratio of fishery products among animal protein products is 30 percent and lower than the 35 percent ratio of livestock products.

To increase the fish consumption volume of Tanzania, competitive pricing of fishery products through lowered production, processing, and marketing costs must be implemented. In particular, the export of Dagaa to the neighbouring countries is extensive and developing marketing facilities for low-food-use resources and processing technology are needed to improve the domestic food marketing system.

Table 1-7 Balance in the Supply and Demand of Fishery Products (estimated value for 2000)

Production (mt)	Non-food use (mt) converted value of fresh fish	Import (mt)	Export (mt)	Food Use (mt)	Population	Per capita fish consumption volume (kg/year)
320,900	25,000	3,211	97,672	201,439	33,952,136	5.9

Source: Fish production: Fisheries Division

Non-food Use: Adopted the minimum value of the feed production consumption of 25,200 to 36,000mt of the feed association, TAFMA.

Import: 1995 to 1997 FAO values

Export: Statistics taken from the Tanzania Revenue Agency (TRA). The converted fresh fish value (2.5 times) of fillet and dried/smoked fish was calculated.

Population: Adopted the projected value of the UNFPA for FY2000.

3.4 Infrastructure

3.4.1 Fisheries Infrastructure

(1) Fish Landing Facilities

Generally the fish landing sites that are utilized by fishing boats are natural sandy harbours. There are no fish landing sites that are dedicated exclusively for fishing boats, with the exception of the Dar es Salaam harbour, the TAFICO jetty (located in the Kinganboni district of Dar es Salaam), and a few floating jetties built at Lake Victoria. The Fisheries development funded and constructed landing facilities at seven locations at Lake Victoria. One of these facilities at Kayanze village comprised a steel floating jetty, wharf, office building, and others; and an ice truck (10 tons) from the Mwanza plant transports the fish catch and supplies ice. The average shipping volume is about 10 tons per day. The other six landing sites have jetties that are half this size (see Attached Table 16).

At the landing sites along the Indian Ocean where the tidal differences are large (about 4 metres), the boats are forced to moor several hundred feet away from the anchorage site due to the sandy harbour and access to the boats is difficult during the tide. Additionally, due to the lack of mooring facilities, the fish catch is first unloaded onto a small canoe and landed in the harbour. Kayanze village and the other fisheries communities are not equipped with a patrol (rescue) boat or wireless communication units. Due to the lack of communication means, safety countermeasures against accidents at sea are difficult to implement, in addition to the inability to report to the headquarters at Mwanza sightings of illegal boats.

(2) Market Facilities

Excluding the markets in urban areas that have been planned and constructed, many of the fish markets developed naturally along landing sites and sandy harbours. Many of these markets are without water, electricity, and public toilets. In addition, a transportation system to the markets is nonexistent. Subsequently, with the expansion of these markets, large motor vehicles have begun to access them creating traffic jams and damaging surrounding roads. There is no linkage between city planning and the region surrounding the markets that have developed in the harbour areas of focal regional cities such as Tanga and Mtwara.

Similar problems also exist in the area of infrastructure, which has deteriorated the sanitary environment. Many of the market areas that were constructed in the urban areas are also characterized by inadequate maintenance and management, water and power shortages, and the advent of illegal vendors in the surrounding market area. In addition to improved facilities and infrastructure, plans to improve management strategy are also needed.

Banda Beach Fish Market in Dar es Salaam and Kirumba Mwaloni Fish Market in Mwanza city are important markets for distribution of fish in Tanzania. The former market contributes to supplying fish to about 3 million people in Dar es Salaam. Fish are brought to this market from Mafia Island, Tanga Region, and by-products from trawler. Networking with landing sites can be widened and strengthened considering the high rate of population increase (four percent) in Dar es Salaam. This market is utilized by more than 2,000 business men per day. A new fish market has been constructed by Japanese assistance in March 2000 (see Attached Figure 26).

On the other hand, Kirumba Mwaloni market is a special market at Lake Victoria with dried Dagaa. The market handles about 10,000 tons of Dagaa annually, which accounts for 90 percent of the lake's production. This market is a center for shipping to other national consumption markets. The function of this market is to facilitate buyers from urban area to collect Dagaa and to ship them elsewhere effectively. The market facilities such as toilet and fence had been provided by UNDP in 1997. However, Dagaa is stored outside in the open and the trading activities during rainy season is still a big issue (for information of market improvement at both Dar es Salaam and Mwanza, see Programme 2.1 and 2.4 in Chapter 3).

(3) Processing Facilities

Presently, there are two types of processing facilities in Tanzania—processing plants that produce export products and the processing operations of small-scale processors who produce traditional processed products. The former include plants located around Mwanza city (7 locations), Dar es Salaam city, and Tanga city, which are processing plants dedicated exclusively to the export of Nile perch to Europe. These are modern facilities and equipment that meet the HACCP criteria. To combat the unstable external energy supply and infrastructure, these companies have installed their own power generator, water supply facility, and drainage processing tank. They have invested in facilities that will ensure secure water and energy supplies.

The small-scale processing plants are in complete contrast to the above in terms of facilities and the working environment. The processing plants are unsanitary, the water supply is secured manually, the products are transported by bicycle, drainage facilities are poor, and the tap water facilities are nonexistent. In addition, there are no toilets despite the fact that several hundred workers are employed daily. A processing plant specializing in salted and dried Dagaa products located a few blocks from the Kirumba market in Mwanza city directly disposes a large volume of polluted water containing a high salt content, fish blood, and small fish remains into the lake. The Vietnam style toilets with the high floors are located in the processing plant and there are only two toilets that service nearly 200 workers. The plant is presently closed down due to inadequate management and maintenance. The major issues that must be addressed to improve traditional processing plants are the development of tap and drainage water facilities, electricity supply, toilets, sanitation, and an improved working environment.

3.4.2 Transport Infrastructure

Fishery products that are exported are generally sorted according to destination, fish species, and product type; and the transport means are decided accordingly as shown in the Table below. Due to the vast geographical distances between cities in Tanzania, it takes three to four days to transport fishery products from Mwanza and Kigoma, the major production sites, to Dar es Salaam, the major consumption site. This time factor is a major constraint in the transport of fresh fish. If the transport time can be reduced with the development of a transport infrastructure, important and major changes in fish transport will occur.

Table 1-8 Transport of Fish Products in Tanzania

Transport	Product	Marketing Route	Transport Related Issues
(1) Road	Fresh and processed fish	Between the landing site and nearby consumption areas	Roads are impassable during the rainy season
	Dagaa Mwanza	Between Mwanza and Dar es Salaam	Tabora to Dodoma impassable during the rainy season
	Artisanal Processed Products	Between Mwanza and neighbouring countries	-
	Dagaa Kigoma	Between Kigoma and Dar es Salaam	Roads are almost impassable between Kigoma and Kipili.
(2) Rail-way	Dagaa Kigoma	Between Kigoma and Dar es Salaam	Unstable, great time lags in the transport time due to accidents and landscaping stones
	Frozen Nile perch (export)	Between Mwanza and Dar es Salaam harbour	
	Frozen Nile perch (domestic consumption)	Between Mwanza and Dar es Salaam	
(3) Air	Frozen Nile perch (export to EU)	Between Mwanza and Nairobi	Limited domestic flights and minimum transport volume. Direct flights to EU are not allowed due to undeveloped airport.
	Frozen Nile perch & Tilapia (domestic consumption)	Between Mwanza and Dar es Salaam	
(4) Ship	Frozen Nile perch	Between Dar es Salaam harbour and EU, Asia	
	Dagaa Kigoma, Migebuga	Between Kigoma and DRC, Burundi	

Source: Interview survey by JICA Master Plan Study Team

Table 1-9 Transport Means and Cost of Fish Products in Tanzania

Transport	Transport Cost (Tsh./kg)	Remarks
(1) Road	130	Cost between Mwanza and Dar es Salaam, US\$ 3,600/24 tons
(2) Railway	55	Cost between Dar es Salaam and Mwanza per Nile perch container
	120	Cost between Dar es Salaam and Kigoma for ordinary cargo
(3) Air	155	Cargo plane with load capacity of 5.5 tons including general cargo. Cost between Dar es Salaam and Mwanza

Source : (1) Hearing from track drivers,
(2) Tanzania Railway Corporation (TRC) and
(3) Air Tanzania Co-operation (ATC)

(1) Roads

The total length of the road network in Tanzania is about 82,000km of which only 10,000km are arterial roads. It is undeveloped in terms of route and road surface in some areas and consequently, it has not evolved into a focal part of the economy. In 1990 a road repair project was implemented under the guidance of the World Bank with the participation of 16 donor countries and institutions. The development of about 80 percent of the trunk roads and 50 percent of the major regional roads was targeted by 2000 (see Attached Figure 27). Presently in 2001, construction works have continued in some areas. The newly developed trunk roads are in extremely good condition. In contrast, the district and urban road conditions are very poor and much of the city roads between Dar es Salaam and Mwanza cities are unpaved. In particular, the city roads in Mwanza city, where the Nile perch processing factories are concentrated, have not been renovated in 30 years and they are so damaged that the outlines of the road have disappeared.

Many of the roads that connect to fisheries communities are unpaved and become impassable during the rainy season. This has negatively affected the shipping activities of the fishery industry and it is

the major factor behind the complex marketing system that has evolved--from the processing plant to the middleman, the buyer, and the fishers. In addition, the time loss incurred transporting the fish over poor roads is another factor contributing to the drop in fish freshness. The maintenance costs of transport vehicles utilizing these bad roads are also an economic burden. Presently, it takes two to four days for a truck or bus to travel between Dar es Salaam and Mwanza during the dry season, but the roads become impassable during the rainy season. Therefore, road transport can not be utilized to transport fresh fish during this time. Salted and dried fish are transported overland from the Kirumba market in Mwanza city to the neighbouring countries of Zaire, Burundi, and Uganda in 10 tons trucks. The Tanzanian government, faced with difficult state finances, introduced a gasoline tax as a means of securing revenue for road maintenance and construction, but the government continues to face a shortage of funds. Subsequently, the maintenance and repair of roads built with overseas assistance in the past, remain dependent on individual donor assistance.

Paving of the road between Dar es Salaam and Mwanza with the assistance of World Bank should be completed by 2005, according to interviews. Trunk road inside Mwanza city and 58km outskirts are with EU funds. With these construction, the 1000km between Dar es Salaam and Mwanza will be connected by 4 lane paved road. The journey which now takes 3 to 4 days can be shortened to 1 day and the lost time due to the rainy season is expected to decrease. Safe drive without special cars with GPS can be possible and medium to small enterprises are expected to provide long distance transportation services. Even if they have to pay more gasoline tax for road maintenance, competitive transportation fee can occur. Due to price competition, freight charges which is US\$ 3,600 per 24 tons truck is expected to be reduced.

The transport of processed fisheries products will always require truck transportation, either at the beginning or the end, whichever the intermediate transportation means. Although truck transportation takes two and a half time as long as airplane transportation, it only cost 60 percent of the airplane transportation cost. In addition, truck is able to carry nine times the load of an air plane. Transportation by truck is preferable to transportation by air plane considering transshipments trouble, cost, and trust. Also transportation by truck is preferable to railway considering time and cost. However, transportation between Mwanza and Dar es Salaam is presently only by airplane or railway. However, transportation by truck is expected to predominate in the near future.

(2) Railway

The railway provides the main arterial cargo transport system for the economy and marketing network due to the lagging development of the road system (see Attached Figure 30). Presently, the major railway company in Tanzania is the Tanzania Railway Corporation (TRC) which operates eight to ten trips per week. The cargo fare is about Tsh.120/kg. The railways serve a major role in transporting Dagaa from Kigoma and frozen Nile perch from Mwanza.

The large Nile perch processing plants in Mwanza city have either installed railway tracks directly into their compound enabling them to load their products into the container car or load their products onto large cold storage trucks at the plant which transport the products to the south harbour of Mwanza city. It is then loaded onto railway container cars and transported to Dar es Salaam. The trip is made once a week and three container cars each carrying one container with a loading volume of 27 tons is sent to Dar es Salaam. The transport cost for one container car transporting 27 tons is Tsh.1.5 million. The products which are transported to Dar es Salaam harbour are loaded onto ships and shipped mainly to Japan and other Asian markets.

Dried Dagaa which need to be kept in cold storage to maintain their freshness are packaged in bags and are transported by rail to the Dar es Salaam market from Kigoma and Mwanza in the regular cargo container car. It is then transported by truck to the Kariakoo consumption market. The railway trip between Dar es Salaam and Mwanza usually stops at intermediate stations such as Tabora and due to such stopovers, it usually takes about four days and it is frequently several hours late.

Unlike other infrastructure, the railroads are the most reliable means of transporting large volume cargo, but the TRC has not laid new railway lines since the railroad network was completed in 1914 under German rule. In reality, its economic influence is minimal and due to depreciated equipment and

the notable lack of new investments, its maintenance and operations are inadequate. As a result, its overall transport capabilities and trustworthiness are declining.

(3) Airports

There are three international airports in Tanzania—the Dar es Salaam, Kilimanjaro, and Zanzibar airports, and a total of 50 airports which handle domestic air travel. The Air Tanzania Cooperation (ATC) regularly transports fishery products between Mwanza and Dar es Salaam. In an interview survey of Regent Cargo Company, a major airline that provides irregular service to focal regional cities, it was found that they do not handle fish cargo. There is one ATC flight per day that operates between Mwanza and Dar es Salaam and the flying time is about 80 minutes; the plane is a 737 Boeing passenger plane and it is not a cargo plane. In addition to passengers, they also carry a maximum of 5.5 tons of cargo and regularly transport 2.5 to 3.0 tons of Nile perch daily. This volume differs according to the number of passengers booked on the flight and the transport cost is Tsh.155/kg. Although the Mwanza airport has a 3,300 metre runway, the maximum weight sustainability is inadequate and it is unable to handle large cargo planes (jumbo jets). Consequently, fresh Nile perch earmarked for the European market is transported once a month by the processing company on a chartered Soviet Antonov cargo plane (20 tons cargo volume) using a short-distance runway. The cargo is flown to Nairobi airport where it is reloaded on a jumbo jet and flown to Europe; and a very inefficient approach is being taken. Because the roads to remote areas become impassable during the rainy season, air transport to these remote areas fulfil an important need. Much of the airport infrastructure of Tanzania is dilapidated due to budget constraints. The long period of neglected maintenance has contributed to the deterioration in the infrastructure, facilities, and services of existing airports and unless immediate countermeasures are taken, it will become difficult to maintain the current conditions.

