

MINISTRY OF NATURAL RESOURCES AND TOURISM

**INVESTMENT OPPORTUNITIES IN THE FISHERIES SECTOR
IN TANZANIA**

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1. Resource base

1.1. Geographical

Tanzania is a country surrounded by large water bodies which include the great lakes of Africa. On the Northern side Lake Victoria is shared with Kenya and Uganda. On the Western border Lake Tanganyika is shared with The Republic on Congo and on the Southernwestern border lake Nyasa is shared with Malawi and Mozambique. On the eastern side the country is bordered by the Indian Ocean. In addition to these large water bodies, the country has an intensive riverine and inland drainage systems and numerous wetlands. There are also man made lakes providing hydroelectricity and fish.

The total surface area is 945,000 sq. km. The area under freshwater cover is estimated to be 54,337 sq. km. which is about 5.7% of the total surface area. The country has a coastline of 1450 km and an Exclusive Economic Zone in the Indian Ocean of about 223,000 sq. km. Permanent rivers draining into the Indian Ocean and forming extensive deltas include the Pangani, Wami, Ruvu, Rufiji, Mbemkuru, Matandu and Ruvuma. Those draining into the lakes include Kagera and Mara draining into Lake Victoria, Malagarasi into Lake Tanganyika and Ruhuhu, Songwe and Ruhekei draining into Lake Nyasa. (Fig.1 and table1).

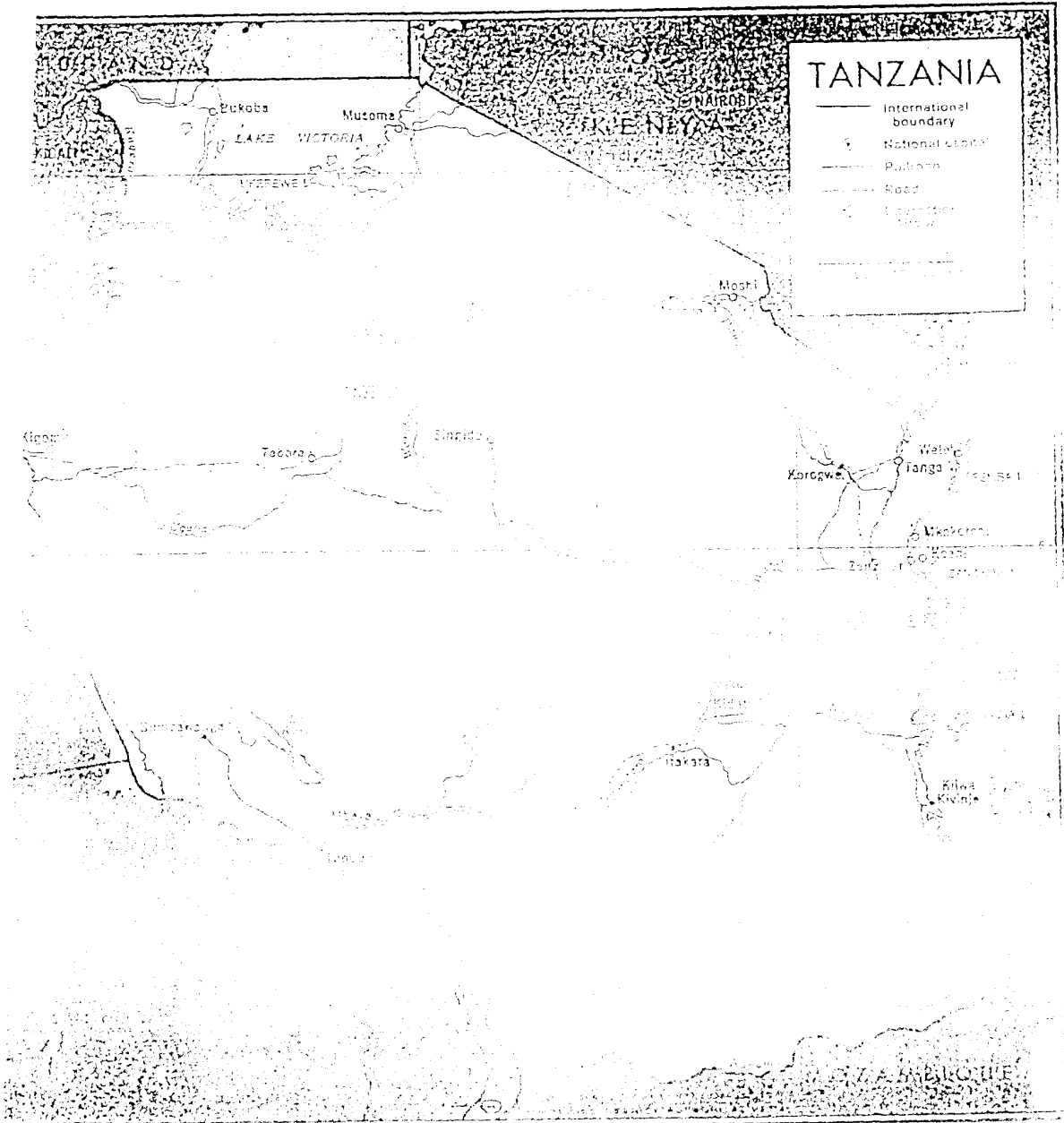
Table 1. Area of major water bodies of Tanzania.

