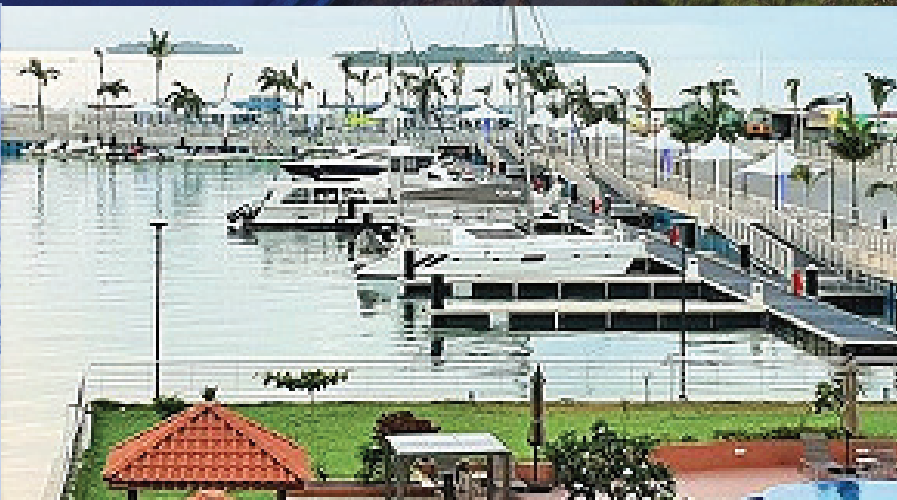




**THE REVOLUTIONARY GOVERNMENT OF ZANZIBAR**

# Zanzibar Blue Economy Policy



An aerial photograph of a tropical island. The island is small and rectangular, with a sandy beach on the left side. It is surrounded by clear, turquoise water that transitions into a deeper blue as it meets the horizon. The sky is a vibrant blue with some light, wispy clouds. The overall scene is bright and clear, suggesting a sunny day.

# Zanzibar Blue Economy Policy

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October 2020

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The Revolutionary Government of Zanzibar recognises the role of the blue economy in promoting socio-economic development through better stewardship of the sea and related resources. This involves the utilisation of maritime and marine resources to support inclusive and sustainable economic growth as well as creating employment opportunities. By reaping the economic potential of the sea without depleting the ecosystem, the initiative aims to protect the marine environment through the sustainable use of biodiversity, carbon sequestration and coastal resilience.

As an archipelago, Zanzibar relies heavily on the sea for both social and economic activities. However, the sea and coast of Zanzibar face increasing pressure from existing activities such as shipping, fishing and tourism. This is compounded by the potential generation of alternative energy, along with oil and gas exploration, which will create an additional strain on our marine resources. Coupled with this, the resources are overwhelmed by several challenges stemming from rapid population growth, climate change and maritime insecurity.

Zanzibar's strategic geographical position gives it a comparative advantage in harnessing the benefits of the sea-based economy. For more than two decades, Zanzibar's economy has been dominated by the tourism-led service sector. In addition to this, small scale fishing and maritime trade have been the major activities calling for the use of marine resources. The waters off the coast of Zanzibar not only attract thousands of tourists annually seeking sun, sea and sand, but they are also rich in precious commodities ranging from food to energy and ornaments as well as transportation . These can act as major drivers of sustainable economic growth and the well-being of the people. Moving forward, the blue economy presents vast opportunities for socio-economic development in Zanzibar. This requires joint efforts for all stakeholders to support the Government in order to take the economy to greater heights.

The Zanzibar Development Vision 2050 regards the blue economy as a priority area for the next 30 years, serving as an effective and sustainable means of improving livelihoods and transforming the economy. The blue economy policy has thus been developed as a guiding framework for the implementation of the sea-based economy for the coming decade.

The blue economy policy aims to work in the following priority areas: fisheries and aquaculture, maritime trade and infrastructure, energy, tourism and marine and maritime governance. Through the implementation of this policy, Zanzibar has the opportunity to increase employment, improve the balance of trade, promote food and nutritional security and maintain environmental resilience. Subsequently, by 2030, given the effective operationalisation of the policy, we expect Zanzibar to be the leading hub for blue economy activities in the Western Indian Ocean region.



Ambassador Mohamed Ramia Abdiwawa  
Minister of Finance and Planning  
Zanzibar  
October 2020



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Mr Mwita Mgeni Mwita  
Executive Secretary  
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## ABBREVIATIONS AND ACRONYMS

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AIM	Africa's Integrated Maritime Strategy
BE	Blue Economy
CESD	Center on Ecotourism and Sustainable Development
DFD	Department of Fisheries Development
EEZ	Exclusive economic zone
GDP	Gross Domestic Product
IORA	Indian Ocean Rim Association
MACEMP	Marine and Coastal Environment Management Project
MDAs	Ministries, departments and agencies
MPA	Marine Protected Area
MSMEs	Micro, small and medium enterprises
MSY	Maximum sustainable yield
OCGS	Office of the Chief Government Statistician
O&G	Oil and gas
RE	Renewable energy
R&D	Research and Development
RGoZ	Revolutionary Government of Zanzibar
SDGs	Sustainable Development Goals
SIDS	Small Island Developing States
SUZA	State University of Zanzibar
TEU	Twenty-foot equivalent unit
TIES	The International Ecotourism Society
UNCLOS	United Nations Law of the Sea Convention
UNCTAD	United Nations Conference on Trade and Development
URT	United Republic of Tanzania
WTO	World Trade Organization
ZATI	Zanzibar Association of Tourism Investors
ZCT	Zanzibar Commission for Tourism
ZPC	Zanzibar Planning Commission
ZSGRP III	Zanzibar Strategy for Growth and Reduction of Poverty III

# CHAPTER 1: INTRODUCTION

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## 1.1 Background

Zanzibar is an archipelagic state within the United Republic of Tanzania (URT) consisting of the two main islands of Unguja and Pemba and 53 islets. It shares maritime water with mainland Tanzania, the other part of the URT.

According to the Zanzibar Statistical Abstract report of 2019, the projected population of Zanzibar in 2020 is 1,671,598 with an annual growth rate of 2.8%. The Zanzibar population is composed of 51% females, and 49% males, 36% of them are youths aged 15-35.

As an island state, Zanzibar greatly depends on the sea, coast and marine resources – the carrier of blue activities – for socio-economic development. About 98% of Zanzibar’s international trade by volume is seaborne. These blue activities contribute to about 29% of the Zanzibar Gross Domestic Product (GDP) and employ about one-third of the population.

The sea-based economy, or blue economy (BE) as it is currently known, is not a new economic phenomenon to Zanzibar. Zanzibar has been engaging in domestic and international ocean-based economic activities for centuries. Evidence shows that by the 15<sup>th</sup> century, Zanzibar was already a regional commercial hub due to the abundance of spices and fishery products exchanged internationally through long-haul seaborne trading routes along the Swahili coast and the Indian Ocean, especially with the Arab world and within East Africa.

Acknowledging the importance of BE, the Revolutionary Government of Zanzibar (RGoZ) has formally incorporated the concept as part of its national development priorities. That ambition has been fully reflected in the Zanzibar Development Vision 2050 (Vision 2050), the country’s long-term development plan from 2020 to 2050. Vision 2050 recognises BE as a distinct priority area to diversify Zanzibar’s economy, catalysing its transformation from subsistence-based agriculture and tourism-led services to higher value-added services and industrialisation.

The BE initiative further strengthens the country’s commitment to implement the United Nations Sustainable Development Goals (SDGs), especially SDG goal number 14, which emphasises the conservation and sustainable use of the oceans, seas and marine resources for sustainable development.

The RGoZ believes that if Zanzibar can adequately implement BE, it will enhance economic growth, increase incomes and help protect the environment. However, realising the full potential of BE calls for the inclusion and participation of all related social groups and sectors through appropriate legal and institutional frameworks.

## 1.2 The Blue Economy Concept

The blue economy (BE) concept was formally coined during the “Rio+20” United Nations Conference on Sustainable Development held in Rio de Janeiro, 2012. The “Rio+20” conference advocates BE as a new economic frontier for coastal states, and more importantly for Small Island Developing States (SIDS), with which Zanzibar shares common characteristics. SIDS tend to be limited in land area but have jurisdiction over substantial exclusive economic zones (EEZ) off their coasts. At the same time, the relative reliance on these marine spaces for socio-economic development places SIDS in a more vulnerable position due to the greater risk of natural and man-made environmental disasters.