(4) Harbours and Ships

The major harbours in Tanzania are the Dar es Salaam harbour, the Tanga harbour, and the Mtwara harbour which are administered by the Tanzania Harbour Authority (THA). Export fishery products mainly for the European market are shipped from the Dar es Salaam and Tanga harbours. In the inland waters, dried and salted Nile perch and Dagaa, smoked products, and other processed fishery products are transported by buyers from Burundi, Democratic Republic of the Congo, and Zambia to their respective countries. Information about the lake transport system by small and medium transport boats in Lake Tanganyika is not accurately known except ferryboat among Burundi, Democratic Republic of the Congo, and Zambia, but free trade in terms of export tariffs is carried out. According to this survey study, there are four passenger cargo ferryboats and one cargo boat operating from the ferry terminal in Mwanza city. In view of the road conditions around Lake Victoria, a lake transport system is needed, but presently there are no plans to initiate such a project. The majority of the boats are old and need to be renovated or replaced.

3.5 Management of Fishing Households

(1) Income from Fishing and Fish Processing

Fisheries Division does not have any periodical survey programme for management of fishing households, and therefore, there is almost no official information on fishers' income. Here, the topic is discussed based on data collected in this Mater Plan Project in each spot. Survey outcome shows that the income of fishers approximately US\$ 1/day which exceeds the national average. Tsh.120,000/month for a boat owner with a circle net in the Indian Ocean is categorised as one of the highest income generating groups engaged in fishing activities (Table 1-10). There is a distinct difference in incomes between boats with and without engines though both practice the same fishing methods. In case of Nile perch gill net, profit that crew get is different with (Tsh.38,000) and without (Tsh.19,000) engine. Also in case of gill net along the coast, crew get Tsh.2,800 to 5,100 profit. Profit per sale is relatively low (5.2 percent) with a purse seine with engine, yet in others, it is around 20 to 30 percent.

Table 1-10 Comparison in Incomes and Profit per Sales among Different Fishing Methods

	Indian Ocean			Lake Victoria			Lake Tanganyika
	Night purse seine with engine	Circle net with engine	Gill net without engine	Nile perch Gill net with engine	Nile perch Gill net without engine	Dagaa Lift net with engine	Dagaa Lift net
Income for crew	46,940	21,250	28,250	38,067	19,533	19,169	28,125
Income for a boat owner	120,483	191,389	39,750	114,200	58,600	76,676	112,500
Profit per sale	5.2%	18.2%	18.9%	21%	37%	19%	37.5%

On the other hand, the income is Tsh.79,000/month per individual engaged in Dagaa processing in Lake Tanganyika, which is higher than fishers' income. For processors, most expenditure is spent on raw materials. For the case of Dagaa driers in Kigoma, 88.6 percent of all expenditure is spent for raw materials.

(2) Accident

In Lake Tanganyika and Lake Nyasa, theft or robbery of out-board engines and fishing gears is threatening people's stable fishing activities. 203 out-board engines are stolen in Kigoma between 1995 and 2000 which is equivalent to 1/5 of total number of out-board engines in the area, a serious situation. Insurance system for compensation of the lost is considered, but since it is difficult to prove robbery, its systematisation has been delayed. Credit scheme for purchasing fishing gears introduced by FAO between 1983 to 1993 is facing some difficulties. There are fishers who are unable to pay back because of robbery, which is one of the reasons for revolving fund not functioning properly. Support of fishers for purchasing fishing equipment should be dealt together with ensuring security.

3.6 Fisheries Information

(1) General Fisheries Information

Statistics on the number of fishers, the number of fishing boats, fish landing volume according to fish species are collected and tabulated by the Fisheries Division. Data on changes in fish size, the environmental ecosystem and other fisheries research related information is collected and managed by TAFIRI. Other types of fisheries related statistics, i.e., fish processing and fish marketing, are nonexistent. The lack of important data on fish price, the number of fish distributors, and other pertinent information is a major impediment to policymaking activities in the fisheries sector. This is especially relevant in the case of the country's largest export item, the Nile perch, where it is important to grasp international market prices in terms of real time, in order to collect appropriate tariffs (royalties) and to secure a national financial resource. Socio-economic data on fisheries is collected and managed by individual projects which is problematic in terms of information access. Although some progress has been made in the effective use of information, as seen in the case of the Tanganyika Fisheries Survey Project and the Lake Victoria Environmental Management Project, where a database has been created based on the project reports, there is a need to create a national database for fisheries statistics.

Table 1-11 Present Condition of Fisheries Information Available in Tanzania

Fisheries Frame survey	o	Basically, numbers of boats and fishers are surveyed every 5 years. However in the reality, because of limited budget, survey is done regionally in 1995, 1998 and 2000.
	x	Middlemen, traders and processors are not targeted in the Fisheries Frame survey.
FD, Annual Statistics Report	o	It is prepared by Statistics Dept. of FD. It includes prices and amount of fish species by water bodies in monthly base. Yet the report is not published since 1997, because the information from all landing sites are not yet sent to the central government.
Fisheries Economic Survey	x	No periodical system exists for systemising income and expenditure on fisheries operation and management. Some information are available for individual projects, yet very limited.
Fisheries Products Marketing Survey	x	There is no survey system in Fisheries Division for obtaining data including handling volumes, prices, market flow, etc. in major markets. Kariakoo market has its own system for establishing weekly information but does not have any linkage with Fisheries Division.
Fish Culture Production Statistics	x	There is no information nor information systems on fish culture production, number of ponds, number of management bodies, etc.
Trade Statistics	o	It is possible to obtain data on fisheries products from the Trade Statistics published by the Tanzania Revenue Authority.
Survey on Fisheries related Cooperative Societies	x	There is no system for complying information on cooperative societies in fisheries sector.

Source: Interview survey by JICA Master Plan Study Team

(2) Fisheries Frame Survey

The Fisheries Frame Survey is a nationwide census survey that is conducted once every three years to collect data on the number of fishing boats, fishing gear, etc (see Table 1-12). The first survey was conducted nationwide in 1995, followed by a survey of major water bodies in 1998, and a survey of Lake Victoria in 2000. The survey has been impeded by budgetary shortages, especially the lack of personnel due to decentralization. The survey findings will be utilized as an expanded factor to calculate regular fish production statistics. A summary is provided in the table shown below. The current frame survey must face the following issues.

- Due to a shortage of personnel to implement the survey, several districts (mainly those districts with small water bodies) were not surveyed in 1998. It is also difficult for the central Fisheries Division to allocate revenue for these districts.
- Supervision of the survey, data analysis and editing is not carried out at the district level. As a result, the burden at the central level in terms of revenue and personnel is increased, which may impede the regular implementation of the survey.
- The survey conducted at Lake Victoria in 2000 was funded by the Lake Victoria Environmental Management Project (LVEMP) and the survey questionnaires differed from those used in past surveys. There is concern that this may occur in other areas as well. If uniform questionnaires are not utilized, the input, analysis, and comparison of the collected data will become difficult to carry out.

Table 1-12 Summary of the Fisheries Frame Survey Content

Goal	<p>(a) Obtain the following data.</p> <p>Number of fish landing sites</p> <p>Number of fishing boats according to motorization</p> <p>Number of fishing gear (according to gill net mesh size)</p> <p>Potential facilities at fish landing sites</p> <p>(b) To be used as expanded factor (details given later) to estimate production volume according to fish species, fishing gear, and district of the most representative landing sites during a one-half month period.</p> <p>(c) Provide a sampling framework for future fisheries related surveys that may be conducted in future.</p>
Implementation period	<p>To be implemented once every 2 to 3 years (however, dependent on securing funds to carry out the survey)</p> <p>The most recent nationwide survey was conducted in 1998.</p> <p>A survey of Lake Victoria was conducted in 2000 and the coastal regions in 2001.</p>
Implementing body	<p>Personnel from the district Fisheries Office implemented the survey under the supervision of the central Fisheries Division.</p>
Survey site	<p>All areas with water bodies</p>
Implementation period	<p>Approximately 12 weeks per region</p>
Data editing and preparing figures	<p>The survey questionnaires are collected by the district Fisheries Division and turned over to the central Fisheries Division.</p> <p>The data is checked by the central Fisheries Division and inputted into a database created using Microsoft ACCESS.</p> <p>The figures and tables used in the survey report are prepared using the same system.</p>

Source: Fisheries Division

(3) Regular Fisheries Statistics

A sampling of fishery statistics are collected from 92 major fish landing sites out of 951 landing sites throughout the nation to obtain the annual fishery statistics (see Attached Table 17). The data is collected for more than 16 days per month on the type of fishing boat, fishing gear, number of crew members, arrival time, production volume according to fish species, price, number of fish, and other data.

[Issues Pertaining to Fishery Statistics]

- The data that was collected after 1997 has not been collected and inputted by the central Fisheries Division, subsequently, the statistics according to fiscal year have not been announced. This is because the interim data collected by the districts have not been completed submitted to the central Fisheries Division. This problem of segmented information has become particularly acute since decentralization was implemented in 1997. Presently, the districts do not have the capacity to tabulate the fisheries statistics in their respective district. The fact that national fisheries statistics cannot be published due to the inability of a segment of the districts to submit their data is a serious problem. Since only 92 landing sites are sampled, the data system must be centrally controlled and managed for the foreseeable future.
- A comparison of the 1998 Fishery Frame Survey and the survey conducted in Lake Victoria in 2000 shows that there is a high possibility that all the fish landing sites that were included in the past survey were not covered. Subsequently, the production volume may have been underestimated.
- The sampling of fish landing sites that collect data on a daily basis was not conducted rationally, but were selected according to landing sites and districts with a high production volume. Moreover, the production volume of each landing site/district was simply calculated by multiplying the total number of fishing boats with the average production volume.

Table 1-13 Major Tasks Conducted to Collect Regular Fisheries Statistics

Samplings from fish landing sites	None of the sampling methods have a rational basis. Firstly, large landing sites in the district are selected for sampling. Then the second largest landing site that is not adjacent to the first is selected (there is no clear set criteria in terms of distance) and the other sites are selected accordingly. The number of samplings according to district are not selected evenly from the total number of landing sites nor is the number determined according to fishing method or fishing grounds. They are simply selected according to the large scope of production volume, sales value, etc.
Number of days data is collected	More than 16 days per month at each fish landing site
Data collection method	<p>The district Fisheries Division is responsible for collecting and recording the statistics for the "Daily Records of Fish Landed". Due to a shortage of personnel, the stipulated daily data has not been recorded faithfully at all of the sampling landing sites. Therefore, the conditions are not clearly known. The daily records are collected and compiled by the district Fisheries Division and posted to the central Fisheries Division, but there is no clearly defined rule and generally the forms are given to the officer visiting from the central office or to the district officer who will be visiting the DSM to pass on to the central office.</p> <p>Although these forms are supposed to be maintained by the district office, it is not clearly known if they are keeping the forms after decentralization.</p>
Data input	<p>The statistics division of the central Fisheries Division is responsible for inputting the data. Personal computers have been allocated to the following personnel to carry out the various administrative work, but the task of inputting the fisheries statistics have not been adequately carried out and has been completely neglected since 1997. The data processing system is based on a system called TANFISH that was designed by BASEIV by FAO/UNDP in 1992.</p> <p>Number of staff members: Administrator (data editing, analyst) 2 persons Data input members: 3 persons Number of personnel computers available: 2 units</p> <p>If the data from each landing site for that month is recorded and sent to the central office the following month, the following tasks should be carried out by the staff members responsible for inputting the data.</p> <p>"Daily Records of Fish Landed" 50 minutes/sheet Conditions: 20 landing sites (20 boats land fish/day), 3 fish species recorded per site One month data for one fish landing site: about 13.3 hours (50 min x 16 sheets /60 min) or two days For 92 fish landing sites: 184 days (1 worker, 1 PCI unit) In order to complete the task in one month, the following is required. Personnel: 1 supervisor, 9 workers PC: 10 units (including 1 unit for the supervisor)</p> <p>The workers at TANFISH are not knowledgeable about fisheries and they are also unfamiliar with the input method. Therefore, they are allowed to select the input data. Although this enables data to be inputted easily, a longer processing time is required. If a new data input system is introduced, the data simplified and inputted by trained data personnel or typists, the processing time can be reduced by one-third. In this case, one supervisor, three workers and four personal computers (including one for the supervisor) will be required.</p>

Source: Interview survey by JICA Master Plan Study Team

3.7 Characteristics of Fisheries Communities

3.7.1 Fishers and Poverty Level

(1) Outline

Poverty is deeply entrenched in Tanzania and this makes the country rank among the poorest countries of the world with a GNP per capita income of US\$ 246.² 50 percent of the population live below the poverty line of US\$ 1 per day while 70 percent of the poor live in the rural areas making poverty largely a rural areas problem. 70 percent of these make up the core poor. Around 22 percent of the households surveyed in 1991 showed their expenditure is not enough to obtain enough food for nutritional requirements. 48 percent households sampled are unable to meet their food and non-food basic requirements. If you compare income of farmers and fishers, fishers' income is mostly higher than that of farmer. Poverty index like possessing radio (farmer 39 percent, fishers 56 percent), clock (farmer 25.2 percent, fishers 44.6 percent) and concrete floor at home (farmer 9.0 percent, fishers 21.4 percent), show that fishers have more money than farmers (see Attached Table 19). Characteristic of income between them is showed below.

- While farmers have to wait some months before they get money, fishers get cash every time they go fishing.
- Farmer get certain amount of money at the harvest time, fishers get small amount of money each time they work.
- The income of fishers is strongly influenced by natural condition. Therefore income is uncertain.
- Fishers often have side job like agricultural work and they get side income.