Water Body	Area occupied by Tanzania (km ²)
Lake Victoria	35,088
Lake Tanganyika	13,489
Lake Nyasa	5,760
Indian Ocean (including EEZ)	223,000
Total	277,337

1.2. Fishery potential

The fishery potential for this country with such extensive water system is very large. Conservative estimates put it at 730,000 metric tones. Stock assessment was carried out early in the seventies thus the figure may not represent the state of the resource currently but form a basis for any investor to consider. Table 2 below shows potential yield per water body. The estimates for marine waters cover only the territorial sea.

1 Tanzania features and boundaries^{a/}



from USDS, 1992.

Table 2: Estimates of fish potential in Tanzanian water bodies

WATER BODY	ESTIMATED FISH POTENTIAL (TONS)
Lake Victoria	200,000
Lake Tanganyika	300,000
*Lake Nyasa	100,000
Small lakes, Dams & Reservoirs	30,000
Marine Territorial Waters	100,000
Total	730,000

***Recent studies - 1995 estimates the yield to be 81,000 tons.**

1.3. Fisheries exploitation

The fisheries of Tanzania are divided into two components, the freshwater and marine which exploit a variety of finfish and shellfish species (see Table 3). Within this broad categorization exploitation is carried out by artisanal fishers and commercial or industrial operators. The total fishers by 1995 data amount to over 80,000 people who are permanently employed in the fishing industry. There are only a few (20 vessels) licensed commercial fishing vessels operating in territorial sea mainly catching prawns. Annual catches in 1998 for the whole of Tanzania Mainland fishery amounted to 348,000 tones part of which 48,000 was from marine territorial waters. The small commercial sector contributed 1,933 tones which is about 0.6% of the total catch (See appendix 1).

1.4. Available commercial shellfish and finfish species

Commercial species available comprises of freshwater finfish, marine finfish and shellfish. Though there are numerous species of organisms in the extensive water bodies of Tanzania only the commercial specie will be enumerated. The most important species of freshwater lakes is the Nile perch (*Lates niloticus*) which forms the bulk of exports from lake Victoria. Others include sardines from lake Tanganyika - *Stolothrissa tanganyicae* and *Limnothrissa miodon*, Nile tilapia (*Oreochromis sp.*), Cyprinid pelagic sardines (*Rastrineobola argentea*), and *Haplochromis* for aquarium purposes. In the marine waters commercial species include prawns, lobsters, crabs, squid, octopus, sea cucumber (beche de mer), cuttle fish, sharks, tunas and tuna like fishes, sardines and seaweed (see table 3).

Table 3. Commercial finfish and shellfish resources of Tanzania

Water body	Species	
	Common name	Scientific name
Lake Victoria	Nile perch Sardine (dagaa) Nile tilapia	<i>Lates niloticus</i> <i>Rastrineobola argentea</i> <i>Oreochromis niloticus</i>
Lake Tanganyika	Sardine (dagaa) Sardine (dagaa) Perch Perch	<i>Stolothrissa tanganicæ</i> <i>Linnothrissa miodon</i> <i>Lates mariae</i> <i>Lucilates angustiformis</i>
Lake Nyasa	Tilapia Minor Cichlid Catfish Sardine	<i>Oreochromis sp.</i> <i>Opsaridium sp.</i> <i>Haplochromis sp.</i> <i>Bathclarius nyasensis</i> <i>Engraulicypris sp.</i>
Marine waters - Territorial and EEZ	Prawns/shrimps Rock lobster Mangrove crab Swimming crab Squid Cuttle fish Octopus Sharks Mantas Saw fish Tunas Sail fish Marlins Short bill spear fish Sardine, herrings and shad	<i>Penaeus monodon</i> <i>Penaeus japonicus</i> <i>Penaeus indicus</i> <i>Penaeus semisulcatus</i> <i>Panulirus longipes</i> <i>Panulirus ornatus</i> <i>Scylla serrata</i> <i>Portunus pelagicus</i> <i>Sepia sp.</i> <i>Loligo sp.</i> <i>Octopus sp.</i> <i>Scoliodon sp.</i> <i>Isurus</i> <i>Sphyrna mokarani</i> <i>Raja sp.</i> <i>Pristis sp.</i> <i>Euthunus pelamis</i> <i>Auxis thazard</i> <i>Thunnus albacares</i> <i>Acanthocybium solandri</i> <i>Scomberomorus commersoni</i> <i>Istiophorus sp.</i> <i>Makaira sp.</i> <i>Tetrapturus sp.</i> <i>Sardinella sp.</i> <i>Etrumeus sp.</i> <i>Hilsa kelee</i>