Zanzibar’s biological diversity is among the most threatened in the world due to its relatively small size, isolation, the fragility of its ecosystems and the impact of climate change. Natural disasters are of special concern to Zanzibar because of its dependence on agriculture and tourism, which are particularly vulnerable to environmental degradation. In this regard, the BE concept carries a huge potential for Zanzibar to diversify its fragile ecosystem and economy.

While there is no universally accepted definition of BE, the bottom-line for all definitions and explanations of the concept is the same: BE should be built with social, economic and environmental factors taken into account in decision-making. BE intends to integrate the need for sea-based economic development that leads to the improvement of human well-being and social equity while simultaneously reducing environmental risks and ecological scarcities.

In Africa, however, the concept has a much wider scope than its ordinary ocean-based economy meaning. According to the United Nations Economic Commission for Africa (2015), BE in Africa covers aquatic and marine spaces, including ocean, seas, coasts, lakes, rivers and underground waters. This perspective gives African states more room to maximise the use of their internal water bodies, in addition to their maritime domain, to benefit their citizens.

In Zanzibar’s context, BE covers the sustainable use of the sea, coasts and other water bodies as well as related resources, including underground and undersea waters, for socio-economic development while preserving the environment. In the implementation of this policy, five priority areas are defined, namely (i) fisheries and aquaculture; (ii) maritime trade and infrastructure; (iii) energy; (iv) tourism; and (v) marine and maritime governance.

## 1.3 Rationale

As an island state, Zanzibar faces several socio-economic developmental challenges due to its relatively small land size and the fragility of its ecosystems, particularly its marine ecosystem.

Zanzibar’s economy is predominately agricultural, comprising crops, livestock and forestry products. In 2019, agriculture accounted for 16.4% of Zanzibar’s GDP. Most of Zanzibar’s crops are seasonal and not fully climate resilient. As a consequence, production and productivity are not certain throughout the year, meaning there is no guarantee of a steady flow of income to the country and specifically to the farmers.

Tourism meanwhile is a major source of foreign exchange for Zanzibar, attracting just over half a million tourists in 2019. Given the substantial economic contributions of agriculture and tourism, any natural or man-made shock has a significant impact on income and food security.

Although Zanzibar has made good progress in the reduction of basic needs poverty by approximately 5% in the last five years, the changes have mainly been reflected in urban areas, all of which border the sea. Extreme poverty, however, remains a challenge in rural areas, where a majority of people depend on agriculture as the main source of employment and food security. In this regard, the RGoZ has taken several initiatives intended to diversify Zanzibar's economy through BE.

Vision 2050 proclaims BE as a key economic sector that will potentially reduce the vulnerability of the Zanzibar economy in order to lift Zanzibaris out of extreme poverty so as to attain upper-middle income status by 2050. This is in line with the SDG goal 14 and goal 6 of the African Union's Agenda 2063, which insist on sustainable uses of oceans, seas, coasts and marine resources for socio-economic development. To make this aspect of the Vision a reality, there is a clear need to implement a BE policy to support the growth of the sea-based economy, thereby transitioning away from subsistence-based agriculture, in order to minimise environmental shocks.

Zanzibar's maritime area is larger than its land area: URT's EEZ, of which Zanzibar is part, has an area of 241,541 square kilometres, making it 91 times larger than Zanzibar's land area of 2,654 square kilometres. This suggests considerable untapped sea-based opportunities off the coast of Zanzibar, thereby reinforcing the need to harness the sea through BE to reduce poverty, create employment, improve growth and exports as well as to strengthen food and energy security.

Therefore, BE Policy lays the foundation for effective and sustainable ways of using and securing Zanzibar's marine spaces as well as protecting related resources through better coordination across diverse sectors and actors within Tanzania by:

- ⇒ creating a better understanding of the potential benefits of the sustainable use of Zanzibar's sea, coasts and marine resources;
- ⇒ providing guidance on the implementation of BE programmes;
- ⇒ highlighting the scope for research, innovation and generation of knowledge about Zanzibar's sea space, resources and management needs; and
- ⇒ enhancing the capacity for effective sea management and taking advantage of the opportunities BE offers in the present and future.

## 1.4 Policy Alignment

The development of the BE Policy is in line with key national and international developmental and policy frameworks

### 1.4.1 National Level

Zanzibar's development plans place great focus on high quality and sustainable human development of Zanzibar's citizens, including a special focus on sustainable development of its oceanic resources. The BE Policy aligns with Vision 2050, which has the overarching goal of lifting Zanzibar economically and socially to attain upper middle-income status by 2050. The Vision consists of four pillars that target different aspects of Zanzibar's development, with BE sitting within Pillar I for Economic Transformation. This pillar calls for "a structural transformation of Zanzibar's productive capabilities through economic modernisation and diversification with a focus on export-oriented and technology-driven development, translating national comparative advantage to competitive advantage."

BE is Priority Area 1.4 of the Vision, whose strategic direction is to "Effectively coordinating and managing the development of the ocean and its endowments for significant contribution to economic prosperity." Relevantly, it has four aspirations, which emphasise: (i) the importance of a cohesive BE captured through sectoral linkages; (ii) high expertise in managing BE-related technologies through capacity building and research and development (R&D), (iii) sustainable exploitation of BE resources and (iv) continued adherence to regional and international BE institutions.

The RGoZ's intention of alleviating poverty and extreme poverty among its people through the sea-based economy has also been reflected in the Zanzibar Strategy for Growth and Reduction of Poverty III (ZSGRP III), a medium-term development strategy from 2016 to 2020. There are three key result areas in ZSGRP III that focus on environmental sustainability, including special emphasis on BE in D2: "marine and terrestrial ecosystems protected and restored, with reduced biodiversity".

Additionally, the BE Policy has been informed by the following list of sector-specific national policies and acts:

#### ***i) Environmental Management Act, 2015***

The Act makes ample reference to long-term conservation, management and sustainable use of natural resources by providing regulatory measures that can be enforced by the institution responsible for the environment. The Act stipulates that no person shall undertake any activity/project which is likely to have a significant impact on the environment without an Environmental Impact Assessment Certificate issued under the Act.

#### ***ii) Zanzibar Environmental Policy (2013)***

The Zanzibar Environment Policy ensures that proper environmental management accompanies economic development in order to preserve Zanzibar's natural heritage. The policy introduces an

environmental governance framework that focuses on the islands' terrestrial, coastal and marine settings. By recognising the fragility and limitations of the carrying capacity of small islands' ecosystems, this is a clear application of the BE concept.

### ***iii) National Land Policy of Zanzibar (2018)***

The National Land Policy provides a guide on the proper and sustainable use of Zanzibar's land for present and future needs, both on land, including coastal areas, and across all islets. The policy recognises that the area and resources of Zanzibar's seabed and ocean floor and the subsoil thereof, beyond the limits of national jurisdiction, are the common heritage of Zanzibaris. Therefore, the exploration and exploitation of these resources shall be carried out for the benefit of all Zanzibaris, irrespective of the specific geographical location.

### ***iv) National Forest Policy for Zanzibar (1996)***

The National Forest Policy aims to protect, conserve and develop forest resources for the social, economic and environmental benefits of present and future generations in Zanzibar. This policy recognises Zanzibaris' dependence on forests for fulfilling basic needs, such as fuelwood and building materials. The policy places emphasis on environmental conservation, including flora and fauna, on the main islands and islets, as well as enhancing the role of resources in maintaining soil and water conservation and other environmental benefits.

### ***v) Agriculture Policy (2002)***

The Agriculture Policy, in the BE context, promotes the sustainable use of natural resources. This is to be achieved by encouraging private sector investment through attractive incentives and adopting environmentally friendly agricultural technologies.

### ***vi) Fisheries Policy (2014)***

The Fisheries Policy stresses that the beauty and productivity of marine and coastal resources must be sustained through environmental conservation. The policy highlights integrated coastal zone management as an objective by establishing harmony between institutions involved in using coastal zone areas. The need for coordination is clear because a large part of Zanzibar's coastal zone is used for both fisheries and forestry, with the country's mangrove forests serving as important fishing and breeding grounds for various fish species.

### ***vii) Zanzibar Energy Policy (2009)***

The Zanzibar Energy Policy acknowledges that about 96% of the energy used in the domestic sector in Zanzibar, mainly for cooking, is in the form of biofuels, such as firewood, charcoal and agricultural residues. This high use of wood fuel for cooking exerts an increased pressure on the islands' forest resources and pollutes the environment. The main objective of the Energy Policy is to meet the energy needs of Zanzibar's population for social and economic development in an environmentally sustainable manner. The policy encourages the use of renewable energy (RE), such as solar, wind, energy from sea waves, biogas, ethanol and energy from municipal solid waste in order to reduce the negative impact on the environment.