Estimate for year 2000 show poverty may have increased by over 50 percent for mainland Tanzania. Hardest hit are those areas that are prone to food crop failures due to droughts.

(2) Income of Fisher's Family

Most fishers supplement their income from part time job such as farming. The survey of fisher families along Lake Tanganyika showed that 90 percent of fishers own 1ha of land on average and do agricultural work as well as fishing. Fishers along the coast grow their own food such as cassava, rice, maize, sweet potato, peanut, etc., and also cash crops such as cashew nut, coconut, and sesame. Also, many kinds of cash crops are grown in areas along the inland lakes, such as rice, peanut, and cotton along Lake Victoria in Mwanza Region. Banana and coffee are grown in Kagera Region, rice and cocoa along Lake Nyasa, peanut along the Lake Tanganyika, and rice and breeding cows in Mara region.

Farming is the most important side job for fishers as farming can often be done as the main activities by fishers especially during rainy season when it is a difficult season for fishing. The annual schedule of fishers includes many kinds of activities and for fishers to have stable family income, they have to schedule their activities well. According to fisher family survey, during the best fishing season, 24 percent of fishers can earn about Tsh.50,000 to 100,000 per month, whilst during the lean season, 26 percent of fishers can earn about Tsh.20,000 to 50,000 per month.

Fishing Income

According to the survey, 28 percent of fishers have an average income of less than Tsh.10,000 per month, As a whole, 45 percent of total interviewees earned less than Tsh.20,000 per month.

² Poverty Reduction Strategy Paper Oct 2000.

Income from Non-fishing Activities

The ratio of fishers surveyed who earned less than Tsh.10,000 per month from non-fishing activities is about 50 percent and 50 percent of fishers earned less than Tsh.20,000 in total. This showed that income from non-fishing activities is slightly less or the same as income from fishing. In workshops at fishing villages, fishers from the coastal areas placed more importance on fishing than agricultural work; the same as in the Lake Victoria area, At Lake Nyasa area, fishing is seen as seasonal work and as supplement to agriculture work.

(3) Expenditure and Estimated Poverty Level of Fishing Household

According to socio-economic survey, while the adult equivalent household expenditure in Lake Tanganyika was Tsh.92,598, the lowest expenditure was Tsh.22,087 along the coast.

Table 1-14 Annual Household Expenditure by Major Water Body

Water Body	Per Capita Household Expenditure (Tsh.)	Adult Equivalent Household Expenditure (Tsh.)
All	27,439	33,280
Lake Victoria	25,641	32,778
Coast	18,551	22,087
Lake Nyasa	20,862	25,056
Lake Tanganyika	73,746	92,598

Source : Socio-economic Survey, July 2001

Poverty has increased over the 90s from 48 percent to 56 percent in the mainland and 5.7 to 9.2 percent in Dar Es Salaam, 41 to 88 percent in other urban areas and 57 to 65 percent in rural areas. Comparing the result of updating the Poverty Baseline in Tanzania with the socio-economic survey in fishing village, the poverty along the Lake Tanganyika is comparatively low. The situation of poverty at Lake Victoria is almost the same as the country's average. However, poverty situation is worse in the area at Lake Nyasa and the coast. 50 percent of fishers around that area have only Tsh.22,087 or Tsh.25,056 to spend per year which are far lower than that of the national average.

Socio-economic survey in fishing village found that the ratio of population under poverty line (P_0) at the coast (22.2 percent) is the highest as shown in the following Table 1-15, followed by Lake Nyasa (21.4 percent), Lake Victoria (20.0 percent), and Lake Tanganyika (16.2 percent) However, the worst area in terms of poverty level (P_1) is Lake Victoria and the worst in terms of poverty gap (P_2) is Lake Tanganyika.

Table 1-15 Poverty Level in Surveyed Areas

Water Body	Population % under Poverty Line (P_0)	Poverty Level (P_1)	Poverty Gap Index (P_2)
Lake Victoria	20.0%	59%	18.1
Coast	22.2%	38%	4.2
Lake Nyasa	21.4%	46%	3.8
Lake Tanganyika	16.2%	N/A	37.9
All	20.8%	5%	13.9

Source : Socio-economic Survey, July 2001

(4) Poverty Index

The poverty index should not only consider money itself but also social level. While fishers get cash immediately after selling fish, they do not have saving habit. Therefore, social and productive investments are not common; fishers are then unable to invest in new houses and the level of education is low.

Education Index

According to socio-economic survey in fishing village (July 2001), 62 percent of respondents finished primary school. Comparative survey showed that the people with the lowest education level were along the coast area. On average, there were 11 percent of fishers who had no education, and 23 percent of fishers along the coast were uneducated. The drop out rate at primary school showed the same trend. The highest percentage of drop out was at the coast with 21 percent. The area with quite high education is along Lake Victoria.

Table 1-16 Comparison on the Final Education among Fishers in Each Major Water Body

Education Level	Water Body							
	Lake Victoria		Coast		Lake Tanganyika		Lake Nyasa	
	No.	%	No.	%	No.	%	No.	%
No Education	25	4.8	87	23.0	7	9.3	4	2.6
Primary School (1-3)	73	14.1	79	21.1	12	16.0	30	19.9
Primary School (4-7)	366	70.9	182	48.7	49	65.3	99	65.6
Secondary School (1-3)	39	7.6	14	3.1	4	5.3	17	11.3
Secondary School (4-6)	9	1.8	2	0.6	2	2.6	1	0.7
Others	4	0.8	10	2.7	1	1.3	0	0.0
Total	516	100.0	374	100.0	75	100.0	151	100.0

Source : Socio-economic Survey, July 2001

3.7.2 Characteristics of Fishing Villages

(1) Accessibility and Marginalisation of Fisher Communities

1) Inaccessibility to Major Markets

The coastal highway from Dar es Salaam to Mtwara is in a very bad shape and most of the parts are impassable during the rainy season. The connections between the main roads to the fishing villages are not maintained and few fishers can transport their fish to the large market of Dar es Salaam. Transporting fish from Mtwara to Dar es Salaam by road is a very risky undertaking. If the vehicle delays for more than 1 day, the fish will obviously get spoilt. Fish preserved in ice will remain in good condition for about 2 days. Yet sun dried fish is not an option for Dar es Salaam. Fishers from fishing villages far from Dar es Salaam transport fish by boats but from areas like Bagamoyo and Kisumu they transport by road. Quite often this is done on boats that are not safe for medium and long distance sea voyages.

Many artisanal fishers complain of their inability to access better markets owing to the low quality of their boats. Canoes and sailboats depending on wind-power will not cover long distances to the better markets. At the same time, these boats will not allow the fisher to reach their local market at the desired time, if the winds are not favourable. Most often, the fishers with boats fitted with outboard engines will reach better fishing grounds easier, and then come back to the market before the one using a canoe and sailboat.

2) Marginalisation in Marketing

The interest of various authorities and cooperatives has been more on traditional export crops like coffee, cotton, sisal, cashew nuts and tea, but not on food crops, which includes fish. Invariably, this may have led to a less than proportionate interest on artisanal fishing. In the cooperative sector along the Coast region, a number of well organised and established primary cooperatives marketing export crops exist. But fishing cooperatives are rare. Where they exist, they are small and without a supporting district or national level cooperative or authority. A cooperative society in Mafia for example, pays Tsh.40,000 to the cooperative department for auditing and other services, but they are not linked to any district, regional or national cooperative or marketing authority like the primary

agricultural cooperatives are. Besides the true fishers cooperatives at district levels, there has been no equivalent supporting body in the Coastal regions.

3) Commercialisation

Increasing and expanding commercialisation of sea products also tends to marginalise artisanal fishers. As a result, fish becomes expensive and unaffordable, scarce to the local market and the worst quality remains for local consumption while the best is sold off. In Mafia for example, fish frying women at Kilindoni often fail to buy fish when there is a scarcity. This happens because the large, more commercialised fish traders who sell to Dar es Salaam, have established links with fishers. For this reason, the fishers give them priority. Over all, this tends to reduce the amount of fish available locally, increase the price of fish and worsen the lives of all those artisanal fishers whose livelihood has traditionally depended on fishing.

4) Poverty and Marginalisation

The poorest fisherfolk live in peripheral areas of the Coastal region, for example, Mkungu, Msimbati or Mchinga Mbili fishing villages. In those remote villages and because of their low quality boats, they cannot access major markets. Most of their catch consists of small fish that can only be sold locally. Because they can not preserve excess fish, when they get a good catch, they have to sell at a very low price, give out for free or throw the excess fish. Given the low quality of their fishing gear, they face very high risks in the sea and strain a lot for very little return. For example, they will dive into the sea without any diving gear besides the diving glasses.

(2) Participation of the Private Sector and Dependency on the Government

1) Participation of the Private Sector in Improving the Quality of Life

For about two decades between the 1960s and 1980s, the United Republic of Tanzania followed the central government dominated policies of economic controls and direct state investments in all sectors of the economy, including fisheries. After a relatively good and enthusiastic start, inefficiencies of the parastatals gradually crippled the economy.

In order to revive the economy, the country embarked on an Economic Recovery Programme in 1986 with assistance from IMF and the World Bank. The response to this plan and others that followed have been generally positive, with growth in GDP reaching an average of 4 percent per annum. However, the cost of credit is still high and effectively constraints private sector development and the formation of domestic capital, and more particularly for the artisanal fisheries communities.

The Tanzania government's policy today aims at increasing private sector participation in the entire economy. It is recognised that the previous leanings towards socialist ideologies gave private businessmen a negative picture. Today, this negative view is declining but where it still lingers, private participation can be affected. For example the negative attitude by a few fishers and leaders towards trawler ships and seaweed companies poses a challenge for private initiatives.

2) Dependency

Most investments for the fishery sector are still principally owned and controlled by the central government, district or village councils. Landing sites support facilities and other infrastructure, processing and market buildings and plants and administrative and research offices are mainly in public control. Today a substantial number of these plants are under-utilised with some neglected and abandoned. Yet, community's still look upon the government and other NGOs to rehabilitate them. Their ability to maintain these programmes are very weak. Therefore, support and strengthening of the leadership in fishing village by providing them the opportunities for management training and proper utilization of resources is an important issue to be addressed.

(3) Unhealthy Living Environment

Living environment and sanitation in fishing village is generally very poor. The houses along Lake Nyasa are made with weed and bamboo and very basic; there are no toilets.

3.7.3 Women's Participation in Fishing Activities

Fishing has been considered as a male dominion therefore many development programmes in the past have been designed solely for men without considering the women's efforts. In Tanzania, fishing is a most important income generating activity for men while petty trade and fish processing is for women.

Very few women participate in actual fishing in the deep sea or lake, as they do not own boats or fishing gear and equipment. The local attitudes and beliefs regarding women fishers too does not encourage them to do so.

Seaweed farming is a done mostly by women in Pemba, Unguja, Tanga, Pangani and the Southern region of Tanzania. In Lake Victoria, women are involved in processing and trading of the Nile Perch as well other small pelagic fish. In Mara, it is women and children who do the sun drying and smoking after the fish has landed. At the coast, women do the processing –frying, smoking and, selling. All this is in a bid to improve the living standards of the family and the local community as a whole.

Traditionally, women have been fishing in the shallow waters, less frequently and using very limited tools like the poking stick and hand-held seine net. This trend still holds at present. On the other hand, men fish in deeper waters, in fishing boats, diving in deep waters casting with large nets. These differences are determined by the physical abilities of men and women. Women group members in Jibondo island, who have tried fishing in the deeper waters have ended up hiring men to accompany them so that they could handle the difficult roles of paddling for example. These differences have given men an obvious advantage in fishing. They bring bigger and more fish back home and more income from fishing. This has given them the justification to claim that fishing is a man's job. Women on the other hand hunt for octopus and pick molluscs, fish out shrimps and Dagaa. This is mainly used for consumption. When it is sold, it gives very little income compared to what men get.

There is need to support the women in those activities which they do best like trading and processing to help them improve their lives and continue to support their families. It has been proved that women do more with less when compared to their male counterparts. Thus the need to give special and proper attention to men and women's different needs for demand driven projects. Currently there is a great gender imbalance in the fishing industry that needs to be addressed.

It is reported that the promotion of trading fisheries product give big influence to small scale processor who do not have capital strength. Fishing system at Lake Victoria changed to exporting Nile perch. Thereafter, women who engaged in processing other kind of fish lost their working opportunity because the supply of raw material had decreased. In case of Mafia island, women who process fish encounter the situation that they are not able to get raw materials if the amount of landed fish product is small. This decreases the amount of consumption at local level, raises the fish price and badly affects the life of the artisanal.

3.7.4 Rural Financial Services

Rural financial services that the fisher folk can access are few and hence inadequate. These include among others, Swiss Aid in Mtwara and Bukoba, Pride Tanzania in Kigoma, Tanga, Musoma and Dar es salaam, RIPS in Mtwara and Lindi, UNDP-Community Based initiative (CBI) in Mtwara, Lindi, Kilwa, Dar es Salaam, and Kigoma. Poverty Africa in Tanga region and Dar es Salaam. Mennonite Enterprise Development Assistance and Small Enterprise Fund are based in Kyela. Of all these only Swiss Aid, Pride Tanzania and UNDP-CBI gave favourable reports about fish related groups they have funded. However the fisher folk reported that the interest rates are high as well as the process one goes through to access credit was unfavourable to them.

It is noteworthy to observe that pure fishers rarely go to search for credit from these organizations. Those who go for credit are involved in trade for fish and fish related products and if they fish, it is

part of the business but not purely fishing. The Assistant Country director of UNDP-CBI said that giving boats and engine as credit is very risky as the fishers may sell them and claim they were stolen at sea. It was explained that fishing is a very risky business and one would not get credit for purely a fishing business. Fishers then get credit from the fishing companies in Lake Victoria and in Kagera region; they get gear and boats from rich traders and then pay slowly. Fishers seem to be ill informed about credit services and those who know about them do not go for the credit due to the conditionalities set especially in the bank managed ones. Fishers seem to be lacking in the discipline of savings and investment and at the same time the insecurity in the lakes and at sea make the fishers hesitate to get credit.

