



The Republic of Tanzania Country Profile



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Republic of Tanzania

Introduction

Key Country indicators

Location

The Republic of Tanzania is endowed with various water bodies, wetlands and diverse river systems. It has a surface area of 945,040 km² of which 886,000 is in the mainland and 2000 km² is in Zanzibar. The ocean coastline is over 2,450 km² and its Economic Exclusive Zone is estimated to be 223,000 km² which supports the country's fisheries and marine fishery growing sector.

Marine resources

Tanzania coastline is about 1,450km and stretches from the border with Kenya to the boarder of Mozambique. Tanzania is known for its rich biodiversity, marine environment and coastal resources. Its attractive coastal environment includes estuaries, mangrove forests, coral reefs, sandy beaches, seagrass beds, cliffs. The coast line is divided into 3: the indented coastline with off-lying reefs and islands; shallow bank coastline, little indentions with off-lying large islands; indented coastlines with narrow self-infringing reefs with deep oceanic waters to seaward (coastal and marine environmental problem of Tanzania, UNEP).

Tanzania's climate can be described as moderately warm tropical. This climate is mostly affected by the seasonal moon winds. The winds create two ocean currents, the Mozambique current which flows southwards and the East African coastal current which flows northwards (UNEP)

Mangrove Forests

Mangrove forests cover over 115,500ha of mainland Tanzania and they also cover 18,000ha of Zanzibar (Unguja Island 6,000 and Pemba Island). Tanzania has nine species of mangrove forests which are rich in molluscs, an important food source of protein for the

Population	53,500,000
GDP US \$ (billion)	45.6
GNI	
Total land area	886,000 (Km ²)
Length of coastline	1,450 (Km)
Exclusive Economic Zone	223,000(Km ²)
Continental shelf	
Mangrove	1,280 (Km ²)
Coral reef	3,580 (Km ²)
Marine protected area	%18.2 of territorial waters

Source: (World Bank, 2017) World Green Book





local communities. It is estimated that over 150,000 people in Tanzania earn their living directly from mangrove resources in terms of valuable timber which is used for boat building, fuelwood for processing of fish, wood for building poles, timber for boat construction. Non-timber goods obtained from the mangrove forests include bees, food, medicine, fruits among others. The low cost and wide availability of plant based traditional medicine makes forest medicine more preferred by the communities than westernized medicines which is costly and many a times hard to access. It has been estimated that about 70 per cent of Tanzanians communities use medicinal plants for curing illness (MNRT 2001a).

Seagrass beds

Seagrass beds are found in close proximity to coral reefs and benefit from them in terms of energy flows. Seagrass beds spread from high intertidal to shallow subtidal areas and they are expansive on the western side of Pemba, Unguja and Mafia islands. They are also common in the coastal sheltered areas of Kilwa, Rufiji, Ruvu and Moa. By the nature of their growth they act as breeding and nursery grounds for a variety of species, they are also highly productive thus acting as a major food source for herbivorous invertebrates, fish, dugong, and green turtles (F Julius and B Ian sustainable use). The seagrass beds help in reduction of sedimentation of the coral reefs by trapping sediments, they protect the beaches and shorelines.

Coral reefs

The corals of Tanzania are found in clear warm shallow waters. They cover two thirds of Tanzania continental shelf and they have the potential to support over 500 species of marine ecosystem both artisanal and commercial fisheries. Tanzania is reported to have over 150 species of scleractian corals reefs (Hamilton and Brakel 1984).

The coral reefs provide a range of resources to both fisheries species and the coastal communities (Bryceson 1981, Richmond 1998). These include; food and shelter for fish, crabs, lobsters; calcareous sediments that contribute to substrate and beach formation; act as natural barriers that protect the coast against storms and active waves; carbon sinks; cultural importance for coastal communities; sites for tourism; education and research; provision of products for pharmaceutical and medicine purposes.

Ecosystem management and conservation

The challenge

Mangrove forests are being overexploited and cleared for human consumption and activities such as agriculture, mining and tourism. This is having negative impacts on the marine ecosystem.