### ***viii) Zanzibar Industrial Policy (2019)***

The main objective of the Zanzibar Industrial Policy is to expand and develop existing and new manufacturing priority sectors for industry in order to transform the country into a middle-income economy. The policy recognises maritime transport as a key component in realising Zanzibar's industrial ambitions. The policy further acknowledges the importance of establishing industries to add value to ocean products such as seaweed.

### ***ix) Zanzibar Investment Policy (2005)***

The overall goal of the Zanzibar Investment Policy is to promote investment that is socially and economically beneficial as well as environmentally sound to protect Zanzibar's natural heritage, including coastal resources.

### ***x) Zanzibar Livestock Policy (2009)***

The general objective of the Zanzibar Livestock Policy is to guide livestock development to subsequently improve people's livelihoods and social well-being as well as contributing to sustainable economic growth and poverty reduction. The policy takes coastal resources into account, recognising the cultivation of multipurpose trees as a potential source of forage.

### ***xi) Zanzibar Tourism Policy (2018)***

The overall goal of the Zanzibar Tourism Policy is to develop, plan, manage and promote a tourism industry that emphasises sustainability, quality and diversification, and which is culturally responsible, socially desirable, ecologically friendly, environmentally sustainable and economically viable. The Tourism Policy recognises that its success and sustainability strongly depends upon functional ecological systems. This implies a strong relationship between sustainable coastal resource management and tourism growth.

### ***xii) Zanzibar National Water Policy (2004)***

The objective of the Zanzibar National Water Policy is the provision of access to clean and safe water to meet social and economic needs in line with environmental practices. In particular, the policy aims to protect water resources so as to sustainably provide quality water in accordance with water and environmental conservation principles. Similarly, coastal resources are targeted through the provision of water regulation services to protect water catchment areas.

### ***xiii) Zanzibar Oil and Gas (Upstream) Act 2016***

The principal objective of the Act is to manage the upstream oil and gas subsector for sustainable development through broad participation for maximum value generation while minimising the negative impact on the environment, safety and health. The Act also calls for the establishment of a state-owned investment founder to deposit petroleum revenues in predetermined strategic development sectors.

## 1.4.2 International Level

Internationally, the BE concept aligns with the majority of the SDGs, most importantly SDG 14 and goal 6 of the African Union’s Agenda 2063, which aim to “conserve and sustainably use the oceans, seas and marine resources for sustainable development”. The United Nations Law of the Sea Convention (UNCLOS) provides the legal framework for the attainment of these goals, setting out the rules within which all activities in the oceans and seas must be carried out. Zanzibar is a state party to UNCLOS through the URT and has already domesticated several UNCLOS provisions in its national maritime jurisdiction.

Additionally, the following two publications have informed Zanzibar’s BE Policy:

- ⇒ *2050 African Union Africa’s Integrated Maritime Strategy (AIM)*, which provides a broad framework for the protection and sustainable exploitation of Africa’s maritime domain for wealth creation;
- ⇒ *Indian Ocean Rim Association (IORA) Blue Economy Declaration*, which calls for a sustainable, inclusive and people-centred approach to the development of BE.



## CHAPTER 2: SITUATION ANALYSIS

This section analyses the current state of the five BE priority areas in Zanzibar, providing an overview of each areas as well as the challenges faced. BE activities are intended to provide more meaningful opportunities to diversify and protect the Zanzibar economy. Despite strong economic growth, favourable investment policies and the liberalisation of the trading sector, local communities have not fully benefitted from these opportunities.

### 2.1 Fisheries and Aquaculture

#### 2.1.1 Background

The fisheries sector has proved crucial among small island economies and coastal communities in alleviating poverty and supporting livelihoods through the creation of hundreds of thousands of direct jobs, and many indirect jobs for those working further up the value chain. As well as providing an income stream, the fisheries sector provides a nutrient-rich source of food that alleviates hunger and malnutrition.

Whilst many African countries enjoy a booming fishing industry, Zanzibar enjoys a comparative advantage in the sector, uniquely placed on the crossroads of rare marine resources and biodiversity with high potential for the development of the fishing industry. Most of the fishing activities in Zanzibar are small-scale (artisanal), taking place along coastal reefs using traditional methods and crafts. Demand for fish is increasing as tourist hotels and restaurants seek high-value species such as swordfish, squid, octopus, crab, marlin, snappers and prawns. This means the sector also has a large potential to grow, further increasing employment and contributing to sustainable economic growth and development.

In 2019, the share of the fishing sector to overall economic output for Zanzibar was 4.8%. This rate has been gradually declining since its peak of 6.6% in 2012. Zanzibar has been shifting away from an agricultural-based economy to a greater emphasis on services, notably the tourism industry, and recorded a positive average growth of 3.4% for the past ten years (OCGS, 2019).

Despite its modest growth rate and contribution to GDP, the importance of the fisheries sector in Zanzibar cannot be understated, both as a means of feeding the population and through supporting jobs and creating linkages with the tourism industry. The quantity of fish catch in 2019 was estimated to be 36,728 tonnes worth TZS 196.65 billion or US\$ 83.7 million. In 2019, the sector contributed 4.8% to GDP, representing a 0.4% decrease from 2018 (OCGS, 2019). Marine fishes provide over 90% of the animal protein needed in Zanzibar. Based on a population of nearly 1.6 million people, the annual per capita consumption of fish is about 22 kg per year (OCGS, 2019) compared with per capita red meat consumption of only 3-4 kg per year (Feidi, 2005).

The sector employs 63,240 fishers, including 14,333 foot fishers and 12,903 seaweed farmers (DFD, 2019). The 2018 Household Survey suggests a high dependency ratio in fishing communities, with 36.9% of fishermen having seven dependents. The sector generates a further 13,925 jobs in boat building, the processing of marine products, exportation and importation, the selling of fishing gear and boat building and repair (Feidi, 2005). It is estimated that the entire value chain of the fisheries sector supports about 20% of Zanzibar's population (Feidi, 2005), generating USD 50 million in demand from both the tourism and local channels (ZATI, 2010, SWIOFish, 2018).

However, the sector faces some risks, including climate change, overfishing and illegal fishing practices, that threaten the sustainability of Zanzibar's fish resources. Thus, actions need to be taken to minimise these risks through sustained investments that:

- a. support sustainable artisanal fisheries businesses,
- b. allow artisanal and deep sea fishing to expand by developing market infrastructure, and
- c. provide resilience to the threats of climate change. Such investments combined would strengthen the resilience and adaptive capacities of many poor and vulnerable fishing communities and enhance food security.

Meanwhile, aquaculture is dominated by seaweed production, which is one of Zanzibar's major industries that supports the livelihoods and employment of thousands. It is one of Zanzibar's largest cash crops, with the economy exporting 9,663.2 tons of seaweed at a value of TZS 10,382.5 million in 2019, representing approximately 21.3% of Zanzibar's total exports value and 34.3% of total cash crop export value. Despite accounting for less than 1% of total agricultural production (ZPC, 2019), seaweed exports have averaged 11.7% of Zanzibar's merchandise exports over the past five years, representing a significant source of foreign exchange earnings (OCGS, 2019).

In 2019, seaweed was farmed in over 56 villages in Zanzibar and employed 12,903 farmers. About 80% of all seaweed farmers are women and 90% of seaweed production takes place in Pemba. Seaweed farming has become an alternative source of income for coastal communities and often acts as a supplement to fishing or agriculture-based households. There are several seaweed companies based in Zanzibar which supply farming inputs, and in return, the growers are obliged to sell their products to the companies at a fixed price.

Other aquaculture activities in Zanzibar, such as mariculture, are small-scale and in their infancy (IUCN, 2020). However, the country has recognised the necessity of diversifying the aquaculture sector beyond seaweed production. In 2020, the RGoZ assumed management of the Korea-Zanzibar Friendship Hatchery Centre (The Citizen, 2020), which had been launched in 2018 in collaboration with the FAO and the Korean International Cooperation Agency (FAO, 2018). The hatchery offers a training programme to facilitate the farming of mariculture species, including milkfish, sea cucumber and mud crab (IUCN, 2020).

## 2.1.2 Challenges for Fisheries

### i. Unsustainable fishing practices

Population pressure, along with a booming tourism sector, has increased the demand for fish, leading to steady growth in fish production within the coastal areas. Evidence suggests that there is overexploitation of fish resources in Zanzibar's reefs and inshore marine ecosystem.