The FAO funded gear and boats loan scheme for Kagera Region did not work out well due to follow-up and management problems for those (CRDB) who were given the responsibility of managing the project. The same happened along Lake Tanganyika and now the Fisheries Officers on the ground are looking for ways to at least keep the project alive. For example, the Regional fisheries officer in Kagera is looking for possibilities to have Swiss Aid give out the funds already in the bank, as they are better equipped to follow-up loans due to the system they are using. The District fisheries officer in Lake Tanganyika is also trying to see what possibilities exist to continue with the programme.

Some women in Msimbati reported that they purchase small beach seine nets on credit from local shopkeepers. In Pangani, some fishers take credit from fishmongers so that they can purchase kerosene to light their fishing lamps. In Mafia some fishmongers began their business from credit given by friends. Taking credit is a common way of maintaining and staying in business. However, access to any type of credit is limited and problematic to most fisherfolk. Yet it is capital that determines the size and success of an enterprise.

3.7.5 Infrastructure of Fisheries Communities

(1) Electricity, Water Supply

As of 2000 the dissemination rate of tap water was about 81 percent in Dar es Salaam city and about 61 percent in the other cities. However, the maintenance and operations of the tap water supply facilities, like the other forms of infrastructure, are inadequate; and the overall structure, including the water fee collection system, face serious problems. In the rural areas, the dissemination rate of drinking water has remained at about 8 percent, but for the past decade the installation of wells was carried out from 1991/1992. Subsequently, safe drinking water, including well water is now supplied to approximately 28 percent of the homes in the rural areas. In conjunction with this, about 44 percent of the homes are located within one kilometre of a water source, 55 percent within three kilometres, and 20 percent within more than three kilometres in the last ten years; and the situation has improved.

The electricity demand during the five-year period from 1989 to 1994 rapidly increased about 60 percent in conjunction with the population growth rate and an active economy. Since 1992 the electricity supply has notably deteriorated and has greatly affected the economic activities of the country. Many of the fisheries communities are without electricity and according to an interview survey of the Tanzania Electricity Supply Company (TANESCO), it was confirmed that there were no future plans to supply electricity to secluded fisheries communities, in view of the installation costs and the inability of rural communities to pay electricity costs.

The provision of low technology such as windmills to operate fish landing pumps and a solar energy system to improve the environment is suited for fisheries communities located in remote areas rather than the transfer of high technology. The main problem is that the fish landing sites in the urban areas are no better off in terms of electricity and water supply facilities as the rural fisheries communities, despite their advantageous geographical conditions. In view of the fish landing volume that is handled and the total number of people that utilize the facilities, improvements should be implemented. In addition, due to the difficult state of the cities' finances, the water and electricity supply at many of these facilities have been stopped and swift sanitation countermeasures are also needed.

(2) Primary Schools

All of the fisheries communities that were surveyed were located outside of the middle secondary school district, but many were within a primary school district. However, the major educational issue is not a facility related problem, but whether fisher households will allow their children to attend school. Moreover, the primary schools are overflowing to capacity with many students from neighbouring villages. Subsequently, the schools have been forced to divide their operations into morning and afternoon sessions. There is a shortage of classrooms, teachers, and teaching materials and the educational environment is not very good. As a result, the dropout ratio is high and the problem of older primary school children aimlessly loitering about is becoming a social issue in many of the fisheries communities.

In an observation tour of the schools, many did not have any toilets or had toilets that were not functioning or did not have a sufficient number of booths to cope with the number of students at the school. The teachers and students used the nearby fields in place of toilets and the schools did not function as a place to learn and practice sanitation.

(3) Public Health Facilities

As of 2000, approximately 4 percent of the households in Dar es Salaam city are located more than six kilometres from a health care facility and this ratio is 1 percent in other cities. But approximately 30 percent of rural households are located more than six kilometres from a health care facility. In 1991/1992 this ratio was 40 percent and the health care conditions in the rural areas have improved in the last decade. However, only one-fourth of all rural households (about 35 percent of the total population) are within a 2km access radius to a medical/health care facility capable of providing initial treatment for acute diseases or accidents. But in view of the limited treatment that is available at such facilities and the need to transport the patient to another facility, the patient is placed in a nearly hopeless situation. Irrespective of the emergency medical countermeasures or disease prevention countermeasures that are enacted, the realities that prevail in the health and medical care sector are severe.

Medicine, vaccinations, and other initial forms of medical treatment are provided by the neighbouring simple health facilities (mainly clinics) at the fisheries communities surveyed in this study. Fisheries communities with a drugstore or a practicing physician are limited. Moreover, all the clinics are faced with an acute shortage of medicine, medical equipment and materials, notably drugs to treat malaria. HIV/ AIDS countermeasures including educational awareness activities, maintaining adequate residences for a physician (clinics with a resident physician are rare), nurses and other medical and health care personnel are realistic issues that must be resolved in the villages.

3.8 Fisher Organizations

3.8.1 General Situation

The fishery cooperatives in Tanzania are largely divided into two groups—organizations that are officially registered with the government and voluntary organizations. The former is comprised of Cooperative Societies registered with the Ministry of Cooperatives and Marketing (formerly the Ministry of Agriculture and Cooperatives), and societies registered with the Ministry of Home Affairs. Presently, there are 70 cooperative societies in the fishery sector (of which 11 have discontinued operations) comprised of fishery cooperative societies, fish processing cooperative societies, and cooperative societies for fishery wholesalers. Organizations that registered as societies after 1981 were fisheries societies, fish processing and marketing societies, fish distribution societies, and environmental protection groups for a total of 20 societies. Although there are statistics for voluntary groups at the region or district level, national statistics are nonexistent. However, as seen in Mbeya district, of the 18 existing fishery related organizations, only two are formally registered as cooperatives and the remaining 16 are active as voluntary groups. Although these groups are not included in the statistics, they may greatly outnumber the cooperatives.

All societies in Tanzania, including international and regional NGOs, are legally required to conduct their activities in the country with the exception of special groups. However, within the legally established definition of association, the cooperative societies are one of the specially designated groups. A Cooperative Society is required to be "an association of persons who have voluntarily joined together for the purpose of achieving a common need through the formation of a democratically controlled organization and who make equitable contributions to the capital required for the formation of such an organization, and who accept the risks and the benefits of the undertaking in which they actively participate" (see Attached Table 20).

Specific administrative differences that are unlike societies that do not have staff members dedicated solely to managing registration, cooperative societies have several staff members assigned to each district and provide technical assistance and help in activity management of the registered cooperatives in the district. In addition, cooperatives hold bi-annual meetings and membership fees are mandatory. Groups such as NGOs register as societies as a form of official approval to conduct their activities in the country. Although some groups register as societies to be able to freely carry out their activities, in the fisheries sector, members who support the cooperatives and their activities also help the activities of societies. Many of the fishery related organizations are not aware of these two differences.

3.8.2 Historical Background of Cooperatives in Tanzania

Many of the cooperatives in Tanzania at present can not be defined as successful. In addition, many fishers reject attempts to organize as cooperatives. This is due to the annulment of cooperatives that were started during the ujamaa socialist administration of Tanzania's first president, Nyerere, and the subsequent government's influence on cooperatives, which tenaciously remains.

Nyerere, the country's first president advocated the ujamaa socialism doctrine in his Arusha Declaration of 1967, and ujamaa villages and collective farms were established under his administration. In conjunction with this measure, the existing cooperatives were abolished, and the forced migration of nearly 90 percent of the farmers as well as the bureaucratic policies that were enforced were strongly rejected by the farmers. Consequently, the Tanzanian economy stagnated. In 1984 the cooperatives were reinstated under a new agricultural policy aimed at economic recovery through a liberalized economy. The cooperatives were made responsible for the shipment, storage and marketing of agricultural products at the village and regional levels and were given the exclusive right to purchase agricultural products from farmers. These measures were enacted to strengthen the cooperatives and improve their operations, but due to the government's strong participation in the cooperatives' operations, management inefficiency became problematic. In 1986 under the World Bank and IMF structural adjustment policies, the Tanzanian government enacted the Co-operative Societies Act in 1991 and abolished its control of the cooperatives, placing their management and operations in the hands of its members and private parties (J. Ikeno, 1995) (see Attached Table 20). Under the new law, the cooperatives were freely allowed to establish their own membership qualifications, their operational region, and activities, but government guarantee of bank loans and the cooperatives' exclusive buying rights of farm products were abolished. As a result, the cooperatives have been forced to compete with new private companies in the free market and immediate reforms are needed (E. Tsujimura, 1999).

3.8.3 Fishery Related Cooperatives

As of 2000/2001 to the present, 4,253 organizations have registered as individual cooperatives with the Ministry of Cooperatives and Marketing (formerly the Ministry of Agriculture and Cooperatives), of which 61.5 percent or 2,617 are Crop Cooperatives. The Saving and Credit Cooperative Society (SACCOS) comprises 20 percent of this figure, and there are also 44 federations belonging to three related cooperative banks that are registered with the said ministry. However, the individual cooperatives and federations that are no longer in operation are 10.6 percent for the former and 59

percent for the latter³. In the fisheries sector, there are 70 cooperatives nationwide, of which 11 are no longer in operation. Regionally, Mwanza has the largest number of discontinued cooperatives (18), followed by Mbeya with 16. Presently, there are four active cooperatives in the capital, Dar es Salaam (see Attached Table 21). However, this statistic does not match the statistics obtained at the region and district levels, and its reliability is questionable. Hence the nationwide data given in Attached Table 21 represents a broad trend within the country. Therefore, the respective statistics for the region and district levels will be utilized.

The Ministry of Home Affairs has been registering associations since 1954, and as of November 2001, a total of 11,262 cooperatives have been registered. However, this data has not been carefully preserved and the statistics are unreliable. Less than 76 percent of the cooperatives that were registered from 1981 to 2001 remain in operation. There were only 20 fishery cooperatives registered with the ministry after 1981, of which 11 are currently operating in Dar es Salaam.

The major goals of the fisheries related cooperatives presently active in Tanzania are divided into the three major objectives;

- (1) Achieve economic benefits through joint activities,
- (2) Secure business and land usage rights, and
- (3) Receive assistance from external sources such as NGOs and donors.

The Musikamano Fishing Group, a fisheries cooperative operating in Mafia Island, Coast Region, exemplifies a fisheries cooperative with economic goals (objective 1). Fishers with limited access, both physically and socially, to external assistance created a small group; and using capital from joint contributions purchased fishing equipment and began their group activities. Together with the joint contributions of 15 members and a loan, the group purchased fishing equipment and a second-hand fishing boat. One-third of the revenue generated from fish sales after deducting expenses was saved and the remaining two-thirds were divided among the members. Despite the usage costs of an outboard engine and loan repayments, the income of its members has increased (see Chapter 3, Section 2.1). In Upendo, Kigoma district, Kigoma Region, there is a voluntary dried fish processing group comprised of five women. Utilizing joint contributions, they were able to purchase a larger volume of Dagaa for their processing and marketing activities. Presently, their income has increased by 165 percent in comparison to two years ago prior to forming a group. In addition to direct economic benefits, there has been an added welfare type benefit based on mutual assistance of members taking over the work of another during an illness.

Joint sale which generally can be done as joint activities has not been done in Tanzania. However, it can be seen among some cooperative societies in Kenya where Nile perch fishing is active along Lake Victoria. Fishers that normally get small amounts of product and who do not have storage facilities tend to be exploited by processing factories and middlemen. Therefore, fishers in Kenya utilize joint sales and society members consigned sales to societies which then sells certain amount of fish to processing factories. This enables the fishers to negotiate the price and to maintain high price. At the same time, 10 percent commitment fee is paid to the societies by fishers to provide stable capital resource. The relation between fishers and processing factories and middlemen is not equal yet at the Tanzanian side of Lake Victoria and cooperatives are not developed. There is a need to promote an exchange of information with neighbouring country's cooperatives and also to promote the formation of cooperatives.

Cooperatives that were formed according to objective (2), to secure business and land usage rights, are created in areas such as the Dar es Salaam fish market where potential government presence exists. The cooperative, Vusha, comprised of fishers and small retailers, was formed in 1980 to conduct activities in the Dar es Salaam fish market. Its initial founding motivation was to protect their activities from external pressure. Presently, a new fish market was constructed in Dar es Salaam⁴.

³ Statistics on individual cooperatives were obtained directly from the Ministry of Cooperatives and Marketing in 2001. The statistics on federations were obtained from "The Planning Commission DSM, TZ June 2000, The Economic Survey 1999".

⁴ Built under the Japanese government grant aid scheme, construction of the new fish market was completed in April, 2002.

According to an awareness survey of the retailers belonging to cooperatives and voluntary groups conducting activities at the fish market in May 2001,⁵ the “incentive for joining” or “the services expected from the cooperative” were joint equipment purchases and improved welfare and economic activities such as micro financing activities. The foremost reason was to secure a space in the new fish market (see Table 1-17). In addition, of the 70 respondents, 60 percent responded that they joined the group or cooperative after construction plans for the new fish market had materialized, an indication that the motivation to secure business rights had stimulated memberships in the organizations.

Table 1-17 Incentive for Joining a Group or Cooperative and Future Expectations of Services (70 Respondents)

	Incentive for Joining		Expected Services	
Secure space in the market	29.8%	(20)	28.7%	(29)
Economic cooperation (joint purchases of equipment)	19.4%	(13)	21.8%	(22)
Improve market distribution and resolve other issues	11.9%	(8)	5.9%	(6)
Implement micro financing activities	7.5%	(5)	36.6%	(37)
Negotiations with government, serve as parent organization to receive assistance	7.5%	(5)	5.9%	(6)
Resist external pressure (from government, police)	7.5%	(5)	0.0%	(-)
Secure stable occupation and development	11.9%	(8)	0.0%	(-)
Acquire knowledge, training, education	1.5%	(1)	1.0%	(1)
(mandatory membership)	3.0%	(2)	-	-
Total	100.0%	(67)	100.0%	(101)

Source: Interview survey by JICA Master Plan Study Team.

Note: The figures in parenthesis refer to the number of respondents. Due to non-respondents or those who gave two answers these figures do not total up to 70 respondents.