The Situation

Over exploitation of mangrove forests

Over exploitation and clearing for other uses has led to a reduction of these important forests. The majority of the forests have been cleared for agricultural production and other coastal forests have been replaced with coconut, cashew and fruit tree plantations. For instance, mangrove forests are being cleared for rice farms in Rufiji Delta (Semesi 1991), conversion of forests for aqua ponds (prawn farming) and conversion for salt pans.



Indirectly the clearing of coastal forests poses a threat to the mangroves as the local communities shift to these for fuelwood, timber and charcoal making (MRAG 2003).

Pollution

The main threats to mangrove systems are pollution which ultimately lead to alterations to hydrological conditions. Threats including alterations for hydrological conditions (Semei 1998, Banyikwa 1986), (Ochieng and Erftemeijer 2003).

The Constraints

Population growth

However due to the increased population in coastal areas, the corals have been disturbed and degraded by over exploitation of coastal species, coral mining, destructive methods of fishing (dynamite fishing), coral bleaching, boat anchoring, shell collection, seine netting among others. Unsustainable extraction of coastal resources to feed the rapid growing human population (Payet and Obura 2004). Rapid coastal development. Clearing for tourism industry

Increased human activities which has led to increased turbidity hence cutting down on the sun/light penetration in the waters. Furthermore, activities such as inshore prawn trawling and seine nets, have destroyed seagrass beds.

Mining

Tanzania's coastal zone has its focus on cement, lime and coral mining. The sector contributes almost 4% to GDP, nearly makes 42.9% of total foreign exchange earnings and employs over 8000 people. Companies controlling operations along the coast such as the Tanga and Twiga projects have produced over 200 billion Tz shs in tax revenue, which has been reinvested into coastal communities to build schools, hospitals and housing. More so creation of employment and training for employees along the coastal region. Tanzania is engaged in oil and gas exploration and extraction activities which have intensified the degradation of the corals. However, the environmental issues surrounding the mining sector on the coastal regions cannot just be ignored.

Exploitation of endangered species

The population of turtles such as the Dugongs, Loggerhead turtle, Green turtle, Hawksbill, Leatherhead, Olive ridley turtle are considered endangered and have declined in the recent years (Frazier (1976) and Thiagarajan (1991). Some example of nesting sites include beaches like Unguja Island, on Mnemba Island, Mwanamwana north of Tumbatu Island, Mafia, Latham and Misali Islands. Other sites are Kipumbwi, Kilwa Kisiwani and Pangani along the Tanzania mainland coast (Frazier 1976, ZESS 1993a, b, Khatib 1998).

Turtles are illegally exploited for their meat and eggs and, in the case of the hawksbill, for the carapace, which is used for ornamental purposes. New developments like hostels along the beaches have caused total destruction of their breeding sites and cycle, the use of trawler vessels by the fisher folk using gill nets that cause death and destruction.



Despite the Fisheries Legislation in place prohibiting the capture and destruction of the turtle species, no enforcement has been implemented on the ground thus their status continues to be threatened through hunting, egg collection, nesting disturbance, and incidental capture in nets.

The Opportunity

Tourism Industry in Tanzania

The tourism sector is guided by the National Tourism Policy (NTP) of 1999, the Tourism Master Plan and the Tourism Act of 2008. The Tourism Policy advocates for development of quality tourism and the Master Plan identifies the coastal belt as an important zone in view of developing the Southern Tourist Circuit. A number of initiatives and activities related to coastal tourism development are currently being undertaken such as:

- Cultural Tourism Program, UNWTO STEP Initiatives
- Marine and Coastal Environmental Management Project (MACEMP)
- Rufiji, Mafia and Kilwa (RUMAKI) and JSDF Rufiji
- Mafia and Kilwa Seascape Project implemented by WWF
- Rufiji, Mafia and Kilwa Ramsar site program.