As of 2001, the total rate of fishing in Zanzibar was calculated at 56,000 fishing days per month, nearly twice the sustainable level of 30,000 fishing days monthly derived from the estimated maximum sustainable yield (MSY) of 25,000 tons per year (Mkenda and Folmer, 2001). MACEMP (2009) interviewed fishermen and discovered their general perception was that the fish population had decreased and coral reef destruction was noticeable. There are also reports of illegal fishing methods and gear that damage spawning and nursery grounds and reduce biodiversity.

However, as of 2020, an absence of fish biomass surveys means there is no accurate measurement of the quantity of fish stock available in Zanzibar's marine ecosystem, and thus no accurate measurement of the MSY. This makes it difficult to carry out an assessment of the effect of the current fishing intensity on Zanzibar's reef and marine ecosystem in general and to determine whether it is sustainable.

According to the Nordic Development Fund (2014), climate change also creates further challenges for Zanzibar's fisheries sector, with issues such as:

- ⇒ Seawater temperature rise – biodiversity changes through extinction, migration or invasion of species and coral bleaching;
- ⇒ Extreme weather – more frequent and intense extreme weather events impede fishing activities, render low-lying communities, infrastructure and mooring areas susceptible to damages and increase coastal erosion and flooding;
- ⇒ Changes in weather patterns – changes in rain patterns affect run-off flows and estuarine mangrove salinity, fish and crustacean feeding and breeding grounds.

### ii. Scarce linkages along the value chain

The underdevelopment of the value chain hinders the potential of the fisheries and aquaculture sector due to a shortage of suitable infrastructure and equipment. This is a consequence of insufficient levels of investment from both the private and public sectors. The 2010 fishing census revealed that only 15.6% of fishing vessels in Zanzibar were propelled by motors, with the majority using sails, poles and/or paddles. There is limited availability of cooling facilities to store fish, meaning the majority of the catch has to be sold on the day of catch, providing no protection to fluctuating or low prices.

There is also low capital among fishermen to buy larger boats or equipment as well as few savings mechanisms, such as access to bank accounts. As a consequence, fishermen are confined to inshore areas and cannot access lucrative deep-sea fishing opportunities.

### **iii. Limited export capacity**

Nearly all fish caught in Zanzibar are consumed domestically (Nordic Development Fund, 2014). This is partly due to large domestic demand, but also because the majority of fish catch is of poor quality, failing to meet international export standards due to inefficient fishing methods, improper handling and poor storage and processing facilities.

Other problems facing the subsector include high transport costs, which account for nearly 40% of the total cost of frozen fish production, and 80% for fresh products that require airfreighting. Moreover, it is estimated that the various taxes, fees and levies that Tanzanian fish processors pay add an approximately additional TZS 120 to 200 per kg to the cost of raw fish inputs.

Tapping into the international export market could substantially raise fishermen's incomes, especially for rare fish breeds. This would also have the advantage of diversifying Zanzibar's narrow export base, contributing to the economy's overall balance of trade and strengthening its foreign currency earnings.

For Pemba, despite its proximity and historical trade links to Mombasa, Kenya, a further barrier to trade in fisheries is the high level of bureaucracy in the exporting process. Fishermen and ministry officials in Micheweni, for example, have highlighted that the procedure for acquiring the permit needed to export catch to Mombasa is time-consuming and inconvenient. For many fishing villages, such as Shumba, fishermen are required to travel long distances to other regions to have their catch counted, weighed and inspected before they are issued the export permit.

## **2.1.3 Challenges for Aquaculture**

### **i. Underdeveloped capacity for value addition**

The aquaculture sector in Zanzibar has not been adequately exploited or developed. At present, the only substantial sub-sector within the industry is seaweed production, whilst other activities such as fish farming are almost nonexistent. Even in the context of seaweed farming, value addition is low.

Nearly all seaweed grown in Zanzibar is exported as a raw material, without any value-added processes or refinement taking place. This exported seaweed is then processed into refined, alcohol precipitated iota carrageenan (E407) in other countries, such as Indonesia and the Philippines, and subsequently sold to companies that manufacture toothpaste and food ingredients. The refined product generates considerable export revenue as it is sold at a substantial mark-up to the price of the raw seaweed that Zanzibar exports (Neish and Msuya, 2013). For example, Msuya (2011) reported that a kilogram of seaweed powder – which has a variety of uses such as food inputs, cosmetics, health supplements – is sold at TZS 10,000, compared to one kilogram of raw seaweed, which commands a low price of about TZS 500–1,000.

This represents a huge opportunity lost for Zanzibar, both for job creation and substantial foreign exchange earnings. Approximately 2.7% of Zanzibar's seaweed farmers process the seaweed they grow (Songwe et al., 2016), meaning the vast majority of seaweed is exported raw at a low price. This is in stark contrast to the world's largest seaweed producers, Indonesia and the Philippines,

which engage in seaweed production and have enjoyed significant sectoral and economic development as a result.

## **ii. Infrastructural issues**

Infrastructural challenges are particularly urgent in Pemba, whose undiversified rural economy has resulted in an inability to fully exploit the island's potential in seaweed farming.

There are many villages in Pemba, such as Micheweni, in which seaweed farming is a major sector contributing to villagers' livelihoods. However, in places such as Tumbe, productivity is held back by many infrastructural constraints, including the use of inefficient local technology and an absence of storage facilities to facilitate the process of sun-drying seaweed regardless of the weather.

## **iii. Low income of seaweed farmers**

Seaweed farmers claim that the price they receive is not proportional to the amount of work they put into producing the seaweed. They regularly make returns that fall below the break-even point, thereby running at a loss.

This is partly due to the current arrangement that the farmers have with the seaweed companies: the companies provide farming inputs (ropes, seeds, sticks, etc.), and in return, farmers are obliged to sell their produce to these companies at a pre-specified price. Given that these seaweed companies enjoy monopsony purchasing power (meaning there are no other buyers in the market), they often work as cartels and are able to negotiate a low price with farmers. As a consequence, farmers end up receiving a far lower price for their produce than the market price (Kalumanga, 2018).

# **2.2 Maritime Trade and Infrastructure**

## **2.2.1 Background**

The maritime sector plays a key role in facilitating international trade. The global movement of goods relies heavily on the existence and effective management of ports and shipping. Today, 80% of global trade by volume and more than 70% of global trade by value are transported by sea. This figure is expected to rise, with worldwide container traffic in particular projected to triple from 2011 to 2030 (UNCTAD, 2018).

For Zanzibar, the importance of adequate maritime infrastructure is even more pronounced, given its strategic location in the Indian Ocean as a coastal nation. Zanzibar Port at Malindi in Unguja alone handles around 90% of Zanzibar's trade while the remaining 10% is split among the airports and four smaller seaports across Unguja and Pemba (Nordic Development Fund, 2014). Despite the overwhelming contribution of Zanzibar Port to the flow of goods between Zanzibar and the rest of the world, there are several issues surrounding the infrastructure of the port and the maritime sector as a whole that continue to impede Zanzibar's ability to translate its advantageous geographical position into a competitive trading advantage.

With the sum of exports and imports representing over 30% of global GDP as of 2014 – an increase from 20% in 1995 according to the WTO (2015) – a favourable trading environment, both physically and legally, has become an increasingly crucial component of economic growth.

## **2.2.2 Challenges for Maritime Trade and Infrastructure**

### **i. Inadequate marine transport infrastructure**

Marine transport infrastructure, including the seaport, is a major challenge of the maritime sector in Zanzibar. Currently, Malindi Port does not have the capacity or facilities to handle the volume of the arriving vessels and is far from operating as a transshipment port. The infrastructural limitations in question include both hard and soft infrastructure.

In terms of hard infrastructure, Malindi Port has only a single berth for docking ships as well as a small draft. As a consequence, the movement of containers is slow and underwhelming, estimated to be around 6 per hour when a rate of movement of at least 20 is needed to ensure effective operations. The process of unloading cargo is held back by the availability of little equipment such as dockside cranes and container gantries because of space limitations. As a result, the port services cannot keep up with the queue of ships waiting to dock and unload their cargo. Due to overcrowding, it may take up to 5 or 6 days for vessels to unload their cargo, leading to loss of productivity and higher fees as they wait. It has been estimated that freight costs can be up to \$1000 higher per twenty-foot equivalent unit (TEU) for vessels in Zanzibar compared to Dar es Salaam because of congestion and pilot charges associated with the delays.