There are many cooperatives that were formed according to objective (3), to receive assistance from external sources such as NGOs and donors, despite the fact that public financial assistance is extremely limited in Tanzania. The Mikingamo Fishing Cooperative Society in Mafia Island, Coast Region received a free loan for fishing equipment from the Fisheries Division. Using this capital, they began their fisheries activities and presently, they have repaid the loan, purchased new equipment from the profits generated, and expanded their activities. When organizations are dependent solely on assistance from external sources, there is the danger that the activities of the organization will cease in conjunction with the assistance. But the Mikingamo Fishing Cooperative Society is a successful example of how external assistance was utilized as a base to achieve sustained development. Additionally, a total of 16 groups comprised of NGOs such as TACARE and KARITAS and Small Industry Development Organization (SIDO) a government related group, in Kigoma Region has set up a network to actively help establish SACCOS in the farming and fisheries communities. TACARE, in conjunction with the district cooperative members and the Community Development Officer, has helped establish SACCOS in seven villages in Kigoma District. The introduction of a management system that allows operation funds to be actively managed by the cooperative and the elimination of the old cooperative system that was dependent on the government and other external parties for operating funds has helped the expansion of SACCOS. Although SACCOS in Japan has a strong public factor and to what extent it helps cooperatives to secure capital is as yet unknown, SACCOS has strengthened the unity within the cooperatives and provided an opportunity to expand the organization's financial source.

⁵ The awareness survey, based on a questionnaire containing 13 items, was conducted on groups and cooperatives of retailers at the Dar es Salaam fish market. A total of 175 retailers were surveyed—145 men and 30 women—and the response ratio exceeded 95 percent. Table 1-11 shows that 40 percent or 70 respondents were members of a cooperative.

Table 1-18 Categorizations of Fishery Related Federations

Objective for Organizing	Area	Fisher Group	Specific Activities
1) Economic benefits from joint activities	Mafia Island, Coast Region	Musikamano Fishing Group	Group formed by 15 people, purchased equipment using joint capital to develop activities; took the initiative to acquire technical know-how on enclosure net fishing.
	Kigoma district, Kigoma Region	UPENDO	Expand the purchase of Dagaa, processing, and retail activities through joint capital. Welfare benefits also obtained by organizing.
2) Secure business and land usage rights	Dar es Salaam	Vusha	Aim to serve as negotiating window with external parties.
3) Receive assistance from external sources	Mafia Island, Coast Region	Musikamano Fishing Group	Began fishery activities using capital from free loan from Fisheries Division. Presently, loan has been repaid and developing new activity.
	Kigoma district, Kigoma Region	7 fishing and farming villages targeted	NGO assistance to establish SACCOS

Source: Interview survey by JICA Master Plan Study Team.

3.8.4 Characteristics and Issues Pertaining to Fishery Related Organizations in Tanzania

The characteristics and issues that must be considered to strengthen fishery related organizations in Tanzania are largely divided into the following five categories: 1) lack of capital, 2) small scope, 3) low management capabilities/low educational background, 4) low reliability, and 5) frail system of assistance.

(1) Lack of Capital

The lack of capital appears to be a constant problem for all fishery related organizations. Following the structural adjustment measures that were enacted, government assistance or guarantees of payment for both cooperatives and associations were reduced to the barest minimum. The fisheries cooperative, UWAWADA, in Dar es Salaam is the largest fishery cooperative with a total membership of 260 people. However, their activities as a cooperative generated only a total of Tsh.3,240,000 (US\$ 3,600) in 2001, and its economic base is extremely frail.

However, in the case of the Musikamano Fishing Group operating in Mafia Island, Coast Region as mentioned earlier, joint capital was used to purchase a boat to develop fishery activities. Despite minimal capital, such organizations have successfully achieved results. Additionally, there are associations which have actively adopted the new activities of SACCOS which skilfully utilizes external capital sources. Therefore, in view of these examples, many cooperatives which have discontinued their activities due to lack of capital have been greatly affected by their leaders' lack of management capabilities and experience.

(2) Small Scope

There are many fishery related associations actively operating at the Dar es Salaam fish market. In addition to a total of five registered associations--two fresh fish retail cooperatives, two commercial cooperatives, and one fishery cooperative--the existence of 29 voluntary groups was confirmed in the interview survey conducted by the study team. Although a group for fish scalers with 191 members was found among these 29 voluntary groups, the majority were small groups with less than ten members.

There are presently 25 fish processor groups that exist in Kigoma District, Kigoma Region bordering Lake Tanganyika that were established with UNDP/CBI assistance according to the municipal fisheries officer. They mainly operate at the major fish landing sites at Katonga and Kibiriji in Kigoma district. These groups have not been registered as cooperatives and the number of members per group

is small, averaging 9.9 persons (based on a survey of 17 groups). However, as mentioned earlier, Dagaa processor group, UPENDO, have raised their revenue by 165 percent after organizing despite their small size. They have also had the added welfare benefit due to mutual help among the members. The members are not considering expanding their activities at present. This is due to the surrounding milieu of distrust for executive members and low management capabilities that have stagnated other cooperatives, and the fact that expanded activities have increased costs by making management more complex rather than producing economic benefits. Hence many voluntary groups remain small due to low management capabilities and low reliability.

(3) Low Management Capabilities and Low Educational Background

There are six fishery cooperatives and one association in Kigoma Region⁶. However, four cooperatives and the one association have discontinued their operations. The former is the Lake Tanganyika Fishers' Association (UWAZITA) whose membership is comprised of boat owners from 13 fishing villages and 308 fishers in Kigoma district. The cooperative was registered in 1990. The lack of operating funds is attributed to its shut down, but the low level of management capabilities, as seen in their inability to manage the fees collected from its members, and the executive members' reliance on financial assistance from donors for operating capital were also problematic.

Moreover, 69 percent (72 fishers) of the 104 fishers employed at the Dar es Salaam fish market have only an elementary school education and only 8 percent (8 fishers) have received middle school education. Hence the majority of the members of artisanal fishery cooperatives have limited education. The low educational background of the executive members of UWAZITA and UWAWADA mentioned above are believed to be one of the factors that have impeded the management of cooperative members; and the cooperative's activities have been made all the more difficult to implement, due to the lack of a uniform level of education among its members.

(4) Low Reliability

The Kibirizi Women Development Trust, a voluntary group, became such a successful phenomenon at one time in Kigoma district that their story was published in the national newspapers. But the accountant absconded with the membership dues, forcing the group to disband. Such cases are not rare in Tanzania. Subsequently, there is a distrust of executive cooperative members, and this situation has impeded the growth of large-scale cooperatives.

(5) Frail System of Assistance

As mentioned earlier, public financial assistance for cooperatives was abolished under the new Cooperative Societies Act. Despite the presence of cooperative members in each Region and district, visits and training activities have been inadequate due to budgetary shortages.

3.8.5 Important Issues and Their Orientation

In view of the characteristics, issues, and existing conditions of the current fishery cooperatives mentioned above, the important issues and their orientation that must be addressed to strengthen the cooperatives have been explained below.

The economic foundation must be strengthened to achieve sustained management and operations independent of external assistance. SACCOS will be introduced to mobilize the cooperatives, joint funds will be utilized as capital, fish marketing will be consigned, and market management and other measures will be targeted to expand the financial source.

A total of 16 organization comprised of NGOs such as TACARE and KARITAS in Kigoma Region, in conjunction with Small Industry Development Organization (SIDO) the government related group, will form a network to actively establish SACCOS in farming and fisheries communities. In particular,

⁶ Figure obtained from the regional cooperative officer. Differs from national statistics.

TACARE, in conjunction with the district cooperative members and the Community Development Officer, has helped establish SACCOS in seven villages in Kigoma district. Supporting the assistance given to SACCOS is the introduction of a management system that allows operation funds to be actively managed by the cooperative and the elimination of the old cooperative system that was dependent on the government and other external parties for operating funds. Although SACCOS in Japan has a strong public factor and to what extent it will help cooperatives to secure capital is as yet unknown, but SACCOS has strengthened the unity within the cooperatives and has provided an opportunity to expand the organization's financial source.

The cooperative leaders and members at the region and district levels will undergo supervisory training to strengthen their capabilities through NGO assisted workshops and training programmes. Simultaneously, the adjustments and intervention by NGOs and region and district officers will be strengthened to raise management transparency.

Presently, there are several institutions that provide assistance for fishery cooperatives in Tanzania. One of these institutions is the Cooperative College, a semi-government institution headquartered in Moshi in Kilimanjaro Region. The college has 18 branches nationwide and its major objective is to provide (a) research, (b) consultant services, (c) develop educational materials and publications, (d) provide advisory services, and (e) community training programmes for cooperatives. Cooperative assistance activities include training programmes to strengthen the capabilities of the cooperatives and to conduct micro financing schemes. Such activities are exemplified by the work of TACARE, KARITAS, OXFAM, and other NGOs which have assisted SACCOS. By actively utilizing such locally established third-party institutions, the structure of fishery cooperatives and fisheries and the management capabilities of cooperative members can be strengthened.

Small-groups that presently remain unregistered will be organized and their systematization will be pursued without destroying the traditional social security system, existing organizations, and values.

Due to low degree of trust and the poor management capabilities of the executive cooperative members, the majority of the small cooperatives do not opt to expand. Therefore, measures to establish a management system and to strengthen the capabilities of the cooperative leaders are a priority. Therefore, measures to create a system combining these two elements and to organize and systematize existing groups will be pursued.

3.9 Fisheries Administration and Finances

3.9.1 Fisheries Administrative System

The fisheries sector is administered by the Fisheries Division in the Ministry of Natural Resources and Tourism. With the on-going decentralization of the fishery sector from 1990's, 145 officers are now working at District Fisheries Offices, while only 19 officers working at Fisheries Division Headquarters. Headquarters fisheries officers formulate policies and overall coordination. Presently, fisheries related services are carried out by the fisheries officers in each district. The District Fisheries Offices and its administrative tasks are under the management of the DED. The districts can establish and collect landing fees for their own revenue.

Research surveys are conducted by TAFIRI, Mbegani Fisheries Development Centre located in Bagamoyo and Nyegezi Freshwater Fisheries Training Institute located in Mwanza. The latter two are organized as training centres under the management of the Headquarters Fisheries Division. The majority of the officers at the Fisheries Division Headquarters have earned their BSc or MSc degrees from the Department of Zoology and Marine Biology at the University of Dar es Salaam.

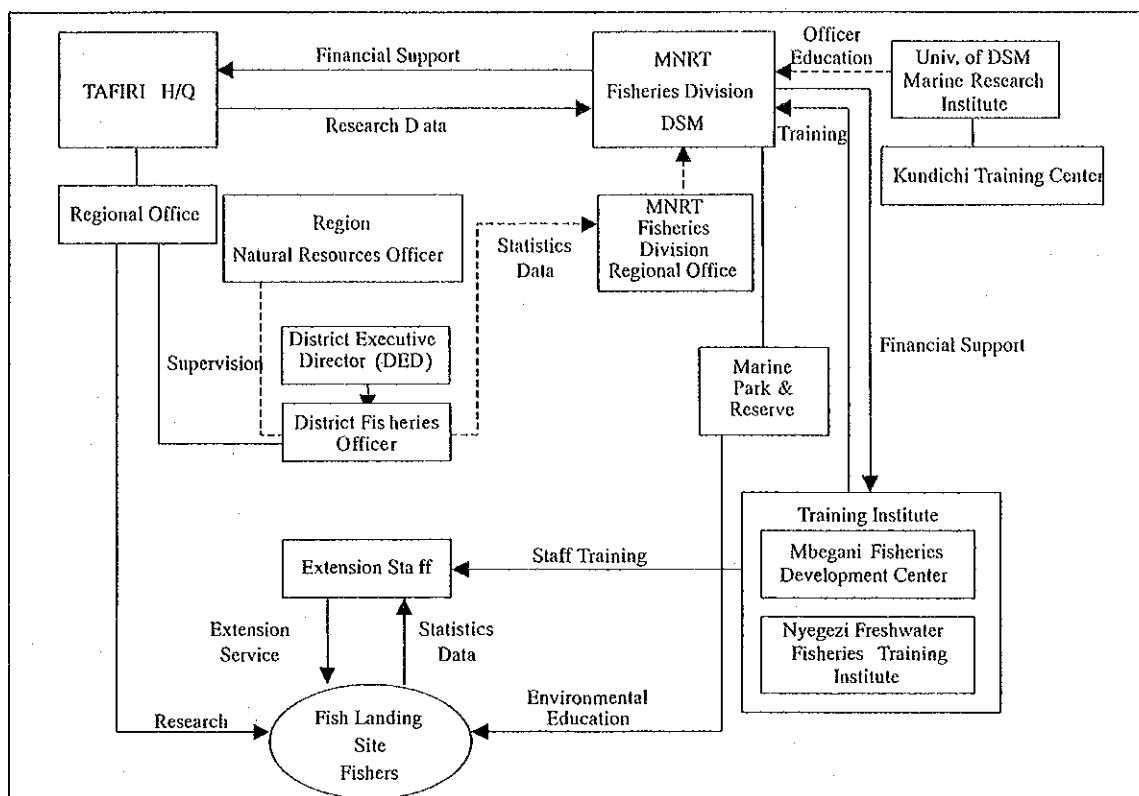


Figure 1-5 Arrangement of Fisheries Development Institutions

3.9.2 Administrative Organisation

(1) Ministry of Natural Resources and Tourism, Fisheries Division

The Fisheries Division of the Ministry of Natural Resources and Tourism is in charge of overseeing the fisheries activities in Tanzania. It was originally established within the Ministry of Agriculture, Food, and Cooperative (MAFC) in 1964, but was transferred to the current ministry, in conjunction with the Forestry Division and the Wildlife Division in 1970. Presently, the Fisheries Division is divided into four sections, regional offices in each of the three Lake Victoria districts, three training centres, a quality control laboratory, with about 200 staff members (see Attached Figure 29). Their mandates are;

- Monitoring and monitoring guidance: Fisheries patrol, administrative and issuing licenses
- Management of quality and standards: Conducting tests and ensuring quality
- Survey, training, and statistics: Survey, training, and statistics
- Fisheries development: Planning and development, marine culture and extension, publicity activities

The role and responsibilities of the Fisheries Division is stipulated as shown below. There are only 59 staffs in fisheries division Headquarters of which only 19 are officers with bachelor degree (they are fisheries officer or assistant fisheries officer). Office automation is inadequate and with poor working environment, it is difficult for the staff to carry out their work effectively.