Marine Park and Reserve Act 1994

Another management approach that was adopted to manage coastal and marine resources was the establishment of the Marine Park and Reserve Act. The aim of the Act was to promote sustainable management and protection of critical coastal and marine resources through community participation. The local fishers are given an opportunity to participate in planning and decision-making process and implementation of marine resource management plans. The Parks established under the Marine Parks and Reserves Act (No. 29, 1994) are:

- Mafia Island Marine Park,
- Mnazi Bay and Ruvuma Estuary Marine Park,
- Tanga Coelecanth Marine Park.
- And conservation areas; Menai, Mnemba, Chwaka Bay and Pemba Channel in Zanzibar.
- In South of Dar es Salaam, Mafia and Zanzibar sixteen small island have been declared as marine reserves.

Collaborative Management (Co-management)

Collaborative management (or co-management) is a mechanism that Government of Tanzania started which calls for all stakeholders including local communities to participate in the development of policies, regulations and legislations in the management of coastal and marine resources (Pomeroy and Williams 1994, Borrini-Feyerabend 1996). The primary stakeholders in co-management normally include government authorities and resource users.

It has been recorded that through this initiative of co-management a number threats to both coastal resources and coastal environment have dropped drastically such as; the practice of dynamite fishing in Mafia, Menai and Tanga and the use of beach seines, alternative fishing gear is being used to replace juya (van Ingen and Makoloweka 1998, Ngaga et al. 1999, Kelleher 1999), reduction in the mining of live corals in Mafia, instead of use of lime alternative building materials have been adopted such as clay, reduction in the exploitation of high-valued stocks such as octopus, sea cucumber and lobsters.

Collaborative management has created and widened the participatory processes, for instance the Tanga Programme made significant achievements in fisheries conservation and management, promoting the role of women and improving environmental awareness (van Ingen and Makoloweka 1998, Kelleher 1999).

Fisheries

The challenge

The fisheries sector plays a critical role to the economy. The sector supports food security, livelihoods and the national economy. For instance, artisanal fisheries are known for their contribution to the eradication of poverty and hunger issues by providing a protein-rich food, creating employment and boosting income, thus making a significant contribution to livelihoods of coastal communities. However, population growth and human activity are a challenge impacting the environment at the coast negatively.

The situation

Total fisheries production is 383,000 thousand Metric tonnes. Capture fish averages an annual growth rate of 0.9 per cent between 2000-15 while the average annual growth rate in aquaculture was 15.7 per cent between 2000 and 2015.

Artisanal fisheries

Fisheries in Tanzania are predominantly categorized into artisanal/ subsistence fisheries and commercial fisheries where the difference lies in the methods of harvesting. The former using vessels and the latter using gear. Fisheries Act No. 22 of 2003 defines the artisanal fisheries as activity that is traditional and not commercially oriented, which uses relatively small amounts of capital and the fishing is limited to inshore waters only.

Tanzania's artisanal fishing is concentrated in shallow waters, inshore and around islands, for example the islands of Pemba, Zanzibar and Mafia and coastal regions of Bagamoyo and Rufigi delta (UNEP). This sector comprises of small catches for species such as parrot fish, rabbit fish, sardines and mackerels and catch contributes 50% of the total catch (Julius and Ian Bryceson). Fisheries in Tanzania, the subsistence/ artisanal fisheries use traditional as well as modern boats which are about 3m to 9m long (Fisheries 3 2010). They use vessels such as ngalawa (outrigger dug-out boat), mtumbwi (dug-out canoe), dau and mashua (planked boats). The gear such as dema (basket fish-trap), uzio (stakes tidal fish-trap), mshipi (hand-line), nyavu or jarife (gillnet), and juya (seine net) (Bryceson 1985).

Commercial fisheries

Commercial fisheries is mainly carried out in territorial waters where the use of trawlers is dominant and these are mainly for harvesting prawns and shrimp, however, the fishery has been closed since 2007 due to a decline in prawn resources.

The Constraints

Population demands

Growing population as a result of the growing tourism industry. This has led to an increase in fishing pressure to meet the demand and at the same time it has encouraged the use of destructive methods



or gear of fishing such as use of dynamite, spears, use of poison, use of net which are dragged and smashed along the coral hence damaging them.