1.5. Potential in aquaculture

With extensive inland freshwater bodies, numerous wetlands, intensive riverine systems, long coastline with sheltered bays, deltas and lagoons protected by coral islands and reefs, the country has a high potential for aquaculture. This can be based on freshwater or brackish/marine culture systems. Potential species for culture include the tilapia, especially Nile tilapia (*Oreochromis niloticus*) and African catfish (*Clarius gariepinus*) for freshwater fish farming. In the marine areas various species have a high potential. These include prawns, seaweed, crabs, lobsters, clams, finfish like ten pounders, milk fish and mullets.

2. INVESTMENT OPPORTUNITIES

The investment opportunities in the fisheries sectors are very attractive and numerous. These include investing in the capture fishery, fish processing, manufacture of fishing crafts and gears, aquaculture, aquarium fish, fish marketing, fisheries support services like supply of gears, engines, spare parts and consultant services.

Investment is guided by legislation and promotional services from various branches of the government e.g. the Ministry of Natural Resources and Tourism (Fisheries Division), Tanzania Investment Center (TIC), Ministry of Trade and Industry, Tanzania Revenue Authority (TRA) and National Environmental Management Council (NEMC).

2.1. Investment in the Capture Fishery

2.1.1. Inland fishery

Investment opportunities exist in the pelagic resources of lakes Victoria and Tanganyika. In Lake Victoria the available species is *Rastrineobola argentea*. The Nile perch species are almost reaching or have reached their maximum sustainable yield and is exploited by the artisanal fishers. Trawling for demersals is prohibited. In Lake Tanganyika further expansion is possible for *Stolothrissa* and *Limnothrissa sp.* The allowed fishing method is purse seining.

2.1.2. Marine fishery

Within the marine fisheries of Tanzania investment opportunities exist in the EEZ. There is only one foreign and three local fishing vessels which have been licensed to operate in this area. Possibilities exist for the exploitation of pelagic species like tuna, mackerel and squids.

Prawn fishery is carried within territorial waters for the Penaeid shrimps. The exploitation of this resource has reached its full potential and thus there is no more room for investment consideration.

2.1.3. Aquarium fish potential

Lakes Nyasa, Tanganyika, Rukwa, Victoria and coastal reefs have very attractive aquarium fish. At the present very few investors are engaged in the aquarium business. Investment is encouraged due to available favorable markets for tropical aquarium fish.

2.2. Land based facilities

2.2.1. Fishing craft

Tanzania fishery is dominated by wooden fishing vessels which are made from hard wood. Availability of suitable wood cannot continue for long time as forests are declining. Investment could be in the manufacture of fibre glass boats, ferro cement boats or any other alternative cheap material. The market exists in the artisanal fishing fleet.

2.2.2. Fishing gear manufacturing

At present there are only two fishing net manufacturing plants in Tanzania and they do not meet the domestic demand for nets and other fishing gear. Opportunities exist for further investment in the production of nets and other fishing gear like hooks, lines, nylon material for seaweed culture ("tie-tie") and ropes.

2.2.3. Fish processing facilities

Fish can be processed into a variety of products. Eight processing plants exist in the Lake zone regions of Mwanza and Mara. There is no more room for establishing new plants in this zone as capacity has been reached and resources for raw materials are approaching their maximum sustainable yield. There is room for investment in fish meal processing using by-products from these processing plants and sardine as raw materials.

Fish canning can be considered particularly for sardines of Lake Tanganyika but it will be expensive for the internal market. However, there is a possibility of improving the procedures of processing sardine from Lake Tanganyika and packaging for the salaried workers and urban dwellers in the country and export to neighbouring countries.

2.2.4. Fish support services

Although trade liberalization has offered opportunities for traders to invest in various inputs supply to industrial and agricultural activities, there are only a few investors in the fishing industry. Ship chandling is absent in this country. Fisherfolk require equipment like engines, spears, ropes, pulleys, swivels, water-proofing materials, containers for fish handling and filleting knives and boards. In every fish landing port/site such services are necessary for sustainable fishing. There is potential for investing in the supply of these services countrywide.