- Policy making and supervision
- Formulating sector plans and the budget
- Formulating administrative tasks and review activities
- Enforcing and monitoring the laws.

- (e) Supervising and evaluating the progress in each sector
- (f) Managing an information system
- (g) Developing human resources and implementing extension activities in fisheries management based on the labour planning.
- (h) Implement surveys, training, curriculum development
- (i) Coordinate with other divisions
- (j) Issuing licenses
- (k) International cooperation and joint activities
- (l) Fish quality control

The role of the district fisheries offices' at administration is to carry out policies formulated by the fisheries Division Headquarter. In particular, extension activities in fisheries, which is the responsibility of the district is one of the most important services. But at district level, especially fisheries staff who are in charge of information gathering at fishing villages, are inadequately trained with low skill. There are practically no chance to improve their skills so it is very important to hold regular basic training for these officer.

Table 1-19 Number of Fisheries Division Staff Members and Educational Background

	Number of Staffs						Age	Years Employed
	Ph.D	M.Sc	B.Sc	Others	Total	Women		
Director/Asst. Directors	0	4	1	0	5	0	52-57	27-32
Principal Fisheries Off.	0	0	1	0	1	1	56	30
Fisheries Off.	0	7	5	0	12	5	36-46	10-20
Assistant Fisheries Off.	0	0	0	14	14	3	36-46	10-31
Technicians	0	0	1	7	8	3	34-49	10-38
Administrative Staff	0	0	0	19	19	13	30-51	10-30
Total	0	11	8	40	59	25	-	-

Source : Fisheries Division

The issues are listed on the Table 1-20 below that were raised in the workshop for fisheries officers from both central and local governments held in June 2001 by the Project.

Shortage of officer: The Fisheries Division has not hired new permanent or temporary employees since 1992. So shortage of young worker have a bad effect on overall function. Although Headquarter officers are highly educated and trained, most fisheries staff who carry out extension activities have inadequate educational and training background about fisheries.

Shortage of co-operation between the Fisheries Division and District Officer: Because of district administrative reforms, the number of fisheries staff and quality of services have decreased. District fishery officer and fisheries staffs are under the management of DED. Instead of fisheries patrol, collection of data, and extension activities, which were the original task of fisheries staff, they are instead mainly collecting fees for district administration. For basic statistics on fisheries production, management and leadership from Fisheries Division Headquarter is required.

Poor Condition of Facility and Office: The Ministry of Natural Resources and Tourism is located in several buildings and the Fisheries Division is located on three separate floors in narrow, cramped areas. There is no meeting room and communication between staff members is difficult. The lack of efficiency is an issue. Due to the lack of communication in the Fishery Division, the staff members want to have regular meetings for simple briefings in order to understand what is occurring within the division. The office space is cramped and the desks are overflowing with documents. Some of the offices have air conditioning and some do not. The overall working environment is poor and the general complaint from staff members is the lack of inadequate manpower. Training centres in country are old and not appropriate for current fishery training at all. Additionally, contents of equipment are

of developed country's or corporate type, not appropriate for current Tanzanian fisheries needs, 96.6 percent of which are small-scale artisanal fishers.

On the other hand, district level problems differ from Headquarter level problems, two of which are listed below.

- Lack of budget and low awareness of local government on fisheries
- Lack of good transportation and communication methods between fishing villages

The low awareness of local government on fisheries management and policy making at district fishery administration may be attributed to DED who do not have fisheries background. It is therefore doubtful that the DED's judgement on fisheries administration is appropriate or not. Additionally, in the district fishery office which is in charge of extension activities and survey data collection, there is shortage of vehicles, motorbikes and also fuels; mobility is a serious problem.

Table 1-20 Main Issues for Fisheries Administration Raised in the Workshop Held in 2001

Administrative Issues raised by fisheries Officers at H/Q	Administrative Issues raised by fisheries Officers in local government
-Lack of human resources resulting from retrenchment	-Lack of budget for local
-Low salary	-Limited source of revenue
-Lack of fisheries information system between central and local	-Staff shortage
-Insufficient Working environment	-Confusion in duties
-Complication of procedure for purchasing facilities and equipment	-Low awareness of local government on fisheries
-Lack of communication between H/Q and districts	-Insufficient facilities
	-Lack of good transportation facilities (Especially in rainy season)

Source: Workshop for Fisheries Officer, June 2001

(2) Tanzania Fisheries Research Institution

The TAFIRI was established in 1980 as the institution responsible for implementing fisheries research activities in Tanzania. Initially, it was a segment of the Fisheries Division, but became a separate institution with its own independent budget in 1983. It is headquartered in Dar es Salaam but there are four research centres located throughout the country (Dar es Salaam, Mwanza, Kigoma, and Kyela).

[Objective]

- Promote, supervise, and coordinate fisheries related surveys in Tanzania.
- Develop and protect the fisheries industry by promoting and developing fish processing, aquaculture, and fishing techniques.
- Cooperate with the domestic and international governments and other relevant personnel to implement fisheries surveys, management training, and to provide educational facilities.

TAFIRI is managed by an operations committee and the director, like the director of the Fisheries Division, is appointed by the president. Presently, it is staffed by 172 members of whom 32 are researchers and 139 are assistants. There are plans to recruit 71 new staff members (21 researchers and 50 assistants) to fill the openings in the institute and they will be assigned to an international resource survey project that will be implemented in the Indian Ocean. Its overall budget for FY2000/2001 was one billion Tsh of which one-third or Tsh.350 million was provided by the national government and two-thirds from the World Bank and the EU. The budget was used to fund two projects conducted in Lake Victoria (LVEMP, LVFRP).

Problems of TAFIRI are; 1) their researches are not appropriate for processor and artisanal's requirement, 2) they are not able to provide results of their researches such as resources research, 3) projects that depend on donors are ended when projects are finished.

Research centres in Mwanza and Kigoma are fitted with equipments by LVEMP or LTR. But headquarters of TAFIRI is housed at the reconstructed Kunduchi Fisheries Training Centre's dormitory. This centre does not provide an efficient office environment and additionally there is shortage of equipments. This situation is not conducive for the officers.

Educational system of Tanzania is 7-6-4 system which is similar to English style education system. There are two types of fishery's educational schools. One is vocational training school (1 to 3 years) which can be entered after O-level education. The other is at university (4 years) level.

General Education	Primary Education (7 years)						Secondary Education (6 years)				Under graduate	Post graduate	
							1st half		2nd half				
Fisheries Higher Education													Fisheries Officer
Specific Fisheries Education													Assistant Fisheries Officer
Fisheries Technical Education													Technician

The major fisheries related educational institutions are scattered throughout the country and it is the occupational training and fisheries training schools that were established in the latter half of the 1960s. The facilities were renovated in the 1980s with the assistance provided by donor countries. Many of the facilities are located within a large campus in remote areas. Subsequently, the housing for staff members and the student dormitories are modern and spacious. However, the number of students have decreased and most have fallen below their fixed student quotas. As a result, the number of staff members has outnumbered the number of students and maintaining efficient operations has become a major issue.

3.9.3 Fisheries Finances

(1) Budget of the Fisheries Division

The Fisheries Division operations budget for FY2000/2001 (July to June of the following year) was Tsh.2.6199 billion (US\$ 3 million) of which 69 percent or Tsh.1.8 billion (US\$ 2 million) has been allocated. The Ministry of Natural Resources and Tourism operations budget for the same period was Tsh.13.657 billion. The Fisheries Division's budget scale comprise 19 percent of the ministry's budget. Budget per officer of the Fisheries Division is Tsh.12.8 million, and it is much higher than that of ministry's average (Tsh.0.33 million).

Presently, the Tanzanian government is pursuing a policy of promoting independent financial resources for each ministry and division. In the case of the fisheries sector, the royalties generated from export tariffs of fishery products have served as a relatively stable and major financial budgetary resource apart from FY1999/2000 when Nile perch export was banned in EU.

The FY2001/2001 budget of the Fisheries Division is currently under review. Based on increased revenue of Tsh.4 billion generated from royalties, the budget is anticipated to become Tsh.3.2 billion. Personnel costs are not included in the budgetary system of the Tanzanian government. In addition, the investment budget is usually calculated according to surplus, but in the case of the fisheries budget, the purchasing cost of motor vehicles and investments in fisheries facilities are included in the operating budget; and the budget is zero. However, the budget for constructions and establishment cost of Mafia Island Marine Park (Tsh.108.5 million) were paid by NORAD and Marine park accounts section did not accurately reflect this. The Fisheries Division operations budget include subsidies to district administration. This budget for FY2000/2001 was zero, but for FY1999/2000 was Tsh.549.2 million and for FY2001/2002 was Tsh.120 million.

The FY2000/2001 budget include subsidies for LVFO (Tsh.56 million), LVEMP (Tsh.50 million), MPRU (Tsh.173 million), MIMP (Tsh.45 million), Mnazy Bay (Tsh.10 million), and TAFIRI (Tsh.374 million). In addition, fuel costs for the patrol boats used to prevent illegal fishing activities are subsidized (Tsh.25 million). About fishery institution's budgets for FY2000/2001, subsidies appropriated are Tsh.374 million for TAFIRI, Tsh.138.4 million for the Mbegani Fisheries Development Centre, Tsh.83.8 million for the Nyegezi Freshwater Fisheries Training Institute, and Tsh.111.2 million for the Kunduchi Fisheries Training Centre. But these institutions have a revolving fund as an original resource.

Table 1-22 Fisheries Division Budget and Transitions in the Amount Allocated (FY1997 to 2001)

Fiscal Year	Budget Amount (Tsh. million)	Amount Allocated (Tsh. Million)
1996/97	193.6	193.6 (100%)
1997/1998	1,842.4	1,580.0 (86%)
1998/1999	1,828.7	1,600.0 (88%)
1999/2000	1,620.8	1,400.0 (86%)
2000/2001	2,619.9 (= \$3.0 million)	1,800.0 (69%)

Source: Fisheries Division

(2) Fisheries Related Tariffs

The fisheries tax system, which is one of the financial resources of the central government, is comprised of export royalties and large fishing boat and fishing boat registration fees. Fishing boat, fishers, and retailer license fees, landing fees, and mooring fees are part of the financial resources of the regional governments. In addition, there are the import tariffs, value added tax, and income tax which are collected by the central government. The import tariffs are levied at 0, 5, 10, 20 or 25 percent depending on the object. Generally, the import tax on interim processed products is 10 percent and 15 percent for final stage processed products. However, the import tax on outboard engines and fishing gear is exempted. Value added tax is 20 percent across the board, but it has been waived for

fishery related capital goods as an incentive for investors. Revenue of Fishery Division from this tax system for FY2000/2001 was Tsh.5,456.5 million; Tsh.94.8 million from registration fees and Tsh.5,361.7 million from export royalties. Export royalties was 157 percent of estimate.

The revenue flow of the fisheries sector is largely divided into two areas, namely the general budget and the royalties generated by exporters and commercial fisheries, which are the financial resources of the Fisheries Division, and the landing taxes collected from fishers and retailers and the license fees that are the financial resources of the district governments. These two divisions are the outcome of the decentralization policy and it has made the administration of the fisheries sector difficult.

The district fisheries officers were responsible for collecting taxes on landed fish and collecting statistical data, but these tasks have become infrequent due to the privatisation of these tasks. Many districts are compiling their data based on the auctions of samples and the revenue generated from fish landing tariffs has greatly declined.

It has been pointed out that the fish landing tariffs and the license tax are duplications of the same tariff, but they are clearly different in purpose and in the case of fishers and fishing boats that utilize landing sites in other districts in Dar es Salaam or at Lake Victoria, the licensing tax fulfils an important role in resource management. However, due to the financial difficulties of the districts, the revenue generated from these tariffs are not allocated to the administration of the fisheries sector.

(3) Financial Capabilities of the Local Fisheries Administration

The following seven goals were listed in the Local Government Reform Agenda 1996 to 2000 that was formulated in 1996.

- (a) Largely autonomous institutions
- (b) Strong and effective institutions
- (c) Democratically governed
- (d) Deriving legitimacy from services to the people
- (e) Promote the development of citizen
- (f) Institutions that reflect local demands and conditions
- (g) Conducting activities with transparency and accountability

However, these goals are still concepts as yet and far from the current situation. According to the FY2000 financial report, the finances of the districts, excluding Ilala Municipal of Dar es Salaam and Mwanza, are dependent on subsidies from the central government. So, districts are promoting collection of landing fees to improve their independent profit systems. And in some district, it is an important source of revenue.

Ilala Municipal is the economic centre of Dar es Salaam and the revenues generated from city services are more than Tsh.5 billion (per capita Tsh.5,300 annually). This municipality contains the Dar es Salaam fish market which generates a tax income of Tsh.75 million.

Mwanza has the largest tax income from fishery sector in Tanzanian districts. Tax income from the landing taxes and the license fees are Tsh.251.8 million. The economic growth of the fisheries sector in Mwanza generates about Tsh.1.7 billion in municipal revenues (per capita Tsh.3,500 annually) or 15 percent of the overall income tax revenue.

In addition, the fisheries in Mafia island plays a major role in the regional economy and the fish landing tax comprises 20 percent of the island's financial resources. According to the Fish Levy Trust Study, fisheries related revenue was markedly high in FY1999 in Sengerema (Lake Victoria) which amounted to 38 percent and 39 percent in Ukerewe (Lake Victoria) in FY2000. With reference to Table 1-23, in Ilala Municipal and Mbeya districts, budget expenditure exceeds fishery tax revenue. But in other districts, reinvestment ratio is low (6 to 24 percent).

**Table 1-23 Tax Revenues from Fisheries Sector
by Major District and their Fisheries Expenditure**

Unit: Tsh.