Coastal communities are exposed and vulnerable to HIV/AIDS due to the nature of their occupation.

Lack of supporting infrastructure

Poor marketing and distribution of fish. The presence of bad and unreliable feeder roads make access to trading points difficult. Lack of good storage also hinders quality fish to reach the local consumers. (Fisheries 11 2008).

Post-harvest losses

Poor post-harvest greatly impacts on the income generation of quality of storage lead to loss of income to the fishermen, processors and distributors. In the long run this leads to continuous food insecurity.

Overexploitation of fishery resource

Coastal regions such as Zanzibar have registered a decline in annual catch due to over exploitation of the fish resources. The total annual catch in Zanzibar was about 20,000 tonnes in the 1980s, but currently it has dropped to less than 13,000 tonnes per annum. This reduction in fish catch can also be observed in some localized areas such as Chwaka Bay (Jiddawi 1999b). It's on record that a number of species in terms of weight and numbers have declined or are rarely seen such as the Shark fin which is rarely seen in Tanzania waters (Barnett 1997, Jiddawi and Shehe 1999)

The existence of many foreign fish industries operating in Bagamoyo area and Rufigi delta fishing mainly for prawns and shrimp has led to a fall in the species. Mgaya et al. 1999. Also the use of trawlers damages the habitats of the fish and crustaceans and trawlers also pose a significant threat to the artisanal fishes because they destroy the nets and traps that traditional fishers use during fishing.

Women participation

The participation of women in the fisheries sector is very weak and if at all women are involved it is only an informal method of trade; buying the fish, deep frying it and distribute to remote areas. The level of women participation in the marine sector is very minimal and unrecorded. Women only handle post-harvest activities of collecting the fish to sundry it or deep fry it and supply to the local consumers. With poor feeder roads and lack of transportation sometimes they fail to deliver their supply. The Government of Tanzania has no initiative or development plan to support women's role in the fishery sector.

Data gaps

Limited availability of data and information on fisheries contribution to the household income and to the economy at large. Gaps on the consumption patterns, distribution patterns available markets, poverty levels and food security.

The opportunity

Economic growth

The artisanal fisheries make high contribution to the economy of Tanzania, and the coastal communities depend the sector to improve their standard of living. The artisanal fisheries in terms of production,



employment, volume and value output functions more productive than the commercial fisheries (Sobo 4 2004). However, the contribution of the artisanal fisheries to foreign exchange earnings and revenue to Tanzania is very minimal.

Mariculture

The government of Tanzania has committed itself to boost and develop the mariculture sector in order to supply the growing international demand of foods. A variety of species like seaweed, finfish and Mud crab are being farmed on the coastal regions, prawns are being farmed in Mafia and Tanga regions. The plans to diversify into this market are immense as evident from the government establishment of a Seaweed Development Strategic Plan proposed in 2005 and the Aquaculture Development Strategy proposed in 2008. The sector, however greatly depends on the knowledge and financial support of international donors.

Despite the increasing threats of theft and vandalism in communities, the support of this sector from both the government and NGOs has not deterred the expansion of this sector into Tanzania's economy.

Fisher's organization

In 2008, the Republic of Tanzania established the Beach Management Units (BMUs) in fishing coastal communities to enable transparency, empowering fishers to participate in the fish management system and resource planning. Fishers are able to participate in decision making, acquire fishing licenses for the movement, acquire data and information about the fisheries industry and also get entitlement to services like beach cleaning and fish vessel patrols. Currently the plan is to have BMU at all landing sites. In line to the establishment of BMUs, a Collaborative Fisheries Management Areas (CFMA) was implemented which basically address the issues of the fishing gear, the size of fish to be caught and the closing and opening seasons of fishing grounds. Other organizations are established to look into the fisheries sector are; Tanzania Fish Processors Association (TIFPA), the Dar es Salaam Fisheries Union (UWAWADA) and Crews Association for commercial fishing vessel workers in Tanzania (WAMEUTA)

Traditional management systems

This has been long undermined and over looked by the fisheries industry, decision makers and by also the marine science world. It is of recent authorities in Tanzania came to acknowledge that the fisherfolk of Tanzania had great deal of knowledge on the coastal and marine environment. (Bryceson et al. 1982). Examples of fisherfolk of Chwaka, Matemwe and Mkokotoni have knowledge on the type of fishing gear to use, lunar and tidal effects on fishing activities, the cause of decline on the number of crabs in Chwaka Bay among others.