As the government withdraws from private production investment can be directed to providing consultancy services to the fishing community on fishing gear, fish processing, aquaculture, taxation, fisheries laws, loan processing and procurement and product marketing.

2.2.5. Fishing harbors

The main fish landing sites in the coast and lake areas do not have appropriate facilities for receiving and handling fish. As people improve their incomes and quality of life through education demand for high quality fishery product will increase. Investment in construction of proper fish receiving stations providing ice, freezing and cold storage facilities could be a profitable venture. Possible ports for investment include Tanga, Kigoma, Mtwara, and the Lake Zone. Mtwara is particularly attractive due to the current efforts to develop it under the programme known as Mtwara-Mbambabay Corridor to provide port services for Malawi and Tanzania both of which share the fisheries of lake Nyasa.

2.2.6. Aquaculture

Fish demand for Tanzania's internal market is very high. This demand has not been met from the capture fishery which has also to cater for the export market. Culture of high value species for the export market has a high potential. There is room for investment in prawn farming. Investors in this field are exempted from paying royalties if they can raise their own product for export. Mariculture guidelines are under preparation to direct investors on the best options, procedures and incentives available for mariculture ventures. Other high value species for culture include freshwater shrimp (*Macrobrachium sp.*) and crabs. In freshwater fish farming the Nile tilapia (*Oreochromis niloticus*) has a high potential as it grows fast, has a resistance against diseases and is readily accepted by consumers. Large scale farming is possible for the export market which is currently banned from the capture fishery.

The African cat fish (*Clarius gariepinus*) is another species with potential especially for the provision of live bait to the capture and sport fishing industries and can be a profitable foreign exchange earner.

Table 4. Potential species for aquaculture in Tanzania

Area	Common name	Scientific name
Freshwater	Tilapia (nile) Catfish (african) Freshwater prawn (shrimp)	<i>Oreochromis niloticus</i> <i>Clarius gariepinus</i> <i>Macrobrachium sp.</i>
Brackish/Marine	Prawns Crabs Clams Oysters Ten pounder Milk fish Mullet	<i>Penaeus monodon</i> <i>Scylla serrata</i> <i>Anadara sp.</i> <i>Saccostrea cuculata</i> <i>Elops macnata</i> <i>Chanos chanos</i> <i>Mugil sp.</i>

2.2.7. Fish marketing and distribution

The demand for fish and fish products is high. The internal distribution was previously handled by a parastatal body known as National Cold Chain Company (NCCO). The company is no longer in existence. Exports are based on fresh Nile perch processed from Lake Victoria and prawns from marine waters. There is formal and informal export of dried sardines to neighbouring countries. There is room for investment in fish marketing within the country to fill the vacuum left by the defunct National Cold Chain Company. The export trade is controlled by international regulations on quality. However, exports of processed fish to neighbouring countries and within SADC region is a possibility.

3. INVESTMENT PROCEDURES AND INCENTIVES

Procedures for investment in the fisheries sector in Tanzania are governed by various institutional arrangements.

3.1. The Ministry of Natural Resources and Tourism.

Investment procedures will be regulated under the Fisheries Act of 1970 and its Regulations of 1989 with subsequent amendments. (appendix II). The Ministry is responsible for permitting, controlling, and issuing of licenses to investors. Since the export trade especially to European, American, Japan and Australian markets demand very high quality products, the Fisheries Division is the Competent Authority on issues of quality. Mariculture guidelines will be introduced soon which will guide investors intending to venture into this field. They outline all the procedures required for establishing a project in Tanzania.

3.2. Tanzania Investment Center (TIC)

Tanzania Investment Centre is a body charged with the responsibility of promoting investment in Tanzania by providing investors with guidelines, incentives and cutting

redtape in the execution of projects. It hases with other government institution in the process of promoting investment. Their procedures are attached in appendix III.

3.3. Ministry of Trade and Industry.

Ministry of Trade and Industry issues certain licenses and permits e.g. For establishing land based facilities. It gives market information through its external Trade Board and Trade Officers attached to foreign missions.

3.4. Tanzania Revenue Authority.

This body is responsible for revenue collection and gives permits to various tax exemptions to investors as laid down by the law.

3.5. National Environmental Management Council.

The council reviews projects requiring Environmental impact Assessment (EIA). Some projects in Fisheries require EIA because they may have advance impacts to the environment.

INDUSTRIAL FISH PRODUCTION FOR EACH VESSEL FOR 1998.