District	Fisheries Tax Revenue (A)	Personnel Costs* (C)	Budget Expenditures (D)	Total (B = C+D))	Reinvestment Ratio (B/A, %)
Mbeya	**734,070	1,000,000	129,960	1,129,960	154
Mafia	8,630,000	2,000,000	1,574,141	3,574,141	41
Bagamoyo	9,000,000	2,000,000	647,500	2,647,500	29
Ilala	75,255,200			***141,603,200	188
Mwanza****	251,800,000	9,800,000	5,500,000	15,300,000	6

* Calculated by JICA Master Plan Study Team (Tsh.1,000,000 /staff) according to the Data of Kagera Region

** Fish levy for natural resources and environment

*** Budget expenses in natural resources and environmental sector

**** Budget for FY 2001/2002

The collection rate of fish landing tax is low because of scattered landing sites. Even collection rate for Dar es Salaam fish market where landings are concentrated is only 7 to 20 percent (see Attached Table 30). If fish landing tax was collected without fail, the amount would be 11 times higher than the percentage collected at Bukoba (urban) and 73 times higher than the tax collected at Lindi district. Effort should be expended to raise the fish landing tax revenue in both these districts and the reinvestment of this revenue into the administration of the fisheries sector should be strongly requested.

(4) Fisheries Development Fund (FDF)

In its revisions of the existing fisheries laws, the Fisheries Division has included a provision to establish a Fisheries Development Fund to promote fisheries. This provision is based on the concept to generate public revenue from the fisheries industry and to promote further environmental conservation at Lake Victoria. It was proposed by the LVEMP in conjunction with the proposal to establish the Fish Levy Trust Fund nationwide based on the basic outline given below.

- Create a special fund for environmental conservation activities.
- The source of revenue will be based on export royalties. The National Tax Agency will manage the allocation of the fund.
- Establish a joint financial body to assist relevant personnel (including regional governments) who are contributing to activities similar to those of the LVEMP micro project.

The Fisheries Division has royalties, but only 68 percent of budget have been allocated. It is suggested that royalties be put into the FDF to establish a stable fund. It is necessary that FDF become a large-scale fund for capital to extend services to fishers and flexible to reply to various needs. Presently, the Fisheries Development Fund is based on the following basic concepts formulated in the new proposed Fisheries Act.

(Article 18: Right to Collect Fees)

- The minister is responsible for publishing the license and service fees and the export royalties that are generated.
- Export royalties will be decided according to potential market prices, production costs, potential company profits, and sustainability of the fish catch.
- The director will timely review export royalties.
- The minister will publish a list of exempted commodities.

(Article 19: Fisheries Development Fund)

- The Fisheries Division office will establish the FDF.
- The capital will be based on the amount granted by the National Assembly, on the amount stipulated in this article; it will be regulated according to the penalties described in Article 29

and it will be comprised of the amount that the fund is able to pay or in accordance with its assets.

- The director will manage the fund and will be responsible for keeping records in accordance with government accounting regulations.
- The minister will establish regulations on the functions and usage of the fund based on the advice of the finance minister.

(Article 20: Objective of the Fund)

- Raise public awareness about the importance of implementing fishery resource protection, development, and its sustainable use.
- Promote the development of a beach management unit (group responsible for carrying out protection of fishery resources) through advice and grants.
- Promote surveys, research, and development.
- Assist the country to receive overseas assistance and funds.
- Assist groups or individuals to participate in discussions about the fisheries industry.
- Assist groups or individuals to abide by these laws.

New fishery laws were considered and consultation with finance minister on the new fishery laws was held. Board of Trustees was added to as administrator group, and license fee (25 percent) and export royalties (15 percent) were added as revenue at the consultation in November. Real tax income of Fisheries Division from this tax system for FY2000/2001 was Tsh.5,456.5 million; Tsh.94.8 million by registration fees and Tsh.5,361.7 million by export royalties. So Tsh.826 million will be for the Fund.

As can be discerned from the above, the priority of the fund is to promote environmental conservation. However, its use to modernize the fisheries industry is desirable in order to improve fisher incomes. To achieve environmental conservation, the incomes of artisanal fishers must be improved simultaneously as seen in the project, Eradication of Destructive Fishnets Used by Artisanal Fishers and Environment Conservation, implemented in Mafia Island. To replace destructive fishing gear with environmentally friendly ones and to introduce out-board engines promoting offshore fishing, FDF should come into use. So reconsider of using FDF is needed. Export royalties is tax from corporation fishing, and promoting of export lead to increase of Fund revenue. Supporting investment for export project should be discussed positively.

(5) Characteristics of Finances in Fisheries and Loans Available in the Fisheries Sector

1) Characteristics of Finances in Fisheries

Generally, local credit is more difficult to obtain than city credit since financial institutions tend to concentrate in urban areas. Today, there is no financial system especially for fishers in Tanzania. Fishers can use only commercial bank or micro credit for rural area provided by NGO. Particularly for fisheries, rural credit is even more inaccessible. This is due mainly to the following factors.

- Fishers' transitory nature: Many fishers change the area of their fishing activities according to seasonal fluctuations of the fish and wind direction. So it is more difficult to collect a credit than farmer who rarely moves.
- Income is unstable and varies according to seasonal fluctuations: The income of artisanal fishers are generally low and markedly fluctuate according to the seasons and the fish landing volume. As a result, their ability to maintain fixed payments is seen as difficult.
- The risk of losing fishing gear and fishing boats at sea: There are numerous cases of fishers who lose their nets and other gear at sea, are robbed, or lose their fishing gear. Therefore, fishing gear is not valued as collateral.
- Need of large investment at the beginning: If fisher buy a set of fishing gear and fishing boats, it costs several million Tsh. But limit of small-scale financial loan is lower than that cost.

Subsequently, many fishers are unable to obtain loans. Among the assistance projects provided by overseas donors, loans have been inadequately managed and there are cases where fishers tend to think that repaying the loans are foolish and have defaulted. However, a few of the micro projects implemented by NGOs have shown that if fishers are educated as a group, they are able to repay their loans.

2) Existing Financial Institutions and Services

The following institutions provide credit services in the coastal region.

- a) RIPS: Revolving loan scheme
- b) Regional municipal offices: Revolving loan scheme for women and young people
- c) Community Base Initiatives: Revolving loan scheme
- d) SWISSAID: Deposit and credit
- e) Poverty Africa: Deposit and credit
- f) Pride Tanzania: Deposit and credit

All of these institutions provide a variety of financial services for specific groups and offer different types of loans, and repayment ratios. SWISSAID and RIPS provide financial services for fishers and although RIPS initially began providing revolving loans, it is no longer conducting credit activities. The other organizations target the general public. The regional municipal offices offer financial services only to women and young people. In total, although a large segment of the population has been targeted, the share of services available for fishers is extremely limited. Due to the transitory nature of the occupation and the difficulty of evaluating their incomes, the general opinion of the financial institutions is that fishers are a high-risk group.

On the other hands, there are not only loan by processor factory, but also ACORD, Pride Tanzania and other NGO provide micro credit services for fishers around Lake Victoria. Additionally, workshop about SACCOS was held at the Nyegezi Freshwater Fisheries Training Institute by the Fisheries Division. Influenced by this workshop, MWADESO: union of Kirumba market in Mwanza and BMU in Kayenze are preparing to set up SACCOS.

Table 1-24 General Financial Institutions and NGO Loan Conditions

Financial Institution	Maximum Amount	Interest Rates	Repayment Period
Micro Finance Bank	Tsh.50,000-500,000	2.5%/month	6 months
CRDB	Tsh.1 million-1 billion	12-19%/annum	2-5 years
Pride Tanzania	Tsh.5,000-5 million	25-30%/annum	25-100 weeks
Poverty Africa	Tsh.1,000-100,000	25-60%/annum	3-6 months
SACCOS	Double deposit	2%/month	12-24 months
ACORD	Tsh.100,000-500,000	15-21%/annum	6 or 12 months

Source: Interview survey by JICA Master Plan Team

According to a breakdown of the number of loans granted by each of the financial institutions, Pride Tanzania (Temeke branch) has granted 137 loans (about 25%, but these are not limited to fisher groups alone), Poverty Africa (Tanga branch) has five groups. Many are fisher women groups engaged in fish processing or retail activities. However, some groups have been reported to be repaying loans amounting to several million Tsh to financial institutions. ACORD has five fishery groups (including two to three processor groups) and four fish monger groups.

The Micro Finance Bank did not show active interest in providing financial assistance to fishers due to the transitory nature of the work and the seasonal fluctuations in income. CRDB was concerned about the management costs and they were not interested in the direct handling of micro credit accounts. However, following negotiations with the NGO and the UNDP, they may be willing to establish a cooperation related scheme depending on the conditions. The achievements of PRIDE can be evaluated based on their management capabilities and loan size. However, they require eight stages of repayment to secure a Tsh.5 million loan. In the case of SACCOS, only loans that are double the deposit amounts are provided. Therefore, they are an unsuitable source of purchasing capital for fishing input.

(6) Lessons Learned from Past Fishery Loan Projects

The Kigoma and Kagera loans were credit schemes that were proposed by FAO and later promoted by NORAD. Credit collection activities have been carried out by CRDB. The objective of the schemes was to resolve the issue of supplying fishing gear and other materials. Kigoma loans were provided to 916 fishers (total Tsh.213.3 million) and the Kagera loans were offered to 213 fishers (total Tsh.71.7 million). The initially planned loan amount was not achieved and the remaining amount has been entrusted with the CRDB. The repayment ratio has averaged at 60 percent, but the ratio has differed between regions and groups and range from 22 percent for the Biharamilo fisher group to a high 93 percent for the women's group in Biharamilo (Kagera Fishing/Farming Community Development & Credit Scheme). The factors which have contributed to the low repayment ratio are listed below.

- 1) A specific team has not been created to carry out loan collection activities.
- 2) Repayments have to be made at the bank and an approach enabling repayments to be collected at the beach have not been made. In addition, a programme to track down and monitor creditors has not been implemented.
- 3) The bank has not felt responsible for the risks since the loan fund was not CRDB capital.
- 4) The credit scheme was modelled after the Kigoma scheme and the regional characteristics of Kagera region, which is comprised of many islands, were not considered.
- 5) The Region Loan Committee, that is responsible for selecting creditors, did not include an officer from the Fisheries Division. Subsequently, the circumstances of the creditors were not well understood.

3.9.4 Related Laws and Regulations

Present fisheries law and regulation system consists of the "Fisheries Act No. 6 of 1970" as a base and other related acts such as "Territorial and EEZ Acts (1989)" and the "Marine Parks and Reserves Act 1994". The New Fisheries Act is now being drawn up applying national FAO standards and the New International Act established in 1996. Within the country, the promotion of decentralisation influences district offices and H/Q for their responsibilities for implementation of laws and regulations. This New Fisheries Act, collaborating with the Ministry of Judicial Affairs, is now being formed by the Legislation Sector in Surveillance Dept., Fisheries Division, Ministry of Natural Resources and Tourism and the third rough draft was established in November, 2001. The draft of the New Fisheries Act consists of ten chapters in total, summarized below;

PART I	Preliminary
PART II	Administration Relation between local authorities and Fisheries Division
PART III	Development of the fishing industry Approval of fisheries functions National Fisheries Programmes
PART IV	Aquaculture development Director to issue guidelines and encourage aquaculture Aquaculture not to impair other activities
PART V	Management and control of the fishing industry Management and control measures Joint management agreement Training programme for fishers
PART VI	Fish quality control and standards Quality management Director of Fisheries to be the competent authority Fish marketing
PART VII	Financial provisions Power to charge fees

Fisheries development Fund
Purpose of Fund

PART VIII	Enforcement
	Surveillance unit
	Functions and powers of the unit
	Director may call for research offences
PART IX	General provisions
	Research priority areas
	Director may call for research information
PART X	Offences and Penalties
	Penalty for using explosives
	Act to prevail any by laws
	Repeal of Fisheries Act of 1970

3.9.5 Past and Current Fisheries Projects

(1) Trends of Donor Coordination in Tanzania

Despite the fact that the amount of the average official aid has decreased with 25 percent in low-income countries between 1994 and 1999, Tanzania has kept the level aid with US\$ 96.5 million in 1994 to US\$ 99 million in 1999. However, its dependency on foreign aid is high, that 40 percent of its import expense is covered by the aid (average for low-income countries is 7.9 percent, WB). Efficiency and transparency of official aid is a hot issue. Establishment of the 'Poverty Reduction Strategy Paper (PRSP)' and application of HIPC initiatives as a start line, coordination among donors, international organisations and NGOs for the poverty reduction is now being implemented under Tanzanians' initiative. Especially in the education sector, donor coordination is in progress as such common basket scheme is implemented among EU donors for a pilot trial. Donor assistances are now shifting from project support to programme support, and similar sector programmes are being implemented in the field of agriculture and livestock. The fisheries sector, its contribution to the economy is not well recognised and failed to be positioned as priority sector. Therefore, it is not well coordinated with the national development plans and other sectors.

In order to improve the aid practicability, it is a common tendency for donors to emphasise on capacity building. For the fisheries sector, especially in the field of fisheries management, capacity building among stakeholders does play an important role in the projects. Establishment of BMU at Lake Victoria and district /village fisheries management committee in Tanga region are some of these examples.

(2) Coordination among Major Donor Countries/ Organisations in Fisheries Sector

Within the above noted situation, there raised several issues for donor coordination in fisheries sector. First, generally fisheries sector is often positioned as lower priority even in countries where fisheries assistances have been successfully achieved. Programme support is also recommended in fisheries sector, yet, when the number of projects is small, its effectiveness might remain only within each individual project. For the Fisheries development in Tanzania, increase in fish supply accordance to the population growth, and increase in catch per head aiming at bigger income generation for fishers are some of key issues. The second issue is how to build consensus between 'development' and 'conservation' when major donors are all implementing conservation of water bodies and natural resources.