The traditional management systems in Tanzania, however, have basically retained their mode of operation, but due to increased pressures, and opportunities, traditional management systems have become more vulnerable and the lack of legal recognition for the traditional systems of management in recent years has led to their failure. Although some new laws in Tanzania acknowledge the relevance and importance these traditional systems being integrated in the planning and decision-making processes, the mechanisms of their institutionalization have not be laid down.

Policies and regulations

There are various policies, legislation and plans for different coastal and marine resources in Tanzania. The Fisher Act No. 6 of 1970, as amended by Act 22 of 2003 covers all the management and control of the fisheries industry in Tanzania. It addresses the quality management and standards, enforcement and penalties. The National Fisheries Policy aims at addressing the importance of sustainable fishing and utilization, conservation and management of fisheries resources. The policy advocates for fisheries communities to engage in fisheries resource management. The policy was developed back in 1997 and is currently up for review to address the new emerging challenges and possible opportunities. The policy also recognizes other regional and international policies.

The fishery regulations of 2005 as amended in 2009, seek to ensure sustainable fishing and utilization of fishery resources for the present and future generations. Other supporting instruments include Deep Sea Fishing Authority (DSFA) Act No.3 of 1989 as amended by Act No. 17 of 2007 and the main objective of this act is management of fishery resources in the Economic Exclusive Zone of Tanzania. Tanzania in support of its research work in fishery resources established the Tanzania Fisheries Research Institute (TAFIRI) through Act No. 6 of 1980, to ensure that management decision on its fishery industry are based on proven scientific research and finding

Others include the National Fisheries Sector and Strategy Statement 1997; Fisheries Act No. 22 of 2003, Marine Park and Reserve Act, No. 29 of 1994, Forest Ordinance, Deep Sea Fishing Authority Act, amended Act No. 17 of 2007, Territorial Sea and Exclusive Economic Zone Act 1989, Territorial and Country Plan Ordinance 1956 Cap 378, National Forest Action Plan 1990/91-2007/8 and the Management plan for Mangrove ecosystem in Tanzania 1991.

Other fisheries Instruments for the management of fisheries activities in the Exclusive Economic Zones, Tanzania created an institutional framework known as the Deep Sea Fishing Authority (DSFA) Act No. 3 of 1989 which was amended by Act No. 17 of 2007. Given the fact that fisheries is not governed by the Union, these initiatives are being undertaken jointly between the Tanzanian Mainland and Zanzibar islands.

Collection and Dissemination of data

The National Fisheries Policy and Strategy statements (1997), the policy was established to ensure that updated records on fisheries were timely collected and updated on a daily basis to knowledge of the fisheries resources and also facilitate proper information management in the fisheries sector. The policy has enabled creation of reliable and timely information which has led to an efficient decision-making process in the fisheries sector (iwlearn.net)

Recreational or Sport fishing

There are a number of fishing sporting activities taking place on the coastal area and management of these activities is allocated to the Marine Parks and Reserve Unit (Act No 29 of 1994) which governs the sport fishing activities. The fishing sport may not contribute as much to Tanzania's GDP however whether the fishing is conducted in coral reef, open waters or inside marine parks, it has to contribute to coastal communities living close to the area. If for instance 20% of the funds from sport fishing is collected it is supposed to be distributed to coastal communities for their livelihood, and 10% to the Municipality and the remaining 70% to operators (Julius 13 F. and Bryceson I. (2007): Tanzania Coastal and Marine Resources, IUCN).



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