Company	Vessels Name	Amount of fish caught		Amount of Prawns caught.		Total	
		Weight in Kg	Value in T.Shs	Weight in Kg	Value in T.Shs	Weight in Kg	Value in T.Shs.
Heltanco	Arusha	74,675	67,207,500.00	87,313	285,076,945.00	161,988.00	352,284,445.00
Heltanco	Odysseas	19,065	17,158,500.00	58,220	190,088,300.00	77,285.00	207,246,800.00
Hondablue	M/Bahari	9,250	8,325,000.00	19,800	64,647,000.00	29,050.00	72,972,000.00
Tangol Fisheries	Banuso II	34,140	30,726,000.00	35,167	114,820,255.00	69,307.00	145,546,255.00
Tangol Fisheries	Banuso III	29,600	26,640,000.00	11,795	38,510,675.00	41,395.00	65,150,675.00
African Fishing	Maendeleo	33,713	30,341,700.00	43,836	143,124,540.00	77,549.00	173,466,240.00
African Fishing	Marietha	70,114	63,102,600.00	53,129	173,466,185.00	123,243.00	236,568,785.00
Tafico	Mama Tafico	17,450	15,705,000.00	52,006	169,799,590.00	69,456.00	185,504,590.00
Tafico	Sadani	53,880	48,492,000.00	43,291	141,345,115.00	97,171.00	189,837,115.00
Tramico	Mama Leda	40,990	36,891,000.00	104,485	341,143,525.00	145,475.00	378,034,525.00
Oceanic	Mtoni	93,610	84,249,000.00	113,324	371,635,360.00	207,934.00	455,884,360.00
Fruit der le mer	Sea shore 1	0	0.00	65,266	213,093,490.00	65,266.00	213,093,490.00
Fruit der le mer	Sea shore 11	7,208	6,487,200.00	55,269	130,518,565.00	62,477.00	137,005,765.00
Fruit der le mer	Al waly	45,100	40,590,000.00	89,456	292,073,840.00	134,556.00	332,663,840.00
Sherally	Victoria IV	2,370	2,133,000.00	30,489	125,666,585.00	40,859.00	127,799,585.00
Sherally	Victoria V	2,140	1,926,000.00	60,422	197,277,830.00	62,562.00	199,203,830.00
Sherally	Victoria VI	4,570	4,113,000.00	63,778	208,228,640.00	68,348.00	212,341,640.00
TOTAL 1998	16 Fishing Vessel	632,370	484,087,500	984,654	3,260,516,460.00	1,617,000	3,871,603,960.00

NUMBER OF FISHERMEN, VESSELS AND CATCHES FOR THE YEARS 1990 - 1998

YEAR	NUMBER OF FISHERMEN			NUMBER OF FISHING VESSELS			CATCHES				TOTAL WT m. tons	TOTAL VAL 000's T.sh
	FRESH WATERS	MARINE WATERS	TOTAL	FRESH WATERS	MARINE WATERS	TOTAL	FRESH WATERS		MARINE WATERS			
							WEIGHT m. tons	VALUE 000's T.shs	WEIGHT m. tons	VALUE 000's T.shs		
1990	64,578	16,178	80,756	22,778	4,354	27,132	357,332.2	12,341,820.00	56,779.4	4,765,669.30	414,111.6	17,107.48
1991	60,361	16,361	76,722	19,843	4,402	24,245	272,370.1	12,557,241.90	54,342.7	6,289,822.30	326,712.8	18,847.06
1992	46,470	15,027	61,497	16,441	3,514	19,955	291,615.0	19,946,580.40	43,886.2	6,166,728.50	335,501.2	26,113.30
1993	46,916	15,027	61,943	17,744	3,232	20,976	294,782.1	31,238,839.20	36,684.8	10,206,809.90	331,466.9	41,445.64
1994	46,639	15,027	61,666	16,129	3,232	19,361	228,003.6	30,949,458.20	40,785.4	14,227,862.10	268,789.0	45,177.32
1995	50,029	12,457	62,486	18,696	3,768	22,464	207,139.0	45,805,145.00	51,073.3	28,579,811.26	258,212.3	74,384.96
1996	50,029	12,457	62,486	18,696	3,768	22,464	308,600.0	49,468,580.00	48,200.0	24,100,000.00	356,800.0	73,568.58
1997	50,029	12,457	62,486	18,696	3,768	22,464	306,750.0	42,265,000.00	50,210.0	25,350,000.00	356,960.0	67,615.00
1998	50,029	12,457	62,486	18,696	3,768	22,464	300,000.0	47,486,100.00	48,000.0	29,273,500.00	348,000.0	76,759.60