Further, the provision of container storage space is limited, as Zanzibar does not have a sizeable inland container depot. All of these capacity constraints place Malindi Port at a competitive disadvantage to its regional rivals, notably Mombasa Port in Kenya. Malindi Port handled about 80,000 TEUs of cargo in 2019 compared to 940,000 TEUs passing through Mombasa in the same year (Africa Ports, 2019).

As for soft infrastructure, the inflow and outflow of goods are hampered by bureaucratic customs procedures and the limited use of e-commerce facilities. There are about eight documents needed to import goods into Zanzibar and seven documents for exports whilst Dar-es-Salaam requires just seven documents for imports and five for exports. The average duration necessary to complete the entire process of importing and exporting goods is 29 and 22 days respectively. Entry clearance is often time-consuming as freighters may be expected to visit up to 14 offices to complete forms and request permission as part of customs, with an overdependence on non-electronic methods of clearance. This can lead to further delays in shipping journeys beyond those caused by overcrowding and hard infrastructure, further reducing Zanzibar's earning potential from trade.

A study estimates that each additional day of delay reduces trade activity by over 1% overall and by 3.5% for perishable agricultural goods (World Bank and International Finance Corporation, 2010). Additionally, Zanzibar has a limited provision of other port-related services, including:

⇒ A dry port – Zanzibar does not have a dedicated dry port to complement Malindi Port and

facilitate land transport of goods across the island to reduce container congestion at Malindi. Previous plans to implement such a project have been unsuccessful;

⇒ Bunkering services – currently, Zanzibar has a depot at Mtoni for the storage of fuel used by ships for refuelling, but it suffers from various issues including:

- Pollution in the pipeline supplying fuel from ships to tankers,
- Limited space as the depot is surrounded by a residential area,
- Limited skills of staff,
- Safety risks associated with the proximity of bunkering services to ship repairs; and

⇒ Shipbuilding – shipbuilding and maintenance is not a major industry in Zanzibar. Even though there is a slipway at Malindi for maintenance purposes, it cannot support ships larger than 500 GRT. Ships above this weight threshold must go to Mombasa for maintenance.

All these factors prevent Zanzibar from leveraging its strategic position in the Indian Ocean to develop its marine transportation sector. There is potential for Zanzibar to become a regional transshipment hub for trade in goods and services across the region. However, the infrastructural constraints mean that the development of port services and growth in trade volume have both been below par.

## **ii. Limited industrial capacity**

Alongside the outputs of trade discussed above, a successful approach to trade within the blue economy framework requires a comprehensive consideration of the inputs into the trade mechanism, covering policy, legislation and incentives. While the outputs by way of physical infrastructure are present but merely lacking, the inputs are weak and missing essential linkages.

Exports form an important part of any trading system, contributing positively to GDP and overall productivity. However, Zanzibar has a high trade deficit, with the volume and value of exports falling seriously short of that of imports: in 2019, Zanzibar's trade deficit was 17.1% of GDP (ZPC, 2019). Freighters that unload their goods at Malindi Port leave Zanzibar almost empty as there is little to export: this is damaging to the economy in the long-run as it is a major source of foregone earnings.

There is limited export diversification in Zanzibar: the bulk of exports is in commodities that are highly price-volatile, such as cloves and seaweed. This is a consequence of a lack of local industrial production. Exports lag behind imports because the port has no linkages to export-oriented sectors, including product assembly, processing and manufacturing, compounded further by a low supply of raw materials and skilled workers.

Attempts to address these supply-side issues were not adequately tackled in the 2010s. Prior to the formulation of Vision 2050, industrial development was of a lower priority compared to services (tourism) and agriculture despite its value-added potential and opportunities to generate economic growth and job creation. The industrial sector in Zanzibar is small and confined to low value-added enterprises outside of agro-processing, such as bottled water production and

repackaging used clothing. In 2019, the industry contributed just 18.3% to Zanzibar's GDP, far behind the 21.2% and 50.6% contributed by agriculture and services respectively.

## 2.3 Energy

### 2.3.1 Background

Zanzibar's high rate of economic and population growth, along with the development of its tourism sector, has increased domestic energy demand, making a predictable, reliable supply of power a major priority for productivity and sustainable economic growth. Energy covers the provision of electricity to households, businesses and industry across Zanzibar as well as the oil and gas (O&G) sector, whose output of petroleum is used as an essential component of energy powering vehicles and infrastructure.

Within the BE framework, there is scope for the sustainable exploitation of marine resources for energy purposes in renewable energy (solar and wind) and O&G in Zanzibar's offshore territorial waters. However, currently, Zanzibar almost entirely depends on mainland Tanzania for energy, with underwater pipelines carrying power from the mainland. This has resulted in an unpredictable power supply that may soon struggle to keep up with rising energy demands associated with energy-intensive activities needed to power economic growth.

### 2.3.2 Challenges for Energy

#### **i. Slow adoption of renewable energy**

A BE policy, as part of an overall consideration of sustainability, must also discuss renewable energy (RE) prospects, which have huge potential in Zanzibar, presenting an opportunity to pursue energy independence and ensure more reliable power supply without compromising on environmental sustainability.

However, RE sources account for a negligible share of total energy consumption due to slow adoption. An EU-financed study revealed solar power and wind energy to be the most suitable sources of renewable energy for Zanzibar, with solar being most suited given the abundance of sun in the area (EuropeAid, 2019).

Blue sources of RE, including the generation of energy from tidal waves and wind power, are currently non-existent in Zanzibar. This is because there is inadequate technical expertise as well as limited support for RE-focused energy at large.

#### **ii. Building O&G expertise**

O&G is a sector with which Zanzibar has limited familiarity. Whilst there is no guarantee that there is substantial O&G in Zanzibar's waters, preliminary data and assumptions suggest there is a high possibility of finding commercially viable amounts of O&G off the coast of Zanzibar. As such, there needs to be considerable capacity building across government and society to avoid the natural resource curse, which occurs in developing countries that exploit resources such as O&G unsustainably and manage it poorly such that they harm the local economy and fail to translate



O&G revenue into inclusive, wide-ranging economic development and poverty reduction.

## 2.4 Tourism

### 2.4.1 Background

Tourism is one of the key pillars of the Zanzibar economy, supporting tens of thousands of jobs in the service sector, representing an important source of government revenue and GDP growth. As a coastal destination, Zanzibar's tourism sector is directly linked to the blue economy, particularly marine tourism and beach holidays.

Zanzibar has seen a significant increase in tourist arrivals, with an average annual growth rate of nearly 18.7% between 2011 and 2019. In 2019 specifically, the number of tourist arrival was 583,264. It is estimated that there are about 22,000 direct jobs in the tourism sector, of which 76% are employed at one of the 473 hotels in Zanzibar (ZCT, 2017; Ministry of Information, Tourism and Heritage, 2017). The sector is also poised for more growth as emerging markets reach an income threshold that means a new demographic will have the income to travel abroad.

However, various environmental issues, including pollution, waste, overpopulation and unsustainable use of natural resources, such as freshwater and firewood, threaten the sector. With the tourism sector mainly focusing on marine tourism ('sun and sea' holidays, diving, snorkelling, boat trips, etc.), a lack of proper growth management may lead to the degradation of marine habitats, loss of ocean biodiversity, sea pollution and over-exploitation of marine resources – outcomes that are contrary to the BE guiding principles.

Sustainable management of the tourism sector would enable the economic benefits generated from tourism to support the utilisation, rehabilitation and restoration of Zanzibar's marine natural resources. Indeed, tourist choices are increasingly influenced by sustainability considerations. A 2007 Trip Advisor survey, for example, revealed that 38% of travellers took environmental friendliness into consideration when booking accommodation, with 34% willing to pay more to stay in eco-friendly hotels (Pollock, 2007). Meanwhile, CESD and TIES (2005) found that a majority of international tourists were interested in the social and environmental issues related to the visited destinations, expressing interest in hotels committed to protecting the local environment.

Ultimately, Zanzibar's natural heritage represents one of the most important drivers of the tourism industry, with marine tourism drawing substantial tourists and generating income. The success of this sub-sector rests on the ability and willingness to preserve, conserve and sustainably use marine resources. Therefore, the need for sustainable tourism has to be emphasised in the BE framework.

### 2.4.2 Challenges for Tourism

#### i. Resource use and management

The majority of hotels in Zanzibar use diesel generators as a standby power supply alternative while solar energy is less used. Compared to other sources of power, diesel generators emit a lot of

carbon dioxide and other air pollutants, such as particulate matter and nitrogen oxide. Evidence suggests that diesel-dependent four-star hotels in Zanzibar generate significantly more emissions per guest night than the global average. Nevertheless, Zanzibar has the potential to promote the use of RE sources, including solar power and wind.