Table 1-25 Major Donors' Policy for Assistance in Fisheries Sector

EU	EU as importing countries for Tanzanian fisheries products, there is possibility for financial and technical assistance for resource management of lakes through assisting regional institutes including Lake Tanganyika and Lake Victoria Fisheries Committees. However, the priority ranking of fisheries sector is low, and there is no plan for the direct investment.
The Netherlands	The Netherlands is the biggest Nile perch importing country. In the past, she donated fishing equipments in Lake Victoria and Tanganyika. However, her development priority is focused on education, health and agriculture, and there is no plan for assistance in fisheries sector including resource management.
Finland	Seaweed cultivation among women in fisheries is supported as a part of integrated rural development in Lindi/Mtwara. Fishers are able to access general credit scheme.
Norway	She had supported establishment of Mbegani Fisheries development Institute in 80 to 90's. Yet, she has withdrawn from fisheries sector today. In future, financial support for environmental projects such as establishment of marine parks is under consideration.
Ireland	She continues financial assistance to TCZCDP. Project enforcement is managed by IUCN.
WB	WB will continue financial support to LVEMP until 2006. WB requires donor coordination especially in resource survey and patrol activities.
UNDP	Priority ranking of fisheries sector is low and UNDP is not enthusiastic in cooperation.
UNIDO	They are experienced in HACCP training for the government dealing with fisheries export and processing factories. There is possibility in coordination with quality control programme implemented by an UNIDO expert. However, UNIDO lacks in financing for its implementation. Financial aid from other donors is necessary.
FAO	FAO is implementing technical assistance in Fisheries development projects in Lake Victoria and Tanganyika, in collaboration with the Netherlands. However, there is no on-going plan in these water bodies. In coastal area, FAO has started to implement 'Capacity Building in Planning and Co-management of Tanzanian Prawn Fishery'. There is possibility of dispatching a FAO expert especially in technical cooperation, yet financial support is necessary. Technical cooperation for statistical systematisation is another possibility.
WWF	WWF is promoting establishment of marine protection area in Mafia, Menai, Kiunga, and Nyasa. Technology transfer is necessary for alternative fishing methods and alternative source of income for banning destructive fishing in protected area.

Source: Interview survey by JICA Master Plan Study Team.

Major donors' policy for assistance in fisheries sector is listed in the Table above. There is no donor who is planning to aid either construction of large-scale building or installation of fisheries facilities today. In future, institutional systematisation, capacity building in management and planning among regional/ district administration and fishers are likely to be encouraged for maximisation of limited aid resources. Strengthening fishers' group/cooperatives and building their capacity generally require long period of time. In other words, sustainability of the project is also an issue to be coordinated among donors. Numbers of small model projects including micro-projects in fisheries communities have been implemented in small scale. Donor coordination for further implementation of these small projects should also be achieved in future.

There is not much coordination or information exchange among the on-going fishery related projects. One of the reasons is decentralization. Through decentralization, project implementation body has shifted to the district level and has appeared to be a local project. Then the coordination role of the fisheries headquarter is no more fully functioning. As an example, in TCZCDP, the project contract was agreed at the district level. This has resulted in a number of fisheries officers in other districts (e.g. Lindi and Mtwara regions) not being aware of TCZCDP. Fisheries Division is allocating personnel who is in charge of each project funded by donor. However, these projects are individually dealt with; personnel and information exchange and coordination among these projects are not systematised. At present, information on a particular project is kept only by the personnel in charge and the donor who funded the project respectively. Therefore, coordination, synergistic effect and ripple effect among projects are small, and these are the reasons for the low efficiency in donor's projects. It is desirable that the Planning sub-division in Fisheries Division has overall management over project coordination, including the improvement of dispersion and distribution of information, the achievement of which is an awaiting solution.

Projects should be carried out in collaboration with one another for maximizing the implementation efficiency, especially when the poor coordination role of Fisheries Division is considered. The Table 1-26 shows the list of possible items from each major on-going project that the Master Plan can share information as well as coordinate its development strategies. Capacity building in fisheries management is a common factor put forth by these projects. Therefore, mutual exchange of information and experience on institutional building/ training programmes and evaluation/ improvement of the planning should be encouraged and effectively utilised. For the marketing project, the collaboration between production sites and markets is important; therefore, the coordination in fishers/ traders' training is necessary.

Table 1-26 Topics for Coordination between Major On-going Projects and the Master Plan

Project Name	Resource & Fisheries Research	Cooperative & Training	Fisheries institution	Equipments Aid	Rural Development	Financial Support	Coordination Topics with the Master Plan
Lake Victoria Environmental Management Project (LVEMP)		O	O		O		<ul style="list-style-type: none"> • BMU as a model case, implementation of fisheries management system in whole country is studied. Legal status of BMU is adjusted in coordination with LVEMP. • Effective use of royalty from Nile perch export from Lake Victoria for the fisheries financial source is to be planned.
Lake Victoria Fisheries Research Project (LVFRP)	O						The Master Plan is established in November 2001 based on resource data in Lake Victoria. If the survey is not completed, it will be continued based on LVFRP's activities.
Tanga Coastal Zone Conservation and Development Project (TCZCDP)		O					Technical assistance and equipment installation to selected fisheries organisation/ community empowered by TCZCDP in Tanga Region are considered. TCZCDP as a project aiming resource conservation, coordination especially in the increase in fisheries production is necessary.
Project for Construction of Integrated Fish Market Complex, DSM			O				DSM as a centre, fish marketing development in Tanzania including Lake Victoria and regions along coast will be studied. Capacity building of Ilala municipal as the management body and possibility of financial support will be pursued.
Rural Integrated Project Support (RIPS)					O	O	Technical assistance and equipment installation to fisheries organization/ community empowered by RIPS scheme are considered. Coordination with LVEMP is studied especially in the field of fisheries management.

4 FISHERIES POLICY AND NATIONAL DEVELOPMENT PLAN

4.1 Framework for Establishing the Fisheries Development Master Plan

After the 'National Fisheries Sector Policy and Strategy Statement 1997' was drawn up, the national development framework was formulated at the national level. The biggest action that has been taken

since was the overall involvement in poverty alleviation as HIPC initiatives applied in 2000. Its basic idea is introduced in the 'Poverty Reduction Strategy Paper (PRSP)'. There, under the national development issues and the implementation policy, the development strategies (sector programme) for poverty alleviation in various sectors including agriculture, public health and education are being established. Participation of donor countries, private sector and NGO under the ownership of Tanzania is set forth as a condition for the establishment of those strategies. Therefore, mutual agreement among those stakeholders will take an important position in its implementation. In future, the poverty alleviation will be a key word for development cooperation, PRSP and sector programmes based on PRSP will be the first reference for donors' assistance.

Therefore, this Fisheries Development Master Plan will also aim to set up a basic policy that fits in with the framework for poverty alleviation. Here, seven basic plans including ASDS (Agricultural Sector Development Strategy)/ RDS (Rural Development Strategy), two national development plans, PRSP and the 'Government Development Vision 2025', are given as its framework.

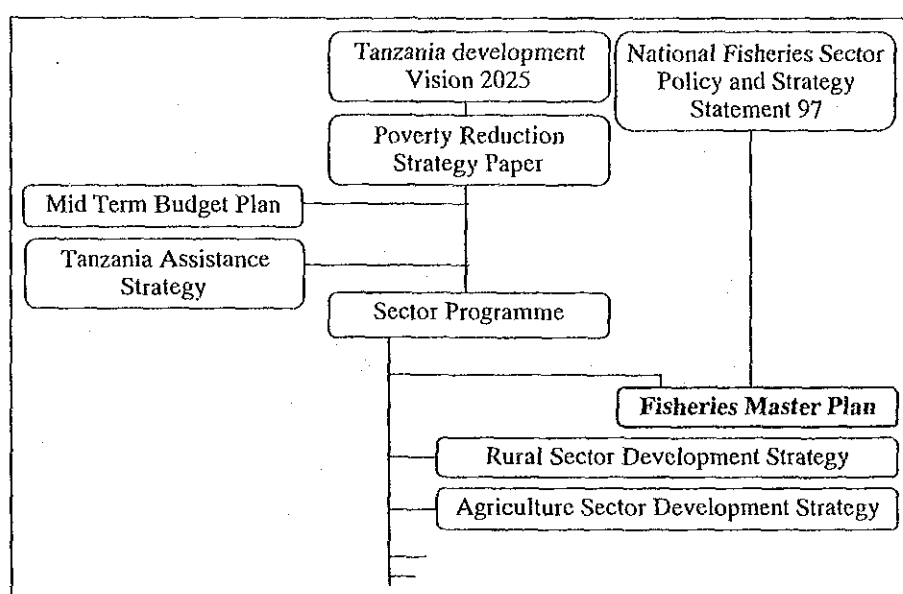


Figure 1-6 Relationship between Fisheries Master Plan and Other National Development Framework

4.2 'Government Development Vision 2025'

Tanzania Vision 2025 aims at achieving a high quality livelihood for its people, attain good governance through the rule of law and developing a strong and competitive economy. It is envisioned the following specific achievements would be attainable by the year 2025.

[High Quality Livelihood]

- Food self-efficiency and food security
- Universal primary education, the eradication of illiteracy
- Gender equality and the empowerment of women
- Access to quality primary health care for all and reproductive health services
- Reduction in infant and maternal mortality rate by three-quarters of current levels
- Universal access to safe water
- Life expectancy comparable to the level attained by typical middle-income countries
- Absence of abject poverty

[Good Governance and the Rule of Law]

- Desirable moral and cultural uprightness
- Strong adherence to and respect for the rule of law
- Absence of corruption and other vices
- A learning society which is confident, learns from its own development experiences

[Strong and Competitive Economy]

- A growth rate of 8 percent per annum or more
- A diversified and semi-industrialized economy with a substantial industrial sector comparable to typical middle-income countries
- Diversified and semi-industrialized economy
- Macroeconomic stability manifested by a low inflation economy and basic macroeconomic balances
- An adequate level of physical infrastructure needed to cope with the requirements of the Vision in all sectors
- An active and competitive player in the regional and world markets, with the capacity to articulate and promote national and to adjust quickly to regional and global market shifts

4.3 'Poverty Reduction Strategy Paper (PRSP)'

The focus of the poverty reduction strategy concentrates on efforts aimed at (i) reducing income poverty, (ii) improving human capabilities, survival and social well-being. This paper set goals for the year 2010. These goals listed below are achieved through (a) sustaining macroeconomic stability, (b) rural sector development and export and (c) private sector development. The Government will precede the structural adjustment plan to promote export-oriented economy. Food supply's improvement is a key to the problem of infant and maternity health, and food poor.

[Income Poverty]

- Reducing the proportion of the population below the basic poverty line from 48 percent in the year 2000 to 42 percent in 2003 and 24 percent by the year 2010.
- Reducing the proportion of rural population below basic poverty from 57 percent to 49.5 percent in year 2003 and 29 percent in 2010.
- Reducing the proportion of food poor from 27 percent to 23.5 percent in year 2003 and 14 percent in year 2010.

[Human Capabilities, Survival and Social Well-being]

- Raise gross primary enrolment to 85 percent, raise net primary school enrolment from 57 percent to 70 percent in 2003.
- Reduce under-five mortality from 158 to 127 per 1,000 by 2003.
- Active HIV/ AIDS awareness campaigns to 75 percent by 2003.

4.4 'Agriculture Sector Development Strategy (ASDS-revised final draft, July 2001)'

A main focus of the agriculture sector has been on producing more food to enhance food security and alleviate poverty, with ultimate goal of becoming self-sufficient in basic food requirements. This strategy expects 5 to 9 percent growth of main sectors.

- Increasing real annual agricultural GDP growth from 3.6 percent to 5 percent by the year 2003, and to 6 percent by the year 2005.
- Increasing real annual growth rate of livestock component from 2.7 percent to 5 percent by the year 2005.
- Increasing real annual growth rate of the export crops from 6.8 percent to 9 percent by the year 2005.

4.5 'Rural Development Strategy (RDS)'

Rural poverty also has a major impact on the sustainable utilisation of natural resources. Widespread poverty in rural areas compels people to over-exploit their surrounding natural resources in order to survive. RDS targets;

- Revise legislation and regulations that hinder the participation of communities in management and utilisation of natural resources.
- Revise the licensing procedures related to the utilisation of natural resources.
- Introduce procedures for cost and benefit sharing of natural resources.
- Introduce Environmental Impact Assessment as a pre-requisite for all project development
- Develop procedures for all natural resources with regards to entitlement of the state, communities, and individuals
- Develop procedures for conflicts resolution in relation to the utilisation of natural resources

4.6 'Tanzania Assistance Strategy (Draft II, Feb. 01)'

There is strong consensus that development assistance works where there is a common and shared vision and commitment by all stakeholders. Especially for poverty reduction, agriculture and food security sectors are focused on as directly related sectors to poverty.

- Focus on poverty reduction
- Emphasis on promoting local ownership and leadership
- The need to promote partnership
- The need to increase the efficiency and effectiveness of aid
- The need to promote good governance

4.7 'National Fisheries Sector Policy and Strategy Statement 1997'

This policy and strategy statement shows overall Fisheries Development Plan. Sustainable use of fisheries resources as a final goal, it consists of development issues and 18 policy statements. By covering major issues in fisheries sector, it indicates basic measures in Fisheries development. In Tanzania, even though the government capacity for policy-making reaches a certain level, there still remain many issues in policy implementation at both central and regional levels. In fisheries sector, 18 policy statements and other issues are not fully systematised, and as a result, plans being implemented lack coordination with one another. Also, it is necessary to reconsider its statement to include 'Poverty Alleviation', an idea put forth by donors' active participation after its establishment in 1997. This Fisheries Development Master Plan aims at capacity building for policy implementation in both central and regional governments. At the same time, within the framework of National Fisheries Sector Policy and Strategy Statement 1997, this Mater Plan aims to strengthen inter-relation between priority projects in order to improve projects' investment efficiency.

[18 Policy Statements]

- To put to efficient use available resources in order to increase fish production so as to improve fish availability as well as contribute to the growth of the economy
- To enhance knowledge of the fisheries resource base
- To establish national strategic/applied research programmes those are responsive to the fisheries sector.
- To improve fisheries products utilization and their marketability.
- To establish national training and educational programmes based on assessed needs and optimise the use of national and international training institutions.
- To integrate conservation and sustainable utilization of the fisheries resources into the social economic programme of the community.
- To encourage and support all initiatives leading to the protection and sustainable use of the fish stock and aquatic resources.