Hotels in Zanzibar have also reported high rates of water use per tourist compared to other regions (Gössling, 2002). Hotels report that almost 50% of their water use is for the irrigation of gardens while the remainder is contributed by the use of showers, toilets, cleaning and laundry.

## **ii. Waste production**

The high per capita generation of solid waste, along with the inappropriate disposal of the waste products, is a problem across all sectors of Zanzibar's economy. It is estimated that about 60% of all solid waste produced in Zanzibar is not properly collected and sorted, leading to the accumulation of untreated and potentially toxic substances at unauthorised landfills and dumpsites (RGoZ, 2013). In this regard, tourism-oriented establishments, such as hotels and restaurants, contribute disproportionately to waste production, representing roughly 80% of all waste generated in Zanzibar (The Citizen, 2018).

Given the high resource requirements of the tourism sector and the rapid turnover of guests, hotels consume a large number of disposable appliances, such as plastic bottles, food and kitchen materials, tissue paper and laundry products. Without sustainable practices, the resulting rubbish and sewage produced could harm both the terrestrial and marine ecosystems.

## **iii. Leakages in the tourism sector**

Whilst the tourism sector has shown rapid growth, the wider economy has been unable to fully reap the benefits. Due to the improper use of resources, the tourism industry is characterised by a high level of 'leakages', which is the loss of tourist incomes from the local economy and the failure of tourist expenditure at hotels, restaurants, curio shops and the like to end up satisfactorily in the pockets of Zanzibaris. In brief, the leakages are as follows:

- ⇒ Agricultural leakages: hotels tend to purchase imported agricultural products from abroad rather than buying vegetables, fruit and meat locally due to the poor quality of the products; the lack of a supply chain between farmers and hotels; and the absence of an agro-processing industry;
- ⇒ Employment leakages: job opportunities are taken by foreign nationals rather than locals because of inadequate skills, a lack of job matching and job insecurity; and
- ⇒ Revenue leakages: government revenues from tourism have not reached their potential because of tax avoidance by hotels, underreporting room occupancy and rates, tax exemptions that are not in line with incentives, transfer pricing and foreign tour operators.

All of these issues severely reduce the positive economic impact of the tourism sector, making it difficult for tourism to contribute to Zanzibar's poverty reduction and economic development initiatives within its national planning framework.

## 2.5 Marine and Maritime Governance

### 2.5.1 Background

Marine and maritime governance is a cross-cutting area that covers maritime security and climate change. Though it is not an economic sector unlike the other four BE priority areas, governance is just as important in influencing development outcomes. This is because BE initiatives cannot be carried out unless the country's coastal and marine environments are kept safe, secure and climate resilient.

Subsequent sections highlight the challenges related to maritime security and climate change respectively, with the latter discussing the environmental risks associated with each of the first four BE priority areas.

### 2.5.2 Challenges for Maritime Security

The URT's maritime waters, including those of Zanzibar, are prone to various maritime insecurity threats, ranging from illegal fishing to piracy, human and drug smuggling and environmental destruction. Maritime security threats in the maritime waters of the URT and neighbouring countries are partly due to insufficient coordination among the maritime law enforcement agencies of the URT, human incapacity of maritime law enforcement agencies as well as insufficient naval assets and other surveillance tools to monitor the sea all year round.

To ensure BE initiatives are realised, there is a need for a strong BE policy that emphasises the role of national maritime law enforcement agencies and shared responsibility to improve coordination. This policy highlights the institutional mechanism necessary to ensure maritime law enforcement agencies from both parts of the URT work together towards keeping the EEZ safe in Chapter 5. The policy also calls for the general public, such as fishers and local coastal villagers, to be involved in policing Zanzibar's maritime waters in order to improve the application of protective measures and uses of surveillance as well as reducing enforcement costs.

### 2.5.3 Challenges for Climate Change

#### **i. Fisheries and aquaculture:**

According to the Nordic Development Fund (2014), climate change threatens this sector in the following ways:

- ⇒ Seawater temperature rise – biodiversity changes through extinction, migration or invasion of species and coral bleaching;
- ⇒ Extreme weather – more frequent and intense extreme weather events impede fishing activities, render low-lying communities, infrastructure and mooring areas susceptible to damages and increase coastal erosion and flooding; and
- ⇒ Changes in weather patterns – changes in rain and temperature patterns affect run-off flows and estuarine mangrove salinity, fish and crustacean feeding and breeding grounds.

## **ii. Maritime trade and infrastructure:**

Maritime trade involves economic activities that generate pollution and could harm the marine environment if not addressed. The high cargo traffic between important trade routes in the area, such as Malindi–Dar es Salaam, Unguja–Pemba and Pemba–Mombasa, suggests that there is a risk of fuel leakage from cargo ships. For example, an oil spill occurred in Pemba in 2016, when the high tide caused a hole in the hull of a ship, leading to a discharge of white petroleum. Without specific and appropriate mitigating strategies, frequent oil spills like this can threaten the marine ecosystem due to their toxicity. Overall, there are environmental regulations in place to preserve and conserve the maritime environment, but enforcement remains a big challenge.

## **iii. Energy:**

The current challenge is that environmentally friendly sources of blue energy, including harnessing tidal waves and wind energy remain very costly and beyond the technical and infrastructural reach of Zanzibar.

The potential exploration of O&G, particularly offshore activities, carries environmental risks, and currently Zanzibar is constrained by the limited O&G capacity for governance and climate change mitigation.

## **iv. Tourism:**

Building on the challenge of high waste production among hotels mentioned in 2.4.2, the environmental integrity of coastal areas is compromised because of two interlinked factors:

- ⇒ Inadequate state capacity to handle, dispose, or recycle waste; and
- ⇒ Irresponsible waste management

Limited state involvement in waste management is due to poor enforcement of proper waste collection laws. Legally, there are regulations in place to safeguard the environment from pollution and waste. In practice, however, not all local government authorities have the capacity to implement these provisions. At present, there are only two organisations properly involved in managing waste inconsistent with regulations, namely Zanrec Plastics Company Limited (Zanrec) and the Zanzibar Municipal Council. Zanrec, for example, collects waste from hotels and other clients for a fee, after which the waste is sorted into recyclables, compostable waste and landfill waste. However, as a private company, Zanrec does not have the mandate to ensure compliance among hotels that choose not to opt in.

Without sufficient enforcement, hotels that are not environmentally conscious do not have the incentive to ensure their waste is managed properly. Some hotels prefer to keep costs low by paying companies to illegally dispose of their waste, which would typically be dumped in landfills or the sea. This extends to wastewater management: hotels must have a septic tank with a soak pit, but some resort to direct disposal of sludge and sewage into the sea (ZDE, 2004). Therefore, efforts to improve waste management need to address both the legal framework and ensuring enforcement.

# CHAPTER 3: POLICY INTENT AND GUIDING PRINCIPLES

## 3.1 Vision and Mission

### Vision

*“Zanzibar as the leading hub for blue economy activities in the Western Indian Ocean region”*



*Mission: a robust, transparent and implementable set of interventions for blue economy management in Zanzibar*

## 3.2 Policy Objective

This policy is aimed at promoting sustainable economic growth, environmental stewardship and improved livelihoods through the sustainable utilisation of the sea and other blue resources.

Specifically, the policy seeks to:

- ⇒ promote and improve sustainable economic inclusion within the BE priority areas and communities;
- ⇒ strengthen coordination between multiple economic sectors within the BE framework;
- ⇒ improve food and nutritional security through the sustainable management of blue resources;
- ⇒ empower local communities, especially women and youth involved in BE activities;
- ⇒ ensure the safety and security of Tanzania’s maritime domain in coordination with the national maritime security agencies; and
- ⇒ enhance financing and revenue collection through sustainable BE activities.

## 3.3 Guiding Principles

The guiding principles represent a broad philosophy that guides the BE Policy throughout the implementation process at all levels. The policy document provides for a holistic and cross-sectoral approach that promote inclusiveness and evidence-based decision-making. Founded on accountability and transparency, the policy and its associated guiding principles provide a clear path for the realization of Zanzibar’s BE goals and strategies at all levels.

These principles are aligned with the national, regional and international frameworks related to BE, including Zanzibar Development Vision 2050 (priority area 1.4), 2050 African Union Africa’s Integrated Maritime Strategy (2050 AIMS), Indian Ocean Rim Association (IORA) Blue Economy Declaration, United Nations Law of the Sea Convention (UNCLOS) and United Nations Sustainable Development Goals (especially SDG 14).

The BE approach in Zanzibar builds on the following guiding principles:

	<b>Sustainable Development and Livelihoods</b>	Marine ecosystems and processes are crucial to delivering goods and services that underpin the livelihoods of millions of people by contributing to food security, poverty eradication, income, employment, health, safety, equity and political stability. The use of marine resources must optimise the well-being of people today and in the future.
	<b>Sustainable Marine Ecosystems</b>	The diversity, productivity and core functions of marine ecosystems must be maintained and protected to preserve and conserve marine biodiversity.
	<b>Ecosystem-based Management</b>	Ecosystem-based management shall consider land-based needs to ensure alignment between land and ocean-based activities supported by proper marine spatial planning within the BE framework, in a participatory, accountable, transparent, equitable, and inclusive approach to meet present and future needs.
	<b>Science-based, Precautionary and Adaptive Decision-making</b>	Marine management decisions should be based on the best available information on the natural, social and economic processes that affect ocean and coastal environments. Decision-makers should always proceed cautiously and seek to develop relevant knowledge.
	<b>Climate Resilience</b>	Climate resilience is fundamental to the transition towards a low-carbon economy and sustainable development globally. It ensures that all actors along BE-related value chains, including in agriculture and fisheries, remain productive even in the face of climate change.
	<b>Integrated Blue Governance</b>	Planning and managing human activities should proceed in a comprehensive manner that considers all factors necessary for the conservation and sustainable use of marine resources and the shared use of ocean spaces, providing incentives to all stakeholders.
	<b>Duty of Care and Accountability</b>	All users of the marine environment should act responsibly and be transparent about the environmental impact of their actions.
	<b>Inclusive and Transparent Decision-making</b>	Full stakeholder awareness and participation contribute to credible, accepted rules that identify and assign responsibilities appropriately. Decisions shall be made in a transparent and accountable manner to minimise disputes and promote international cooperation.
	<b>Sharing of Benefits</b>	All citizens should share the benefits from the use of common marine resources and the responsibilities for their continued health and productivity. Government should oversee marine resource use with the interests of the whole community and intergenerational equity in mind.

## CHAPTER 4: SECTOR SPECIFIC STRATEGIC INTERVENTIONS

This section provides policy proposals to develop the five priority sectors within the BE framework.

### 4.1 Fisheries and Aquaculture



**Policy Issue:** Limited commercialisation of deep-sea fishing and aquaculture

#### **Policy Statement**

The Government shall optimise the commercialisation of the deep-sea fishing sector and the development of aquaculture while maintaining support for artisanal fishing

#### 4.1.1 Policy Strategies for Fisheries

##### **i. Infrastructure and information**

- ⇒ Developing statistical databases of fish stock, biomass and other important information systems to ensure stakeholders have access to reliable and accurate information;
- ⇒ Investing in fisheries value chain development that includes production, processing, value addition and marketing, focusing on:
  - key fishing infrastructure, including ice-making plants and cold-storage facilities to store excess catch, for better marketing opportunities,
  - commissioning specialised fishing ports to serve all commercial fishing vessels in Zanzibar’s territorial water. The fishing ports shall be fully equipped to deal with fish storage and vessel maintenance, whilst being designed to allow the efficient unloading of catch, with good transport networks to the rest of Zanzibar.
  - establishing supporting businesses to generate cluster effects around fishing ports, including plants to make fishing nets, engine repair and maintenance workshops as well as fish processing and canning factories; and
- ⇒ Ensuring a consistent supply of produce by improving energy security in rural areas through off-grid solutions, such as solar photovoltaic cells.

##### **ii. Deep sea fishing**

- ⇒ Promoting investments in large-scale national fishing fleets to achieve economic viability;

- ⇒ Strengthening the capability of smallholder fishers to access and utilise marine resources in the EEZ to achieve social acceptance;
- ⇒ Broadening the revenue base to achieve long-term financial sustainability of EEZ fisheries; and
- ⇒ Enhancing the knowledge base for the exploited tuna and other living marine resources by increasing frequency of scientific assessments.

### iii. Artisanal fishing

- ⇒ Promoting and modernising artisanal fishing practices through identification and education as well as exploiting relevant technological developments;
- ⇒ Supporting relevant agri-businesses through diversified financing mechanisms and collective fishermen’s organisations; and
- ⇒ Improving nutritional security through better access to marine and fishery products.

## 4.1.2 Policy Strategies for Aquaculture

- ⇒ Empowering stakeholders through institutional and farmers’ capacity enhancement as well as effective and efficient extension systems that emphasise on-the-spot demonstration and technical coordination;
- ⇒ Promoting resource use efficiency by identifying high potential aquaculture zones and appropriate production systems, focusing on input availability and accessibility, such as financial capital, seeds and feeds, as well as strengthening aquaculture R&D and infrastructure; and
- ⇒ Strengthening the market for aquaculture products, with emphasis on developing industrial potential for refined seaweed and other aquaculture products in line with regional and international export demand.

## 4.2 Maritime Trade and Infrastructure



**Policy Issue:** Inadequate infrastructure and limited industrial capacity for maritime trade

### Policy Statement

The Government shall ensure improved maritime transport infrastructure and cohesive industrial development

### 4.2.1 Policy Strategies for Maritime Trade and Infrastructure

#### i. Port and maritime infrastructure

- ⇒ Introducing automated vessel tracking systems covering Zanzibar’s territorial water to ensure adequate communications between the port traffic controls and freighters;



- ⇒ Harmonising customs procedures by establishing a one-stop border-clearing agency at the port of entry with modern information systems, which will handle administrative clearance in areas including customs, health and technical standards and taxation;
- ⇒ Promoting Zanzibar as a leading hub for international ship registration; and
- ⇒ Promoting technology transfer to develop the infrastructural capacity of the maritime sector through cooperation with development partners and key stakeholders in the form of technical assistance, information sharing and training.

## ii. Industrial policy

- ⇒ Ensuring the effective and thorough implementation of the Zanzibar Industrial Policy and the Small and Medium Industrial Development Act to facilitate the inclusive growth of micro, small and medium enterprises (MSMEs);
- ⇒ Operationalising the Micheweni Free Economic Zone earmarked for seaweed processing and fishery products;
- ⇒ Targeting the commercialisation of the seaweed and fisheries sub-sectors to increase manufacturing value added and improve the balance of trade, building linkages between agriculture and industry, promoting exports to meet regional and international demand; and
- ⇒ Strengthening empowerment and access to financing in targeted sub-sectors to build institutional capacity and skills in order to develop a competitive advantage over time.

## 4.3 Energy



**Policy Issue:** Low RE adoption and limited capacity of local experts to develop RE and O&G

### Policy Statement

The government shall commit to RE development and sustainable management of O&G through investment in capacity building, R&D and financing

### 4.3.1 Policy Strategies for Energy

- ⇒ Promoting RE use by improving coordination between the public sector and the private sector as well as NGOs through stakeholder consultations and collaborative ventures;
- ⇒ Investing in local experts' capacity through the provision of training courses on O&G and RE where applicable;
- ⇒ Undertaking research on the feasibility of introducing alternative sources of energy from the sea, including wind and tidal energy;
- ⇒ Developing legal and regulatory framework for investment in RE and O&G that also includes

developing local content for sustaining the economy; and

- ⇒ Undertaking research on the prospects for undersea mineral mining exploration.

## 4.4 Tourism

### 4.4.1 Policy Strategies for Tourism

#### i. Sustainable tourism



**Policy Issue:** Inadequate sustainable management of the growth of coastal and marine tourism

#### **Policy Statement**

The Government shall commit to making Zanzibar a sustainable tourism destination by protecting and promoting its cultural and natural heritage

- ⇒ Creating a sustainable tourism label to encourage tourism-focused establishments to adopt sustainability practices, focusing on energy and carbon reduction; habitat and ecosystem improvement; water, sanitation and hygiene management as well as economic and social investments for the local population;
- ⇒ Ensuring tourism investment in all coastal communities acknowledge and empower local cultures in order to protect and promote them as tourist attractions; and
- ⇒ Promoting Pemba as a protected area to strengthen the Zanzibar tourism brand while maintaining the island's environment and cultural values.

#### ii. Marine tourism diversification

- ⇒ Developing potential for island hopping across the islets within the Zanzibar Archipelago through business-friendly regulations in line with best environmental practices;
- ⇒ Building the market for cruise tourism by repurposing Malindi Port as a passenger hub in line with the proposed relocation of container services; and
- ⇒ Promoting the development of sea sports and marina services, including linking Malindi Port seamlessly to Forodhani Park and Bwawani as well as identifying and developing other areas.

## 4.5 Marine and Maritime Governance



**Policy Issue:** Volatile maritime security with a fragile marine and coastal environment

### Policy Statement

The Government shall facilitate coordination to keep maritime environment safe, secure and climate resilient

### 4.5.1 Policy Strategies for Marine and Maritime Governance

- ⇒ Establishing an autonomous institution to execute and coordinate BE-related activities;
- ⇒ Strengthening local blue knowledge through the effective operationalisation of the Institute of Maritime Studies at the State University of Zanzibar (SUZA), the Institute of Marine Sciences at the University of Dar es Salaam and other teaching and research institutions;
- ⇒ Introducing a Blue Fund to facilitate the financing of BE-related programmes and projects;
- ⇒ Enhancing maritime security through collaboration between URT and RGoZ institutions;
- ⇒ Strengthening law enforcement to protect MPAs in order to address illegal, unreported and unregulated fishing as well as to maintain coral reefs and mangroves;
- ⇒ Strengthening the institutional and regulatory framework to conform with UNCLOS, IOTC and emerging areas;
- ⇒ Strengthening preparedness response and recovery measures to natural marine hazards, human-induced risks and maritime accidents, including implementing the Oil Spill Contingency Plan;
- ⇒ Ensuring the effective implementation of BE-related policies, including the O&G Policy and the Zanzibar Environmental Management Act;
- ⇒ Empowering local government authorities to carry out effective and sustainable waste collection, particularly in coastal areas with a high concentration of hotels and tourist activities; and
- ⇒ Broadening equitable participation of men and women, youth and elders in the governance and handling of BE activities.

## CHAPTER 5: INSTITUTIONAL MECHANISM FOR COORDINATION

For the successful implementation of all BE activities, both private and public stakeholders shall work together to strengthen coordination. Each institution will be assigned roles and responsibilities for the implementation of BE policies and activities.

### 5.1 Implementation Mechanism

The implementation of this policy shall be undertaken by an autonomous BE institution to be created within the Ministry responsible for national planning. The institution shall act as the central coordinator of all BE activities, taking ownership and responsibility for implementing the BE Policy. It shall primarily play a coordinating role and oversee the development of various sectors, ministries, departments and agencies (MDAs), institutions, industries and associated programmes relevant to BE. It shall also be responsible for managing the Blue Fund discussed below and budgeting as per the 10-year Blue Economy Implementation Plan.

The institution shall be multidisciplinary in its composition, whose members shall have expertise in key BE sectors, including fisheries, trade, energy and tourism, with backgrounds in economics, environmental sustainability, marketing, development, marine biology, security, maritime law and related fields.

Further, for Zanzibar's BE aspirations to be implementable, capacity building in all areas relating to maritime sectors and BE shall be prioritised. The Institute of Maritime Studies at SUZA and the Institute of Marine Sciences at the University of Dar es Salaam shall take a leading role of creating an enabling environment for marine and maritime studies and scientific research.

The implementation of the BE Policy shall be supported by the following MDAs and related stakeholders:

#### **i. Ministry responsible for finance**

- ⇒ Mobilising and allocating resources for the implementation of BE activities and programmes;
- ⇒ Extending favourable terms and conditions of investment to local investors;
- ⇒ Aligning financial and procurement law and regulations to support effective support to private enterprises on government expenditure;
- ⇒ Enhancing and supporting microfinance institutions to empower MSMEs through regulations and resources;
- ⇒ Implementing accounting standards and procedures for BE activities; and
- ⇒ Ensuring efficient, transparent and accountable collection and management of BE revenues.

## **ii. Planning Commission**

- ⇒ Incorporating and integrating BE activities into national development plans and strategies;
- ⇒ Facilitating and coordinating research related to BE in order to capture and disseminate relevant blue knowledge;
- ⇒ Collecting, compiling and publishing national statistics on blue activities in alignment with the key performance indicators highlighted in Vision 2050; and
- ⇒ Advising MDAs responsible for the BE on national economic agendas, strategies and goals.

## **iii. Ministry responsible for fisheries and aquaculture**

- ⇒ Facilitating the mainstreaming of fisheries and aquaculture activities and issues into associated policies, programmes and plans;
- ⇒ Creating a conducive environment for artisanal fishers as well as smallholder seaweed and mariculture farmers to access technologies and motivate their engagement;
- ⇒ Facilitating market links and promoting value addition programmes for marine products;
- ⇒ Enhancing the capacity of artisanal fishers and local investors to engage in deep sea fishing; and
- ⇒ Safeguarding the rights of fishers and their respective fish landing sites from the potentially adverse impacts of integrated economic activities.

## **iv. Ministry responsible for environment**

- ⇒ Conserving and protecting artisanal and deep sea fishing from potential pollution and degradation in collaboration with other partners;
- ⇒ Ensuring conservation and rehabilitation of the MPAs and other marine conservation units; and
- ⇒ Facilitating support in the protection of marine migratory species from the adverse effects of ocean mining activities.

## **v. Ministry responsible for trade, industries and market**

- ⇒ Aligning and incorporating trade and industrial policies to BE policies to create an enabling environment for BE-related investment;
- ⇒ Facilitating and supporting the processing of and market for blue products, accompanied by the formalisation of related businesses; and
- ⇒ Providing and facilitating both financial and technical support to MSMEs and businesses in the BE framework.

## **vi. Ministry responsible for tourism**

- ⇒ Facilitating the implementation of sustainable tourism, focusing on the protection and conservation of beach layouts, coral reefs, lagoons and the marine environment as a whole; and
- ⇒ Facilitating linkages between MDAs and tourism stakeholders.

#### **vii. Ministry responsible for local government**

- ⇒ Establishing local market infrastructure to support the local business environment and entrepreneurship;
- ⇒ Enforcing environmental policies through penalties, fees and recognitions for investors and local communities; and
- ⇒ Empowering local coastal communities in coastal security and conservation.

#### **viii. Ministry responsible for special RGoZ departments**

- ⇒ Investing in enabling the capabilities of special RGoZ departments in maritime security, particularly KMKM;
- ⇒ Coordinating with the URT, including the Deep Sea Fishing Authority, Tanzania People's Defence Forces, the police force and related institutions, in strengthening maritime security;
- ⇒ Initiating and managing follow-up programmes with relevant ministries targeting development activities on Zanzibar's islets; and
- ⇒ Mobilising community support to ensure corporate social responsibility.

#### **ix. Ministry responsible for energy**

- ⇒ Facilitating and promoting the use of green energy in industries and investment areas; and
- ⇒ Facilitating capacity development to mould local RE and O&G experts.

#### **x. Ministry responsible for maritime transport and infrastructure**

- ⇒ Ensuring the implementation of certain maritime laws under the International Maritime Organization responsible for the prevention of oil spill pollution through the Zanzibar Maritime Authority;
- ⇒ Facilitating the improvement of maritime infrastructure across the islands; and
- ⇒ Ensuring the functional capacity of the organisation to handle maritime directives for investors.

#### **xi. Private sector**

- ⇒ Advocating, supporting and following all RGoZ initiatives and policies regarding BE activities;
- ⇒ Collaborating with the RGoZ and other stakeholders to expand investment opportunities; and
- ⇒ Supporting processing, market diversification and product value addition among local business and enterprises.

## **5.2 Financing**

Through a combination of government financing, private financing, and aid/soft loans from multilateral donors, a Blue Fund shall be established to finance the activities recommended in this policy. Having a specialised fund to finance the projects will allow them to be implemented quickly and will signal the RGoZ's commitment to the BE Policy. It will also assist in annual budgeting such that stakeholders involved in BE projects will know the budget they must work within. The fund shall be established with a monetary commitment from RGoZ, followed by approaching donors, development partners and the private sector for grants and soft loans.

## **5.3 Monitoring and Evaluation**

The BE Policy will not become a reality unless the progress and effectiveness of its implementation are made clear. Therefore, a monitoring and evaluation system shall be developed to track and evaluate the implementation of the BE Policy and associated programmes. The effectiveness of the implementation shall be monitored on monthly, quarterly and annual bases. Key performance indicators shall be developed based on national development monitoring indicators and other international indicators on sustainable development. Data collection tools shall be developed based on the indicators available and the BE Policy.

The evaluation and review of this policy shall be carried out in a participatory manner involving all key stakeholders. The evaluation of the policy shall be done after five years of policy implementation to determine whether the policy has met its objectives, vision and mission as well as to ascertain the areas in which it should be enhanced and extended.

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